Characteristics of Doctoral Scientists and Engineers in the United States: 2003

Detailed Statistical Tables

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General Notes

This report presents data from the 2003 Survey of Doctorate Recipients (SDR). The SDR is a biennial, longitudinal panel survey that collects data on demographic and general employment characteristics of individuals who have received a doctorate in a science, engineering, or health field from a U.S. academic institution. It follows sampled individuals from shortly after they receive the doctorate through age 75. The SDR sample is augmented each cycle with new samples of the most recent cohorts of science and engineering doctorate recipients, identified by the Survey of Earned Doctorates, an annual census of research doctorates awarded in the United States.

The detailed statistical tables presented here provide information on the number and median salaries of doctoral scientists and engineers[1] by field of doctorate and occupation; demographic characteristics, such as sex, race/ethnicity, citizenship, and age; and employment-related characteristics, such as sector of employment, employer location, and labor-force rates. Appendixes provide technical information about the survey methodology, coverage, concepts, definitions, and sampling errors; a standard error table; crosswalks defining field of doctorate and occupation classifications used in survey sampling; and the 2003 SDR mail questionnaire.

The National Science Foundation and the National Institutes of Health sponsored the 2003 survey, which was conducted by the National Opinion Research Center (NORC) at the University of Chicago. It is the 16th in a series of surveys initiated in 1973 in response to the needs of the federal government for demographic and employment information on scientists and engineers trained at the doctoral level. The goal of the 2003 SDR is to provide policymakers and researchers with high-quality data on the career patterns and achievements of the nation's doctoral scientists and engineers.

Other data on doctoral scientists and engineers are available at http://www.nsf.gov/statistics/doctoratework/. For more information on survey data and methodology, please contact

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[1] Doctoral scientists and engineers are defined in this report as individuals under the age of 76 who have received a doctorate in a science, engineering, or health field from a U.S. academic institution and resided in the United States or one of its territories on October 1, 2003.

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Median Annual Salaries by Occupation

Full-time Employed Doctoral Scientists and Engineers

TABLE 1. Doctoral scientists and engineers, by field of doctorate and employment status: 2003

Field	Total	Employed			Unemployed	Retired	Not employed, not seeking work
		All	Full time	Part time			
All fields	685,300	593,300	530,960	62,340	12,970	64,120	14,900
Science	542,240	468,570	415,420	53,150	9,790	51,190	12,680
Biological, agricultural, and environmental life sciences	168,780	145,760	135,280	10,480	3,020	15,240	4,770
Agricultural/food sciences	20,070	16,890	15,800	1,090	320	2,520	340
Biochemistry/biophysics	27,000	22,850	21,390	1,460	610	2,570	970
Cell/molecular biology	16,530	15,180	14,300	880	300	220	830
Environmental life sciences	6,590	5,620	5,250	360	70	860	S
Microbiology	13,290	10,970	10,150	820	340	1,590	400
Zoology	14,990	12,070	11,160	900	100	2,400	420
Other biological sciences	70,330	62,190	57,220	4,970	1,270	5,080	1,780
Computer and information sciences	12,680	11,960	11,040	930	310	120	300
Mathematics and statistics	33,510	28,330	25,990	2,340	680	3,830	660
Physical sciences	134,400	112,670	103,880	8,780	2,990	16,330	2,430
Astronomy/astrophysics	4,280	3,820	3,660	150	S	330	110
Chemistry, except biochemistry	69,460	57,040	52,410	4,630	1,770	9,270	1,390
Earth/atmospheric/ocean sciences	20,220	17,050	15,690	1,360	260	2,490	430
Physics	40,440	34,760	32,120	2,640	930	4,240	500
Psychology	102,280	91,410	70,330	21,070	1,600	6,360	2,920
Social sciences	90,580	78,450	68,900	9,550	1,200	9,330	1,610
Economics	25,440	22,060	19,890	2,170	210	2,850	320
Political sciences	20,520	17,730	15,510	2,220	260	2,210	330
Sociology	16,810	14,250	12,150	2,090	380	1,970	210
Other social sciences	27,810	24,410	21,350	3,060	360	2,300	740
Engineering	117,200	101,500	94,890	6,610	2,850	11,030	1,820
Aerospace/aeronautical/astronautical engineering	4,960	4,150	4,020	140	S	660	110
Chemical engineering	16,320	13,460	12,160	1,300	450	2,110	290
Civil engineering	10,490	9,170	8,650	520	190	1,070	70
Electrical/computer engineering	32,000	28,480	26,820	1,670	860	2,120	540
Materials/metallurgical engineering	12,300	10,820	10,000	820	180	1,100	200
Mechanical engineering	15,900	13,920	13,230	690	410	1,350	220
Other engineering	25,230	21,480	20,010	1,480	720	2,620	410
Health	25,850	23,230	20,650	2,580	330	1,900	400

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 2. Doctoral scientists and engineers, by broad field of doctorate, employment status, and sex: 2003

Employment status and field	Total	Male	Female
All fields	685,300	501,180	184,120
Employed full time	530,960	397,380	133,580
Employed part time	62,340	34,770	27,570
Unemployed	12,970	9,060	3,920
Retired	64,120	54,880	9,240
Not employed, not seeking work	14,900	5,090	9,810
Science	542,240	383,170	159,070
Employed full time	415,420	301,720	113,700
Employed part time	53,150	28,090	25,060
Unemployed	9,790	6,400	3,390
Retired	51,190	43,000	8,190
Not employed, not seeking work	12,680	3,960	8,720
Biological, agricultural, and environmental life sciences	168,780	117,330	51,460
Employed full time	135,280	95,550	39,730
Employed part time	10,480	5,630	4,850
Unemployed	3,020	1,930	1,090
Retired	15,240	12,870	2,370
Not employed, not seeking work	4,770	1,350	3,420
Computer and information sciences	12,680	10,570	2,110
Employed full time	11,040	9,440	1,600
Employed part time	930	680	240
Unemployed	310	240	70
Retired	120	50	60
Not employed, not seeking work	300	150	140
Mathematics and statistics	33,510	28,060	5,450
Employed full time	25,990	21,940	4,050
Employed part time	2,340	1,830	510
Unemployed	680	510	170
Retired	3,830	3,410	420
Not employed, not seeking work	660	370	300
Physical sciences	134,400	114,790	19,620
Employed full time	103,880	88,860	15,020
Employed part time	8,780	6,920	1,870
Unemployed	2,990	2,440	550
Retired	16,330	15,360	960
Not employed, not seeking work	2,430	1,210	1,210
Psychology	102,280	51,110	51,170
Employed full time	70,330	39,050	31,280
Employed part time	21,070	6,970	14,100
Unemployed	1,600	710	890
Retired	6,360	3,950	2,410
Not employed, not seeking work	2,920	430	2,490
Social sciences	90,580	61,320	29,260
Employed full time	68,900	46,880	22,020
Employed part time	9,550	6,060	3,490
Unemployed	1,200	580	620
Retired	9,330	7,350	1,980
Not employed, not seeking work	1,610	450	1,150
Engineering	117,200	107,210	10,000
Employed full time	94,890	86,820	8,060
Employed part time	6,610	5,860	750
Unemployed	2,850	2,560	300
Retired	11,030	10,890	140

TABLE 2. Doctoral scientists and engineers, by broad field of doctorate, employment status, and sex: 2003

Employment status and field	Total	Male	Female
Not employed, not seeking work	1,820	1,080	740
Health	25,850	10,800	15,060
Employed full time	20,650	8,830	11,820
Employed part time	2,580	830	1,750
Unemployed	330	90	230
Retired	1,900	990	910
Not employed, not seeking work	400	60	350

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 3. Doctoral scientists and engineers, by broad field of doctorate, employment status, and race/ethnicity: 2003

Employment status and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/unknown race/ethnicity [a]
All fields	685,300	4,470	108,150	18,960	17,020	535,600	1,100
Employed full time	530,960	3,430	93,200	15,890	14,080	403,430	940
Employed part time	62,340	520	4,970	1,600	1,570	53,610	60
Unemployed	12,970	60	2,880	380	270	9,380	S
Retired	64,120	320	5,080	800	720	57,180	S
Not employed, not seeking work	14,900	130	2,020	300	380	11,990	70
Science	542,240	3,860	68,180	15,230	14,010	440,070	890
Employed full time	415,420	2,890	58,040	12,570	11,540	329,620	770
Employed part time	53,150	510	3,860	1,350	1,430	45,970	S
Unemployed	9,790	60	1,510	310	210	7,690	S
Retired	51,190	270	3,290	740	520	46,350	S
Not employed, not seeking work	12,680	130	1,490	250	300	10,440	70
Biological, agricultural, and environmental life sciences	168,780	1,110	24,750	3,880	4,160	134,550	320
Employed full time	135,280	850	21,540	3,360	3,660	105,620	250
Employed part time	10,480	160	1,010	190	160	8,930	S
Unemployed	3,020	S	520	80	80	2,340	S
Retired	15,240	S	1,140	110	140	13,770	S
Not employed, not seeking work	4,770	S	530	140	130	3,890	S
Computer and information sciences	12,680	S	4,090	380	260	7,910	S
Employed full time	11,040	S	3,790	220	250	6,740	S
Employed part time	930	S	110	150	S	670	S
Unemployed	310	S	80	S	S	210	S
Retired	120	S	S	S	S	100	S
Not employed, not seeking work	300	S	100	S	S	200	S
Mathematics and statistics	33,510	160	6,250	640	790	25,600	50
Employed full time	25,990	130	5,270	580	600	19,360	S
Employed part time	2,340	S	490	S	50	1,750	S
Unemployed	680	S	160	S	S	490	S
Retired	3,830	S	280	S	100	3,420	S
Not employed, not seeking work	660	S	60	S	S	590	S
Physical sciences	134,400	610	22,470	1,850	2,610	106,640	240
Employed full time	103,880	550	19,300	1,640	2,350	79,800	240
Employed part time	8,780	S	930	90	100	7,660	S
Unemployed	2,990	S	530	60	S	2,360	S
Retired	16,330	50	1,280	S	100	14,850	S
Not employed, not seeking work	2,430	S	430	S	S	1,960	S
Psychology	102,280	990	2,800	4,000	3,470	90,880	140
Employed full time	70,330	660	2,000	3,280	2,370	61,890	130
Employed part time	21,070	200	500	480	890	19,000	S
Unemployed	1,600	S	80	90	S	1,380	S
Retired	6,360	70	90	130	80	5,990	S
Not employed, not seeking work	2,920	S	130	S	100	2,620	S
Social sciences	90,580	950	7,810	4,470	2,720	74,490	140
Employed full time	68,900	660	6,140	3,480	2,300	56,220	100
Employed part time	9,550	110	820	420	220	7,960	S
Unemployed	1,200	S	130	70	S	930	S
Retired	9,330	100	490	420	110	8,210	S
Not employed, not seeking work	1,610	S	240	70	S	1,180	S
Engineering	117,200	410	37,020	2,440	2,320	74,830	190
Employed full time	94,890	360	32,620	2,290	1,970	57,500	160
Employed part time	6,610	S	900	80	90	5,500	S
Unemployed	2,850	S	1,340	S	S	1,430	S
Retired	11,030	S	1,630	S	150	9,180	S
Not employed, not seeking work	1,820	S	530	S	70	1,220	S

TABLE 3. Doctoral scientists and engineers, by broad field of doctorate, employment status, and race/ethnicity: 2003

Employment status and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/unknown race/ethnicity [a]
Health	25,850	200	2,950	1,290	690	20,710	S
Employed full time	20,650	190	2,540	1,020	570	16,310	S
Employed part time	2,580	S	210	160	60	2,150	S
Unemployed	330	S	S	S	S	260	S
Retired	1,900	S	160	S	S	1,650	S
Not employed, not seeking work	400	S	S	S	S	340	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 4. Selected employment characteristics of doctoral scientists and engineers, by field of doctorate: 2003
(Percent)

Field	Unemployment rate	Involuntarily out-of-field rate	Labor force participation rate
All fields	2.1	5.0	88.5
Science	2.0	5.2	88.2
Biological, agricultural, and environmental life sciences	2.0	4.2	88.1
Agricultural/food sciences	1.9	5.4	85.8
Biochemistry/biophysics	2.6	4.1	86.9
Cell/molecular biology	1.9	3.3	93.7
Environmental life sciences	1.3	4.0	86.4
Microbiology	3.0	3.6	85.1
Zoology	0.8	5.9	81.2
Other biological sciences	2.0	4.0	90.2
Computer and information sciences	2.5	4.0	96.7
Mathematics and statistics	2.4	6.2	86.6
Physical sciences	2.6	6.8	86.0
Astronomy/astrophysics	S	6.9	89.8
Chemistry, except biochemistry	3.0	5.7	84.7
Earth/atmospheric/ocean sciences	1.5	6.3	85.6
Physics	2.6	8.7	88.3
Psychology	1.7	4.6	90.9
Social sciences	1.5	5.1	87.9
Economics	0.9	2.2	87.5
Political sciences	1.4	5.7	87.6
Sociology	2.6	5.1	87.0
Other social sciences	1.5	7.3	89.1
Engineering	2.7	4.5	89.0
Aerospace/aeronautical/astronautical engineering	S	6.0	84.6
Chemical engineering	3.2	5.1	85.3
Civil engineering	2.1	2.4	89.2
Electrical/computer engineering	2.9	3.1	91.7
Materials/metallurgical engineering	1.6	8.6	89.4
Mechanical engineering	2.8	5.0	90.1
Other engineering	3.2	3.9	88.0
Health	1.4	2.5	91.1

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Unemployment rate (R_U) = U/(E+U). Involuntarily-out-of field rate is the percentage of employed individuals who reported working part time exclusively because suitable full-time work was not available and/or reported working in an area not related to the first doctoral degree (in their principal job) at least partially because suitable work in the field was not available. Labor force is defined as those employed (E) plus those unemployed and seeking work (U). Population (P) is defined as all S&E doctorate holders under age 76, residing in the United States during the week of October 1, 2003, who earned doctorates from U.S. institutions. Labor force participation rate (R_{LF}) = (E+U)/P.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 5. Doctoral scientists and engineers, by field of doctorate and sex: 2003

Field	Total	Male	Female	Total	Male	Female
	Number			Percent		
All fields	685,300	501,180	184,120	100.0	73.1	26.9
Science	542,240	383,170	159,070	100.0	70.7	29.3
Biological, agricultural, and environmental life sciences	168,780	117,330	51,460	100.0	69.5	30.5
Agricultural/food sciences	20,070	16,600	3,470	100.0	82.7	17.3
Biochemistry/biophysics	27,000	19,030	7,970	100.0	70.5	29.5
Cell/molecular biology	16,530	9,280	7,250	100.0	56.1	43.9
Environmental life sciences	6,590	5,490	1,100	100.0	83.4	16.6
Microbiology	13,290	8,830	4,460	100.0	66.5	33.5
Zoology	14,990	11,770	3,210	100.0	78.6	21.4
Other biological sciences	70,330	46,320	24,000	100.0	65.9	34.1
Computer and information sciences	12,680	10,570	2,110	100.0	83.3	16.7
Mathematics and statistics	33,510	28,060	5,450	100.0	83.7	16.3
Physical sciences	134,400	114,790	19,620	100.0	85.4	14.6
Astronomy/astrophysics	4,280	3,600	680	100.0	84.2	15.8
Chemistry, except biochemistry	69,460	56,860	12,600	100.0	81.9	18.1
Earth/atmospheric/ocean sciences	20,220	17,050	3,170	100.0	84.3	15.7
Physics	40,440	37,280	3,160	100.0	92.2	7.8
Psychology	102,280	51,110	51,170	100.0	50.0	50.0
Social sciences	90,580	61,320	29,260	100.0	67.7	32.3
Economics	25,440	20,780	4,660	100.0	81.7	18.3
Political sciences	20,520	15,240	5,280	100.0	74.3	25.7
Sociology	16,810	9,590	7,220	100.0	57.1	42.9
Other social sciences	27,810	15,700	12,100	100.0	56.5	43.5
Engineering	117,200	107,210	10,000	100.0	91.5	8.5
Aerospace/aeronautical/astronautical engineering	4,960	4,700	260	100.0	94.8	5.2
Chemical engineering	16,320	14,660	1,650	100.0	89.9	10.1
Civil engineering	10,490	9,740	750	100.0	92.8	7.2
Electrical/computer engineering	32,000	29,780	2,220	100.0	93.1	6.9
Materials/metallurgical engineering	12,300	10,820	1,490	100.0	87.9	12.1
Mechanical engineering	15,900	15,010	880	100.0	94.4	5.6
Other engineering	25,230	22,490	2,750	100.0	89.1	10.9
Health	25,850	10,800	15,060	100.0	41.8	58.2

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 6. Doctoral scientists and engineers, by field of doctorate and race/ethnicity: 2003

Field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
				Number			
All fields	685,300	4,470	108,150	18,960	17,020	535,600	1,100
Science	542,240	3,860	68,180	15,230	14,010	440,070	890
Biological, agricultural, and environmental life sciences	168,780	1,110	24,750	3,880	4,160	134,550	320
Agricultural/food sciences	20,070	200	2,870	530	720	15,740	S
Biochemistry/biophysics	27,000	170	5,260	580	500	20,450	S
Cell/molecular biology	16,530	S	4,060	340	340	11,760	S
Environmental life sciences	6,590	S	540	80	180	5,750	S
Microbiology	13,290	S	1,840	330	340	10,710	50
Zoology	14,990	70	970	310	250	13,340	S
Other biological sciences	70,330	580	9,210	1,720	1,840	56,800	170
Computer and information sciences	12,680	S	4,090	380	260	7,910	S
Mathematics and statistics	33,510	160	6,250	640	790	25,600	50
Physical sciences	134,400	610	22,470	1,850	2,610	106,640	240
Astronomy/astrophysics	4,280	50	510	S	60	3,610	S
Chemistry, except biochemistry	69,460	290	12,520	1,340	1,440	53,710	160
Earth/atmospheric/ocean sciences	20,220	130	1,970	110	440	17,530	S
Physics	40,440	140	7,470	360	670	31,790	S
Psychology	102,280	990	2,800	4,000	3,470	90,880	140
Social sciences	90,580	950	7,810	4,470	2,720	74,490	140
Economics	25,440	160	3,580	770	690	20,220	S
Political sciences	20,520	170	1,170	1,380	520	17,260	S
Sociology	16,810	120	970	1,020	520	14,160	S
Other social sciences	27,810	490	2,100	1,300	980	22,850	90
Engineering	117,200	410	37,020	2,440	2,320	74,830	190
Aerospace/aeronautical/astronautical engineering	4,960	S	1,050	100	70	3,710	S
Chemical engineering	16,320	80	5,030	290	320	10,600	S
Civil engineering	10,490	S	2,800	360	260	6,990	S
Electrical/computer engineering	32,000	130	11,400	680	570	19,210	S
Materials/metallurgical engineering	12,300	70	4,060	170	280	7,680	S
Mechanical engineering	15,900	S	5,640	250	300	9,650	S
Other engineering	25,230	S	7,040	590	520	16,990	50
Health	25,850	200	2,950	1,290	690	20,710	S
				Percent			
All fields	100.0	0.7	15.8	2.8	2.5	78.2	0.2
Sciences	100.0	0.7	12.6	2.8	2.6	81.2	0.2
Biological, agricultural, and environmental life sciences	100.0	0.7	14.7	2.3	2.5	79.7	0.2
Agricultural/food sciences	100.0	1.0	14.3	2.6	3.6	78.5	S
Biochemistry/biophysics	100.0	0.6	19.5	2.1	1.9	75.7	S
Cell/molecular biology	100.0	S	24.6	2.0	2.0	71.1	S
Environmental life sciences	100.0	S	8.2	1.2	2.7	87.2	S
Microbiology	100.0	S	13.9	2.4	2.6	80.6	0.4
Zoology	100.0	0.5	6.5	2.0	1.7	89.0	S
Other biological sciences	100.0	0.8	13.1	2.5	2.6	80.8	0.2
Computer and information sciences	100.0	S	32.2	3.0	2.1	62.3	S
Mathematics and statistics	100.0	0.5	18.7	1.9	2.4	76.4	0.2
Physical sciences	100.0	0.5	16.7	1.4	1.9	79.3	0.2
Astronomy/astrophysics	100.0	1.2	11.8	S	1.3	84.5	S

TABLE 6. Doctoral scientists and engineers, by field of doctorate and race/ethnicity: 2003

Field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Chemistry, except biochemistry	100.0	0.4	18.0	1.9	2.1	77.3	0.2
Earth/atmospheric/ocean sciences	100.0	0.6	9.8	0.5	2.2	86.7	S
Physics	100.0	0.3	18.5	0.9	1.6	78.6	S
Psychology	100.0	1.0	2.7	3.9	3.4	88.8	0.1
Social sciences	100.0	1.0	8.6	4.9	3.0	82.2	0.2
Economics	100.0	0.6	14.1	3.0	2.7	79.5	S
Political sciences	100.0	0.8	5.7	6.7	2.5	84.1	S
Sociology	100.0	0.7	5.8	6.0	3.1	84.2	S
Other social sciences	100.0	1.8	7.5	4.7	3.5	82.2	0.3
Engineering	100.0	0.4	31.6	2.1	2.0	63.8	0.2
Aerospace/aeronautical/astronautical engineering	100.0	S	21.3	2.0	1.5	74.9	S
Chemical engineering	100.0	0.5	30.8	1.7	1.9	65.0	S
Civil engineering	100.0	S	26.7	3.5	2.5	66.6	S
Electrical/computer engineering	100.0	0.4	35.6	2.1	1.8	60.0	S
Materials/metallurgical engineering	100.0	0.6	33.0	1.4	2.3	62.4	S
Mechanical engineering	100.0	S	35.5	1.6	1.9	60.7	S
Other engineering	100.0	S	27.9	2.3	2.0	67.3	0.2
Health	100.0	0.8	11.4	5.0	2.7	80.1	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 7. Doctoral scientists and engineers employed in postdocs, by field of doctorate: 2003

Field	Number	Percent
Total in postdoc [a]	19,780	100.0
Science	17,970	90.8
Biological, agricultural, and environmental life sciences	11,420	57.7
Agricultural/food sciences	500	2.5
Biochemistry/biophysics	1,880	9.5
Cell/molecular biology	2,330	11.8
Environmental life sciences	170	0.9
Microbiology	980	5.0
Zoology	480	2.4
Other biological sciences	5,070	25.6
Computer and information sciences	120	0.6
Mathematics and statistics	500	2.5
Physical sciences	3,460	17.5
Astronomy/astrophysics	330	1.7
Chemistry, except biochemistry	1,360	6.9
Earth/atmospheric/ocean sciences	590	3.0
Physics	1,170	5.9
Psychology	1,780	9.0
Social sciences	690	3.5
Economics	160	0.8
Political sciences	120	0.6
Sociology	S	S
Other social sciences	390	2.0
Engineering	1,330	6.7
Aerospace/aeronautical/astronautical engineering	70	0.4
Chemical engineering	220	1.1
Civil engineering	130	0.7
Electrical/computer engineering	210	1.1
Materials/metallurgical engineering	120	0.6
Mechanical engineering	190	1.0
Other engineering	380	1.9
Health	480	2.4

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Postdoc is a temporary position awarded in academe, industry, or government primarily for gaining additional education and training in research.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 8. Doctoral scientists and engineers employed in postdocs, by field of doctorate and selected characteristics: 2003

Characteristic	All fields		Biological, agricultural, and environmental life sciences		Other fields	
	Number	Percent	Number	Percent	Number	Percent
Total in postdoc [a]	19,780	100.0	11,420	100.0	8,360	100.0
Employment sector						
Business/industry	1,860	9.4	750	6.6	1,110	13.3
Educational institution	15,850	80.1	9,680	84.8	6,170	73.8
Government	2,070	10.5	990	8.7	1,080	12.9
Years since doctorate						
5 or less	16,820	85.0	9,560	83.7	7,260	86.8
6–10	1,990	10.1	1,410	12.3	580	6.9
11–15	410	2.1	280	2.5	130	1.6
More than 15	560	2.8	170	1.5	390	4.7
Sex						
Male	11,960	60.5	6,470	56.7	5,500	65.8
Female	7,820	39.5	4,950	43.3	2,860	34.2
Race/ethnicity						
American Indian/Alaska Native	50	0.3	S	S	S	S
Asian	5,710	28.9	3,420	29.9	2,300	27.5
Black	570	2.9	230	2.0	340	4.1
Hispanic	840	4.2	440	3.9	400	4.8
White	12,530	63.3	7,300	63.9	5,230	62.6
Other/unknown race/ethnicity [b]	80	0.4	S	S	70	0.8
Age						
Under 35	10,600	53.6	6,020	52.7	4,580	54.8
35–44	7,240	36.6	4,570	40.0	2,680	32.1
45–75	1,940	9.8	840	7.4	1,100	13.2
Citizenship status						
U.S. citizen, native	11,910	60.2	7,060	61.8	4,850	58.0
U.S. citizen, naturalized	1,640	8.3	1,050	9.2	590	7.1
Non-U.S. citizen, permanent resident	1,920	9.7	1,340	11.7	580	6.9
Non-U.S. citizen, temporary resident	4,310	21.8	1,980	17.3	2,340	28.0

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Postdoc is a temporary position awarded in academe, industry, or government primarily for gaining additional education and training in research.

[b] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 9. Employed doctoral scientists and engineers, by field of doctorate, race/ethnicity, and sex: 2003

Field	Total			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
	Number																				
All fields	593,300	432,150	161,150	3,950	2,790	1,170	98,170	75,340	22,830	17,480	10,560	6,930	15,650	10,130	5,520	457,040	332,650	124,390	1,010	700	310
Sciences	468,570	329,810	138,760	3,400	2,390	1,010	61,890	43,410	18,490	13,930	7,980	5,940	12,970	8,100	4,870	375,590	267,420	108,170	800	520	280
Biological, agricultural, and environmental life sciences	145,760	101,180	44,580	1,010	770	240	22,560	13,970	8,580	3,550	2,130	1,410	3,820	2,480	1,350	114,550	81,630	32,920	270	190	80
Agricultural/food sciences	16,890	13,910	2,980	160	130	S	2,700	1,960	740	500	430	60	640	490	150	12,910	10,900	2,010	S	S	S
Biochemistry/biophysics	22,850	16,220	6,630	150	150	S	4,660	2,730	1,930	450	240	210	460	350	100	17,100	12,720	4,390	S	S	S
Cell/molecular biology	15,180	8,840	6,340	S	S	S	3,860	2,070	1,780	300	190	110	330	170	160	10,670	6,410	4,260	S	S	S
Environmental life sciences	5,620	4,600	1,010	S	S	S	490	350	140	80	60	S	180	130	S	4,830	4,030	800	S	S	S
Microbiology	10,970	7,250	3,720	S	S	S	1,680	1,070	600	300	130	170	330	230	110	8,590	5,790	2,800	50	S	S
Zoology	12,070	9,460	2,610	70	S	S	820	580	240	290	190	100	240	190	S	10,600	8,400	2,200	S	S	S
Other biological sciences	62,190	40,900	21,290	540	410	140	8,370	5,220	3,150	1,630	890	740	1,660	920	740	49,860	33,370	16,480	140	90	50
Computer and information sciences	11,960	10,120	1,840	S	S	S	3,900	3,360	540	370	290	80	250	220	S	7,400	6,230	1,170	S	S	S
Mathematics and statistics	28,330	23,770	4,560	160	150	S	5,750	4,610	1,140	600	490	120	660	560	90	21,110	17,910	3,200	S	S	S
Physical sciences	112,670	95,780	16,890	560	480	80	20,230	15,840	4,390	1,740	1,370	370	2,450	1,960	490	87,460	75,980	11,470	240	140	90
Astronomy/astrophysics	3,820	3,220	590	50	S	S	480	410	70	S	S	S	60	S	S	3,180	2,720	460	S	S	S
Chemistry, except biochemistry	57,040	46,340	10,690	270	230	S	11,040	8,090	2,960	1,290	990	290	1,370	1,040	330	42,910	35,910	7,000	160	80	80
Earth/atmospheric/ ocean sciences	17,050	14,230	2,820	130	120	S	1,850	1,500	350	90	70	S	420	360	60	14,530	12,140	2,390	S	S	S
Physics	34,760	31,980	2,780	110	110	S	6,850	5,850	1,010	330	280	50	600	520	80	26,840	25,210	1,630	S	S	S
Psychology	91,410	46,030	45,380	860	490	370	2,500	770	1,730	3,760	1,280	2,490	3,260	1,210	2,050	80,890	42,210	38,680	140	80	60
Social sciences	78,450	52,940	25,510	770	470	300	6,960	4,860	2,100	3,910	2,430	1,480	2,530	1,660	860	64,180	43,450	20,730	110	70	S
Economics	22,060	17,980	4,080	80	80	S	3,240	2,410	830	660	550	110	610	540	70	17,460	14,390	3,070	S	S	S
Political sciences	17,730	12,980	4,750	120	70	50	1,000	700	300	1,200	800	390	490	340	150	14,910	11,080	3,840	S	S	S
Sociology	14,250	8,010	6,230	120	70	S	820	500	310	920	530	390	510	300	220	11,860	6,610	5,250	S	S	S
Other social sciences	24,410	13,950	10,450	460	260	200	1,900	1,240	660	1,130	540	580	910	490	430	19,950	11,370	8,570	60	S	S
Engineering	101,500	92,690	8,820	360	350	S	33,520	30,390	3,130	2,380	2,110	270	2,050	1,810	240	63,000	57,850	5,150	190	180	S
Aerospace/aeronautical/ astronautical engineering	4,150	3,930	220	S	S	S	1,010	930	70	90	90	S	70	S	S	2,960	2,850	120	S	S	S
Chemical engineering	13,460	12,110	1,350	80	80	S	4,280	3,830	450	280	220	#	280	260	S	8,540	7,730	810	S	S	S
Civil engineering	9,170	8,480	690	S	S	S	2,440	2,250	190	360	360	S	260	250	S	6,020	5,550	470	S	S	S
Electrical/computer engineering	28,480	26,460	2,030	100	100	S	10,490	9,600	890	670	630	S	550	480	70	16,660	15,630	1,030	S	S	S
Materials/metallurgical engineering	10,820	9,530	1,290	S	S	S	3,780	3,350	430	170	150	S	200	180	S	6,580	5,760	810	S	S	S
Mechanical engineering	13,920	13,160	760	S	S	S	5,250	4,800	440	240	230	S	210	190	S	8,180	7,890	280	S	S	S

TABLE 9. Employed doctoral scientists and engineers, by field of doctorate, race/ethnicity, and sex: 2003

Field	Total			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Other engineering	21,480	19,020	2,460	S	S	S	6,280	5,620	660	570	450	110	480	410	60	14,070	12,440	1,630	50	50	S
Health	23,230	9,660	13,570	200	S	150	2,750	1,540	1,210	1,180	460	720	620	220	410	18,450	7,390	11,070	S	S	S
											Percent										
All fields	100.0	72.8	27.2	100.0	70.4	29.6	100.0	76.7	23.3	100.0	60.4	39.6	100.0	64.7	35.3	100.0	72.8	27.2	100.0	69.5	30.5
Science	100.0	70.4	29.6	100.0	70.4	29.6	100.0	70.1	29.9	100.0	57.3	42.7	100.0	62.4	37.6	100.0	71.2	28.8	100.0	64.8	35.2
Biological, agricultural, and environmental life sciences	100.0	69.4	30.6	100.0	76.3	23.7	100.0	61.9	38.1	100.0	60.2	39.8	100.0	64.8	35.2	100.0	71.3	28.7	100.0	70.3	29.7
Agricultural/food sciences	100.0	82.3	17.7	100.0	83.8	S	100.0	72.6	27.4	100.0	87.2	12.8	100.0	76.6	23.4	100.0	84.5	15.5	100.0	S	S
Biochemistry/biophysics	100.0	71.0	29.0	100.0	100.0	S	100.0	58.5	41.5	100.0	53.9	46.1	100.0	77.3	22.7	100.0	74.4	25.6	100.0	S	S
Cell/molecular biology	100.0	58.2	41.8	100.0	S	S	100.0	53.7	46.3	100.0	62.8	37.2	100.0	51.6	48.4	100.0	60.1	39.9	100.0	S	S
Environmental life sciences	100.0	82.0	18.0	100.0	S	S	100.0	70.6	29.4	100.0	71.1	S	100.0	74.1	S	100.0	83.5	16.5	100.0	S	S
Microbiology	100.0	66.1	33.9	100.0	S	S	100.0	64.0	36.0	100.0	44.2	55.8	100.0	68.1	31.9	100.0	67.4	32.6	100.0	S	S
Zoology	100.0	78.4	21.6	100.0	S	S	100.0	71.1	28.9	100.0	65.1	34.9	100.0	81.1	S	100.0	79.3	20.7	100.0	S	S
Other biological sciences	100.0	65.8	34.2	100.0	74.8	25.2	100.0	62.4	37.6	100.0	54.7	45.3	100.0	55.5	44.5	100.0	66.9	33.1	100.0	63.0	37.0
Computer and information sciences	100.0	84.6	15.4	100.0	S	S	100.0	86.1	13.9	100.0	77.4	22.6	100.0	86.6	S	100.0	84.2	15.8	100.0	S	S
Mathematics and statistics	100.0	83.9	16.1	100.0	97.1	S	100.0	80.2	19.8	100.0	80.7	19.3	100.0	86.0	14.0	100.0	84.9	15.1	100.0	S	S
Physical sciences	100.0	85.0	15.0	100.0	86.1	13.9	100.0	78.3	21.7	100.0	78.8	21.2	100.0	80.0	20.0	100.0	86.9	13.1	100.0	61.5	38.5
Astronomy/astrophysics	100.0	84.5	15.5	100.0	S	S	100.0	84.6	15.4	100.0	S	S	100.0	S	S	100.0	85.5	14.5	100.0	S	S
Chemistry, except biochemistry	100.0	81.2	18.8	100.0	85.2	S	100.0	73.2	26.8	100.0	77.1	22.9	100.0	75.9	24.1	100.0	83.7	16.3	100.0	50.5	49.5
Earth/atmospheric/ ocean sciences	100.0	83.5	16.5	100.0	93.0	S	100.0	81.0	19.0	100.0	78.9	S	100.0	86.7	13.3	100.0	83.6	16.4	100.0	S	S
Physics	100.0	92.0	8.0	100.0	100.0	S	100.0	85.3	14.7	100.0	84.6	15.4	100.0	86.6	13.4	100.0	93.9	6.1	100.0	S	S
Psychology	100.0	50.4	49.6	100.0	56.7	43.3	100.0	30.6	69.4	100.0	34.0	66.0	100.0	37.2	62.8	100.0	52.2	47.8	100.0	56.4	43.6
Social sciences	100.0	67.5	32.5	100.0	61.2	38.8	100.0	69.8	30.2	100.0	62.2	37.8	100.0	65.8	34.2	100.0	67.7	32.3	100.0	62.0	S
Economics	100.0	81.5	18.5	100.0	100.0	S	100.0	74.5	25.5	100.0	83.4	16.6	100.0	88.5	11.5	100.0	82.4	17.6	100.0	S	S
Political sciences	100.0	73.2	26.8	100.0	55.8	44.2	100.0	69.7	30.3	100.0	67.2	32.8	100.0	69.4	30.6	100.0	74.3	25.7	100.0	S	S
Sociology	100.0	56.2	43.8	100.0	60.5	S	100.0	61.7	38.3	100.0	57.4	42.6	100.0	57.4	42.6	100.0	55.7	44.3	100.0	S	S
Other social sciences	100.0	57.2	42.8	100.0	56.5	43.5	100.0	65.3	34.7	100.0	48.3	51.7	100.0	53.4	46.6	100.0	57.0	43.0	100.0	S	S
Engineering	100.0	91.3	8.7	100.0	96.2	S	100.0	90.6	9.4	100.0	88.8	11.2	100.0	88.1	11.9	100.0	91.8	8.2	100.0	97.2	S
Aerospace/aeronautical/ astronautical engineering	100.0	94.6	5.4	100.0	S	S	100.0	92.8	7.2	100.0	94.3	S	100.0	S	S	100.0	96.1	3.9	100.0	S	S
Chemical engineering	100.0	89.9	10.1	100.0	89.3	S	100.0	89.5	10.5	100.0	77.2	22.8	100.0	90.9	S	100.0	90.5	9.5	100.0	S	S
Civil engineering	100.0	92.5	7.5	100.0	S	S	100.0	92.1	7.9	100.0	98.3	S	100.0	95.6	S	100.0	92.2	7.8	100.0	S	S
Electrical/computer engineering	100.0	92.9	7.1	100.0	100.0	S	100.0	91.5	8.5	100.0	93.8	S	100.0	87.5	12.5	100.0	93.8	6.2	100.0	S	S

TABLE 9. Employed doctoral scientists and engineers, by field of doctorate, race/ethnicity, and sex: 2003

Field	Total			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Materials/metallurgical engineering	100.0	88.0	12.0	100.0	S	S	100.0	88.5	11.5	100.0	86.0	S	100.0	88.9	S	100.0	87.6	12.4	100.0	S	S
Mechanical engineering	100.0	94.5	5.5	100.0	S	S	100.0	91.6	8.4	100.0	95.6	S	100.0	89.4	S	100.0	96.5	3.5	100.0	S	S
Other engineering	100.0	88.5	11.5	100.0	S	S	100.0	89.6	10.4	100.0	79.8	20.2	100.0	86.6	13.4	100.0	88.4	11.6	100.0	100.0	S
Health	100.0	41.6	58.4	100.0	S	76.1	100.0	56.0	44.0	100.0	39.2	60.8	100.0	35.1	64.9	100.0	40.0	60.0	100.0	S	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 10. Employed doctoral scientists and engineers, by field of doctorate and citizenship status: 2003

Field	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
	Number						
All fields	593,300	533,960	445,960	88,000	59,340	39,620	19,720
Science	468,570	429,690	372,510	57,190	38,880	26,010	12,870
Biological, agricultural, and environmental life sciences	145,760	132,930	114,320	18,610	12,830	8,640	4,190
Agricultural/food sciences	16,890	15,200	12,570	2,630	1,690	1,110	580
Biochemistry/biophysics	22,850	20,590	16,900	3,700	2,250	1,660	590
Cell/molecular biology	15,180	13,060	10,630	2,430	2,120	1,580	540
Environmental life sciences	5,620	5,240	4,860	390	370	240	130
Microbiology	10,970	9,910	8,600	1,310	1,060	650	410
Zoology	12,070	11,680	10,530	1,150	390	240	150
Other biological sciences	62,190	57,250	50,240	7,010	4,940	3,150	1,800
Computer and information sciences	11,960	9,040	6,510	2,530	2,920	2,070	850
Mathematics and statistics	28,330	24,410	19,200	5,210	3,920	2,550	1,370
Physical sciences	112,670	101,760	83,690	18,070	10,900	6,970	3,940
Astronomy/astrophysics	3,820	3,500	3,140	360	320	270	S
Chemistry, except biochemistry	57,040	51,740	42,390	9,350	5,290	3,500	1,800
Earth/atmospheric/ocean sciences	17,050	15,580	13,710	1,870	1,470	930	540
Physics	34,760	30,940	24,450	6,490	3,820	2,270	1,550
Psychology	91,410	89,570	84,980	4,590	1,830	1,380	450
Social sciences	78,450	71,980	63,810	8,180	6,470	4,400	2,060
Economics	22,060	18,830	15,960	2,870	3,230	1,960	1,270
Political sciences	17,730	16,870	15,140	1,730	860	670	190
Sociology	14,250	13,550	12,430	1,120	690	500	200
Other social sciences	24,410	22,730	20,270	2,460	1,680	1,280	410
Engineering	101,500	82,920	54,610	28,310	18,580	12,370	6,210
Aerospace/aeronautical/astronautical engineering	4,150	3,520	2,610	910	630	390	240
Chemical engineering	13,460	11,230	7,980	3,250	2,240	1,590	650
Civil engineering	9,170	7,620	4,540	3,070	1,550	950	600
Electrical/computer engineering	28,480	22,240	13,920	8,330	6,240	4,110	2,130
Materials/metallurgical engineering	10,820	8,880	6,200	2,680	1,950	1,430	520
Mechanical engineering	13,920	11,360	6,930	4,430	2,570	1,550	1,020
Other engineering	21,480	18,080	12,440	5,640	3,400	2,350	1,050
Health	23,230	21,340	18,840	2,500	1,880	1,250	640
	Percent						
All fields	100.0	90.0	75.2	14.8	10.0	6.7	3.3
Science	100.0	91.7	79.5	12.2	8.3	5.6	2.7
Biological, agricultural, and environmental life sciences	100.0	91.2	78.4	12.8	8.8	5.9	2.9
Agricultural/food sciences	100.0	90.0	74.4	15.6	10.0	6.6	3.4
Biochemistry/biophysics	100.0	90.1	74.0	16.2	9.9	7.3	2.6
Cell/molecular biology	100.0	86.0	70.0	16.0	14.0	10.4	3.6
Environmental life sciences	100.0	93.4	86.5	6.9	6.6	4.3	2.3
Microbiology	100.0	90.3	78.4	11.9	9.7	6.0	3.7
Zoology	100.0	96.8	87.2	9.6	3.2	2.0	1.2
Other biological sciences	100.0	92.1	80.8	11.3	7.9	5.1	2.9
Computer and information sciences	100.0	75.6	54.4	21.2	24.4	17.3	7.1
Mathematics and statistics	100.0	86.2	67.8	18.4	13.8	9.0	4.8
Physical sciences	100.0	90.3	74.3	16.0	9.7	6.2	3.5
Astronomy/astrophysics	100.0	91.6	82.2	9.4	8.4	7.1	0.0
Chemistry, except biochemistry	100.0	90.7	74.3	16.4	9.3	6.1	3.1

TABLE 10. Employed doctoral scientists and engineers, by field of doctorate and citizenship status: 2003

Field	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
Earth/atmospheric/ocean sciences	100.0	91.4	80.4	11.0	8.6	5.4	3.2
Physics	100.0	89.0	70.3	18.7	11.0	6.5	4.5
Psychology	100.0	98.0	93.0	5.0	2.0	1.5	0.5
Social sciences	100.0	91.8	81.3	10.4	8.2	5.6	2.6
Economics	100.0	85.4	72.4	13.0	14.6	8.9	5.8
Political sciences	100.0	95.1	85.4	9.8	4.9	3.8	1.1
Sociology	100.0	95.1	87.3	7.9	4.9	3.5	1.4
Other social sciences	100.0	93.1	83.1	10.1	6.9	5.2	1.7
Engineering	100.0	81.7	53.8	27.9	18.3	12.2	6.1
Aerospace/aeronautical/astronautical engineering	100.0	84.7	62.7	22.0	15.3	9.4	5.9
Chemical engineering	100.0	83.4	59.3	24.1	16.6	11.8	4.8
Civil engineering	100.0	83.1	49.6	33.5	16.9	10.4	6.5
Electrical/computer engineering	100.0	78.1	48.9	29.2	21.9	14.4	7.5
Materials/metallurgical engineering	100.0	82.0	57.3	24.7	18.0	13.2	4.8
Mechanical engineering	100.0	81.6	49.8	31.8	18.4	11.1	7.3
Other engineering	100.0	84.2	57.9	26.3	15.8	10.9	4.9
Health	100.0	91.9	81.1	10.8	8.1	5.4	2.7

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 11. Employed doctoral scientists and engineers, by field of doctorate and age: 2003

Field	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
	Number								
All fields	593,300	60,020	79,400	88,710	92,610	90,340	84,690	62,350	35,180
Science	468,570	45,650	59,880	66,850	74,460	73,950	69,740	50,500	27,550
Biological, agricultural, and environmental life sciences	145,760	15,190	21,110	22,440	25,890	22,890	18,280	13,080	6,880
Agricultural/food sciences	16,890	910	1,700	2,560	3,960	3,050	2,050	1,760	900
Biochemistry/biophysics	22,850	2,410	3,590	3,240	3,440	3,810	2,880	2,380	1,090
Cell/molecular biology	15,180	2,460	3,620	3,450	2,850	1,290	910	450	140
Environmental life sciences	5,620	420	710	700	990	930	1,050	710	90
Microbiology	10,970	900	1,620	1,700	1,660	1,620	1,390	1,100	990
Zoology	12,070	670	850	1,270	1,780	2,070	2,610	1,890	930
Other biological sciences	62,190	7,410	9,010	9,520	11,200	10,110	7,390	4,810	2,740
Computer and information sciences	11,960	1,990	2,360	2,940	2,210	1,540	750	150	S
Mathematics and statistics	28,330	2,970	3,990	3,290	3,580	3,820	4,500	4,210	1,970
Physical sciences	112,670	12,710	15,040	18,000	17,110	14,000	15,160	13,110	7,540
Astronomy/astrophysics	3,820	570	690	640	440	540	450	310	180
Chemistry, except biochemistry	57,040	7,310	7,540	9,310	9,000	6,780	7,180	6,490	3,410
Earth/atmospheric/ocean sciences	17,050	1,140	1,780	3,070	3,230	2,870	2,490	1,400	1,060
Physics	34,760	3,690	5,030	4,970	4,440	3,810	5,030	4,900	2,900
Psychology	91,410	7,720	9,310	11,120	14,030	17,670	16,990	8,680	5,900
Social sciences	78,450	5,060	8,080	9,080	11,640	14,030	14,050	11,270	5,240
Economics	22,060	1,790	2,530	2,730	3,580	3,390	3,990	2,850	1,200
Political sciences	17,730	1,300	2,130	2,150	2,330	2,800	3,100	2,560	1,350
Sociology	14,250	740	1,290	1,560	1,730	2,750	2,540	2,330	1,310
Other social sciences	24,410	1,230	2,120	2,630	4,000	5,090	4,430	3,530	1,390
Engineering	101,500	12,570	17,080	19,010	14,510	11,040	11,000	9,650	6,630
Aerospace/aeronautical/astronautical engineering	4,150	580	990	660	320	490	380	410	330
Chemical engineering	13,460	2,090	2,030	2,490	2,110	1,130	1,390	1,260	970
Civil engineering	9,170	770	1,340	1,650	1,230	1,030	1,410	1,100	640
Electrical/computer engineering	28,480	3,710	5,080	5,770	4,110	2,530	3,130	2,230	1,930
Materials/metallurgical engineering	10,820	1,430	2,130	2,220	1,690	1,360	610	910	470
Mechanical engineering	13,920	1,800	2,600	2,600	2,050	1,580	1,330	1,070	890
Other engineering	21,480	2,200	2,910	3,620	3,000	2,910	2,760	2,670	1,410
Health	23,230	1,810	2,440	2,850	3,630	5,350	3,950	2,200	990
	Percent								
All fields	100.0	10.1	13.4	15.0	15.6	15.2	14.3	10.5	5.9
Science	100.0	9.7	12.8	14.3	15.9	15.8	14.9	10.8	5.9
Biological, agricultural, and environmental life sciences	100.0	10.4	14.5	15.4	17.8	15.7	12.5	9.0	4.7
Agricultural/food sciences	100.0	5.4	10.1	15.2	23.5	18.1	12.1	10.4	5.3
Biochemistry/biophysics	100.0	10.6	15.7	14.2	15.1	16.7	12.6	10.4	4.8
Cell/molecular biology	100.0	16.2	23.8	22.8	18.8	8.5	6.0	3.0	0.9
Environmental life sciences	100.0	7.5	12.7	12.5	17.6	16.6	18.8	12.7	1.7
Microbiology	100.0	8.2	14.7	15.5	15.1	14.8	12.7	10.0	9.0
Zoology	100.0	5.5	7.0	10.5	14.7	17.2	21.6	15.6	7.7
Other biological sciences	100.0	11.9	14.5	15.3	18.0	16.3	11.9	7.7	4.4
Computer and information sciences	100.0	16.7	19.7	24.5	18.5	12.9	6.2	1.3	S
Mathematics and statistics	100.0	10.5	14.1	11.6	12.6	13.5	15.9	14.9	7.0
Physical sciences	100.0	11.3	13.3	16.0	15.2	12.4	13.5	11.6	6.7
Astronomy/astrophysics	100.0	15.0	18.1	16.7	11.6	14.0	11.8	8.3	4.6
Chemistry, except biochemistry	100.0	12.8	13.2	16.3	15.8	11.9	12.6	11.4	6.0
Earth/atmospheric/ocean sciences	100.0	6.7	10.4	18.0	18.9	16.9	14.6	8.2	6.2
Physics	100.0	10.6	14.5	14.3	12.8	10.9	14.5	14.1	8.3

TABLE 11. Employed doctoral scientists and engineers, by field of doctorate and age: 2003

Field	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
Psychology	100.0	8.4	10.2	12.2	15.3	19.3	18.6	9.5	6.4
Social sciences	100.0	6.5	10.3	11.6	14.8	17.9	17.9	14.4	6.7
Economics	100.0	8.1	11.5	12.4	16.2	15.4	18.1	12.9	5.4
Political sciences	100.0	7.4	12.0	12.1	13.1	15.8	17.5	14.4	7.6
Sociology	100.0	5.2	9.1	11.0	12.2	19.3	17.8	16.3	9.2
Other social sciences	100.0	5.0	8.7	10.8	16.4	20.8	18.1	14.5	5.7
Engineering	100.0	12.4	16.8	18.7	14.3	10.9	10.8	9.5	6.5
Aerospace/aeronautical/astronautical engineering	100.0	13.9	23.7	15.9	7.7	11.9	9.1	9.8	8.0
Chemical engineering	100.0	15.5	15.1	18.5	15.7	8.4	10.3	9.4	7.2
Civil engineering	100.0	8.4	14.6	18.0	13.4	11.2	15.4	12.0	7.0
Electrical/computer engineering	100.0	13.0	17.8	20.3	14.4	8.9	11.0	7.8	6.8
Materials/metallurgical engineering	100.0	13.2	19.7	20.6	15.6	12.6	5.6	8.4	4.3
Mechanical engineering	100.0	13.0	18.7	18.7	14.7	11.4	9.5	7.7	6.4
Other engineering	100.0	10.2	13.6	16.8	14.0	13.6	12.8	12.4	6.6
Health	100.0	7.8	10.5	12.3	15.6	23.0	17.0	9.5	4.3

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 12. Employed doctoral scientists and engineers, by field of doctorate and years since doctorate: 2003

Field	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
	Number						
All fields	593,300	115,610	107,560	87,230	76,620	68,200	138,080
Science	468,570	86,900	80,310	67,550	63,170	57,650	113,000
Biological, agricultural, and environmental life sciences	145,760	28,460	26,560	21,600	19,530	18,140	31,470
Agricultural/food sciences	16,890	2,450	2,570	3,140	2,850	2,170	3,720
Biochemistry/biophysics	22,850	3,840	4,040	2,660	2,980	3,290	6,040
Cell/molecular biology	15,180	4,400	4,110	2,600	1,830	900	1,350
Environmental life sciences	5,620	1,500	870	690	730	710	1,110
Microbiology	10,970	1,890	1,960	1,590	900	1,510	3,110
Zoology	12,070	1,630	1,320	1,320	1,680	1,820	4,300
Other biological sciences	62,190	12,750	11,690	9,600	8,560	7,740	11,840
Computer and information sciences	11,960	3,740	3,660	2,470	1,370	720	S
Mathematics and statistics	28,330	4,560	4,550	3,630	3,060	3,020	9,520
Physical sciences	112,670	18,390	18,270	16,260	14,600	12,290	32,850
Astronomy/astrophysics	3,820	710	780	450	500	490	880
Chemistry, except biochemistry	57,040	9,410	8,690	8,470	7,470	6,280	16,730
Earth/atmospheric/ocean sciences	17,050	3,000	3,040	2,620	2,590	2,240	3,560
Physics	34,760	5,270	5,770	4,720	4,040	3,280	11,690
Psychology	91,410	16,720	14,880	13,320	14,160	12,630	19,690
Social sciences	78,450	15,030	12,390	10,270	10,440	10,860	19,460
Economics	22,060	3,440	3,190	2,900	3,040	3,210	6,280
Political sciences	17,730	3,880	3,170	2,020	1,760	1,910	4,980
Sociology	14,250	2,500	1,890	1,730	2,080	2,450	3,600
Other social sciences	24,410	5,210	4,140	3,620	3,550	3,290	4,600
Engineering	101,500	21,970	21,910	15,990	10,720	8,260	22,650
Aerospace/aeronautical/astronautical engineering	4,150	920	1,090	450	350	160	1,180
Chemical engineering	13,460	2,540	2,350	2,320	1,910	850	3,490
Civil engineering	9,170	1,860	1,830	1,640	1,010	600	2,230
Electrical/computer engineering	28,480	6,570	6,580	4,440	2,680	2,120	6,100
Materials/metallurgical engineering	10,820	2,240	2,960	1,780	1,080	1,020	1,730
Mechanical engineering	13,920	3,400	3,030	2,220	1,450	1,050	2,770
Other engineering	21,480	4,440	4,070	3,130	2,230	2,460	5,150
Health	23,230	6,740	5,340	3,700	2,730	2,290	2,430
	Percent						
All fields	100.0	19.5	18.1	14.7	12.9	11.5	23.3
Science	100.0	18.5	17.1	14.4	13.5	12.3	24.1
Biological, agricultural, and environmental life sciences	100.0	19.5	18.2	14.8	13.4	12.4	21.6
Agricultural/food sciences	100.0	14.5	15.2	18.6	16.9	12.8	22.0
Biochemistry/biophysics	100.0	16.8	17.7	11.6	13.1	14.4	26.5
Cell/molecular biology	100.0	29.0	27.1	17.1	12.1	5.9	8.9
Environmental life sciences	100.0	26.6	15.5	12.3	13.0	12.7	19.8
Microbiology	100.0	17.2	17.9	14.5	8.2	13.8	28.3
Zoology	100.0	13.5	11.0	10.9	13.9	15.1	35.6
Other biological sciences	100.0	20.5	18.8	15.4	13.8	12.4	19.0
Computer and information sciences	100.0	31.3	30.6	20.7	11.5	6.0	S
Mathematics and statistics	100.0	16.1	16.0	12.8	10.8	10.6	33.6
Physical sciences	100.0	16.3	16.2	14.4	13.0	10.9	29.2
Astronomy/astrophysics	100.0	18.6	20.3	11.9	13.2	12.9	23.1
Chemistry, except biochemistry	100.0	16.5	15.2	14.9	13.1	11.0	29.3
Earth/atmospheric/ocean sciences	100.0	17.6	17.8	15.4	15.2	13.1	20.9

TABLE 12. Employed doctoral scientists and engineers, by field of doctorate and years since doctorate: 2003

Field	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
Physics	100.0	15.2	16.6	13.6	11.6	9.4	33.6
Psychology	100.0	18.3	16.3	14.6	15.5	13.8	21.5
Social sciences	100.0	19.2	15.8	13.1	13.3	13.8	24.8
Economics	100.0	15.6	14.5	13.1	13.8	14.5	28.5
Political sciences	100.0	21.9	17.9	11.4	10.0	10.8	28.1
Sociology	100.0	17.6	13.3	12.1	14.6	17.2	25.3
Other social sciences	100.0	21.3	17.0	14.8	14.6	13.5	18.8
Engineering	100.0	21.6	21.6	15.7	10.6	8.1	22.3
Aerospace/aeronautical/astronautical engineering	100.0	22.2	26.2	10.9	8.3	3.8	28.5
Chemical engineering	100.0	18.8	17.5	17.2	14.2	6.3	25.9
Civil engineering	100.0	20.3	19.9	17.9	11.0	6.5	24.4
Electrical/computer engineering	100.0	23.1	23.1	15.6	9.4	7.4	21.4
Materials/metallurgical engineering	100.0	20.7	27.4	16.5	10.0	9.4	16.0
Mechanical engineering	100.0	24.4	21.8	16.0	10.4	7.6	19.9
Other engineering	100.0	20.7	18.9	14.6	10.4	11.4	24.0
Health	100.0	29.0	23.0	15.9	11.8	9.9	10.4

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 13. Employed doctoral scientists and engineers, by field of doctorate and sector of employment: 2003

Field	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit	Private not-for-profit	Federal government	State and local government	Self-employed	Other
					Number				
All fields	593,300	259,380	20,170	187,570	29,650	41,090	15,970	36,130	3,340
Science	468,570	217,940	18,460	126,220	25,180	32,550	13,970	31,460	2,780
Biological, agricultural, and environmental life sciences	145,760	76,040	4,720	37,630	7,210	12,830	2,950	4,100	290
Agricultural/food sciences	16,890	7,580	470	5,770	500	1,620	240	650	60
Biochemistry/biophysics	22,850	11,410	490	7,180	1,180	1,520	400	630	S
Cell/molecular biology	15,180	8,540	440	4,160	950	730	140	220	S
Environmental life sciences	5,620	2,180	140	970	340	1,280	460	230	S
Microbiology	10,970	5,100	500	3,560	430	810	180	350	S
Zoology	12,070	6,340	440	2,410	470	1,510	410	480	S
Other biological sciences	62,190	34,900	2,230	13,580	3,340	5,350	1,110	1,530	140
Computer and information sciences	11,960	5,280	190	5,540	260	310	90	280	S
Mathematics and statistics	28,330	16,630	700	7,570	780	1,420	350	800	60
Physical sciences	112,670	39,320	3,880	49,290	4,020	9,470	2,320	3,700	660
Astronomy/astrophysics	3,820	2,290	110	670	240	380	50	50	S
Chemistry, except biochemistry	57,040	15,920	2,250	31,190	1,640	2,650	1,100	2,130	150
Earth/atmospheric/ocean sciences	17,050	8,240	580	3,690	510	2,650	680	630	70
Physics	34,760	12,860	950	13,740	1,620	3,800	490	890	420
Psychology	91,410	31,680	6,270	16,400	8,540	3,280	5,340	19,580	320
Social sciences	78,450	48,980	2,700	9,790	4,370	5,240	2,920	3,000	1,450
Economics	22,060	12,160	260	3,570	870	2,680	450	850	1,220
Political sciences	17,730	11,620	610	2,020	870	810	930	770	90
Sociology	14,250	10,070	560	930	1,180	540	440	490	S
Other social sciences	24,410	15,120	1,270	3,270	1,440	1,210	1,100	890	110
Engineering	101,500	28,170	1,140	56,780	2,880	7,020	1,500	3,570	430
Aerospace/aeronautical/astronautical engineering	4,150	1,200	S	1,800	210	680	70	200	S
Chemical engineering	13,460	2,280	200	9,290	440	550	140	510	50
Civil engineering	9,170	3,580	120	3,830	190	590	430	300	130
Electrical/computer engineering	28,480	7,940	180	16,990	810	1,290	150	1,080	S
Materials/metallurgical engineering	10,820	1,680	150	7,150	290	1,030	S	420	80
Mechanical engineering	13,920	3,630	140	8,610	290	770	S	450	S
Other engineering	21,480	7,870	340	9,110	660	2,120	660	630	100
Health	23,230	13,280	570	4,570	1,590	1,520	490	1,100	130
					Percent				
All fields	100.0	43.7	3.4	31.6	5.0	6.9	2.7	6.1	0.6
Science	100.0	46.5	3.9	26.9	5.4	6.9	3.0	6.7	0.6
Biological, agricultural, and environmental life sciences	100.0	52.2	3.2	25.8	4.9	8.8	2.0	2.8	0.2
Agricultural/food sciences	100.0	44.9	2.8	34.2	3.0	9.6	1.4	3.8	0.3

TABLE 13. Employed doctoral scientists and engineers, by field of doctorate and sector of employment: 2003

Field	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit	Private not-for-profit	Federal government	State and local government	Self-employed	Other
Physical sciences	100.0	34.9	3.4	43.7	3.6	8.4	2.1	3.3	0.6
Astronomy/astrophysics	100.0	60.1	2.9	17.5	6.3	9.9	1.4	1.4	S
Chemistry, except biochemistry	100.0	27.9	3.9	54.7	2.9	4.6	1.9	3.7	0.3
Earth/atmospheric/ocean sciences	100.0	48.4	3.4	21.7	3.0	15.5	4.0	3.7	0.4
Physics	100.0	37.0	2.7	39.5	4.7	10.9	1.4	2.6	1.2
Psychology	100.0	34.7	6.9	17.9	9.3	3.6	5.8	21.4	0.4
Social sciences	100.0	62.4	3.4	12.5	5.6	6.7	3.7	3.8	1.9
Economics	100.0	55.1	1.2	16.2	4.0	12.1	2.0	3.9	5.5
Political sciences	100.0	65.6	3.5	11.4	4.9	4.6	5.3	4.3	0.5
Sociology	100.0	70.7	3.9	6.5	8.3	3.8	3.1	3.4	S
Other social sciences	100.0	61.9	5.2	13.4	5.9	5.0	4.5	3.6	0.4
Engineering	100.0	27.8	1.1	55.9	2.8	6.9	1.5	3.5	0.4
Aerospace/aeronautical/astronautical engineering	100.0	28.8	S	43.4	5.1	16.3	1.6	4.7	S
Chemical engineering	100.0	17.0	1.4	69.0	3.3	4.1	1.1	3.8	0.4
Civil engineering	100.0	39.0	1.3	41.8	2.1	6.5	4.7	3.3	1.4
Electrical/computer engineering	100.0	27.9	0.6	59.6	2.8	4.5	0.5	3.8	S
Materials/metallurgical engineering	100.0	15.5	1.4	66.1	2.6	9.5	S	3.8	0.8
Mechanical engineering	100.0	26.0	1.0	61.8	2.1	5.5	S	3.2	S
Other engineering	100.0	36.7	1.6	42.4	3.1	9.9	3.1	2.9	0.5
Health	100.0	57.2	2.4	19.7	6.8	6.5	2.1	4.7	0.6

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 14. Employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and sex: 2003

Employment sector and field	Total	Male	Female	Total	Male	Female
	Number			Percent		
All sectors	593,300	432,150	161,150	100.0	72.8	27.2
Science	468,570	329,810	138,760	100.0	70.4	29.6
Biological, agricultural, and environmental life sciences	145,760	101,180	44,580	100.0	69.4	30.6
Computer and information sciences	11,960	10,120	1,840	100.0	84.6	15.4
Mathematics and statistics	28,330	23,770	4,560	100.0	83.9	16.1
Physical sciences	112,670	95,780	16,890	100.0	85.0	15.0
Psychology	91,410	46,030	45,380	100.0	50.4	49.6
Social sciences	78,450	52,940	25,510	100.0	67.5	32.5
Engineering	101,500	92,690	8,820	100.0	91.3	8.7
Health	23,230	9,660	13,570	100.0	41.6	58.4
Universities and 4-year colleges	259,380	182,090	77,290	100.0	70.2	29.8
Science	217,940	151,990	65,950	100.0	69.7	30.3
Biological, agricultural, and environmental life sciences	76,040	51,660	24,380	100.0	67.9	32.1
Computer and information sciences	5,280	4,320	970	100.0	81.7	18.3
Mathematics and statistics	16,630	13,790	2,850	100.0	82.9	17.1
Physical sciences	39,320	33,500	5,820	100.0	85.2	14.8
Psychology	31,680	15,830	15,850	100.0	50.0	50.0
Social sciences	48,980	32,890	16,090	100.0	67.2	32.8
Engineering	28,170	25,260	2,910	100.0	89.7	10.3
Health	13,280	4,840	8,430	100.0	36.5	63.5
Other educational institutions	20,170	11,780	8,390	100.0	58.4	41.6
Science	18,460	10,740	7,720	100.0	58.2	41.8
Biological, agricultural, and environmental life sciences	4,720	2,690	2,030	100.0	57.0	43.0
Computer and information sciences	190	150	S	100.0	75.5	S
Mathematics and statistics	700	570	130	100.0	81.7	18.3
Physical sciences	3,880	3,030	850	100.0	78.0	22.0
Psychology	6,270	2,690	3,580	100.0	42.9	57.1
Social sciences	2,700	1,620	1,080	100.0	59.9	40.1
Engineering	1,140	910	230	100.0	80.0	20.0
Health	570	120	440	100.0	21.9	78.1
Private for-profit	187,570	153,260	34,310	100.0	81.7	18.3
Science	126,220	98,000	28,220	100.0	77.6	22.4
Biological, agricultural, and environmental life sciences	37,630	27,760	9,870	100.0	73.8	26.2
Computer and information sciences	5,540	4,880	660	100.0	88.1	11.9
Mathematics and statistics	7,570	6,550	1,030	100.0	86.5	13.5
Physical sciences	49,290	42,140	7,150	100.0	85.5	14.5
Psychology	16,400	9,470	6,930	100.0	57.7	42.3
Social sciences	9,790	7,200	2,580	100.0	73.6	26.4
Engineering	56,780	52,420	4,360	100.0	92.3	7.7
Health	4,570	2,840	1,720	100.0	62.3	37.7
Private not-for-profit	29,650	18,800	10,850	100.0	63.4	36.6
Science	25,180	15,610	9,580	100.0	62.0	38.0
Biological, agricultural, and environmental life sciences	7,210	4,700	2,510	100.0	65.2	34.8
Computer and information sciences	260	190	70	100.0	72.0	28.0
Mathematics and statistics	780	600	180	100.0	76.9	23.1
Physical sciences	4,020	3,390	630	100.0	84.3	15.7
Psychology	8,540	4,380	4,160	100.0	51.3	48.7
Social sciences	4,370	2,350	2,020	100.0	53.7	46.3
Engineering	2,880	2,670	210	100.0	92.8	7.2
Health	1,590	520	1,060	100.0	32.9	67.1
Federal government	41,090	31,380	9,720	100.0	76.4	23.6
Science	32,550	24,380	8,180	100.0	74.9	25.1
Biological, agricultural, and environmental life sciences	12,830	9,060	3,770	100.0	70.6	29.4
Computer and information sciences	310	270	S	100.0	86.4	S
Mathematics and statistics	1,420	1,260	160	100.0	88.6	11.4

TABLE 14. Employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and sex: 2003

Employment sector and field	Total	Male	Female	Total	Male	Female
	Number			Percent		
Physical sciences	9,470	8,130	1,340	100.0	85.8	14.2
Psychology	3,280	1,990	1,280	100.0	60.8	39.2
Social sciences	5,240	3,660	1,580	100.0	69.9	30.1
Engineering	7,020	6,370	660	100.0	90.6	9.4
Health	1,520	630	880	100.0	41.7	58.3
State and local government	15,970	11,090	4,880	100.0	69.5	30.5
Science	13,970	9,630	4,340	100.0	68.9	31.1
Biological, agricultural, and environmental life sciences	2,950	2,120	830	100.0	71.9	28.1
Computer and information sciences	90	80	S	100.0	83.1	S
Mathematics and statistics	350	290	50	100.0	84.6	15.4
Physical sciences	2,320	1,940	380	100.0	83.5	16.5
Psychology	5,340	3,170	2,170	100.0	59.3	40.7
Social sciences	2,920	2,030	890	100.0	69.6	30.4
Engineering	1,500	1,290	210	100.0	86.1	13.9
Health	490	170	330	100.0	34.2	65.8
Self-employed	36,130	21,310	14,820	100.0	59.0	41.0
Science	31,460	17,460	14,000	100.0	55.5	44.5
Biological, agricultural, and environmental life sciences	4,100	2,990	1,110	100.0	72.9	27.1
Computer and information sciences	280	240	S	100.0	86.7	S
Mathematics and statistics	800	650	160	100.0	80.2	19.8
Physical sciences	3,700	3,110	600	100.0	83.9	16.1
Psychology	19,580	8,380	11,200	100.0	42.8	57.2
Social sciences	3,000	2,100	900	100.0	70.1	29.9
Engineering	3,570	3,400	180	100.0	95.1	4.9
Health	1,100	450	640	100.0	41.4	58.6
Other sector	3,340	2,440	900	100.0	73.0	27.0
Science	2,780	2,010	780	100.0	72.0	28.0
Biological, agricultural, and environmental life sciences	290	210	80	100.0	72.0	28.0
Computer and information sciences	S	S	S	S	S	S
Mathematics and statistics	60	60	S	100.0	95.6	S
Physical sciences	660	550	110	100.0	82.9	17.1
Psychology	320	110	210	100.0	33.7	66.3
Social sciences	1,450	1,080	370	100.0	74.5	25.5
Engineering	430	370	60	100.0	85.4	14.6
Health	130	70	60	100.0	53.4	46.6

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 15. Employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and race/ethnicity: 2003

Employment sector and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
	Number						
All sectors	593,300	3,950	98,170	17,480	15,650	457,040	1,010
Science	468,570	3,400	61,890	13,930	12,970	375,590	800
Biological, agricultural, and environmental life sciences	145,760	1,010	22,560	3,550	3,820	114,550	270
Computer and information sciences	11,960	S	3,900	370	250	7,400	S
Mathematics and statistics	28,330	160	5,750	600	660	21,110	S
Physical sciences	112,670	560	20,230	1,740	2,450	87,460	240
Psychology	91,410	860	2,500	3,760	3,260	80,890	140
Social sciences	78,450	770	6,960	3,910	2,530	64,180	110
Engineering	101,500	360	33,520	2,380	2,050	63,000	190
Health	23,230	200	2,750	1,180	620	18,450	S
Universities and 4-year colleges	259,380	1,790	34,210	9,640	8,510	204,840	390
Science	217,940	1,530	26,680	7,800	7,160	174,460	310
Biological, agricultural, and environmental life sciences	76,040	470	11,780	1,990	2,420	59,280	100
Computer and information sciences	5,280	S	1,490	200	140	3,450	S
Mathematics and statistics	16,630	110	2,650	410	460	12,990	S
Physical sciences	39,320	220	5,490	770	1,100	31,690	50
Psychology	31,680	280	1,040	1,780	1,370	27,120	80
Social sciences	48,980	450	4,210	2,650	1,670	39,930	60
Engineering	28,170	130	6,260	1,100	930	19,680	80
Health	13,280	130	1,280	750	420	10,700	S
Other educational institutions	20,170	130	1,600	1,140	680	16,600	S
Science	18,460	130	1,360	1,110	620	15,230	S
Biological, agricultural, and environmental life sciences	4,720	S	420	220	60	3,980	S
Computer and information sciences	190	S	50	S	S	110	S
Mathematics and statistics	700	S	260	S	S	430	S
Physical sciences	3,880	S	270	170	110	3,290	S
Psychology	6,270	S	210	470	300	5,260	S
Social sciences	2,700	50	150	210	130	2,160	S
Engineering	1,140	S	220	S	S	890	S
Health	570	S	S	S	S	490	S
Private-for-profit	187,570	950	49,700	3,270	3,570	129,810	270
Science	126,220	750	24,800	2,150	2,590	95,740	180
Biological, agricultural, and environmental life sciences	37,630	210	6,720	740	890	29,000	70
Computer and information sciences	5,540	S	2,230	90	100	3,090	S
Mathematics and statistics	7,570	50	2,220	80	130	5,090	S
Physical sciences	49,290	200	11,970	560	760	35,740	60
Psychology	16,400	120	450	450	520	14,840	S
Social sciences	9,790	130	1,220	240	190	7,990	S
Engineering	56,780	170	23,940	930	900	30,770	80
Health	4,570	S	950	190	80	3,300	S
Private not-for-profit	29,650	230	3,540	870	600	24,330	80
Science	25,180	200	2,540	710	530	21,110	80
Biological, agricultural, and environmental life sciences	7,210	50	1,210	130	70	5,720	S
Computer and information sciences	260	S	S	S	S	180	S
Mathematics and statistics	780	S	S	S	S	730	S
Physical sciences	4,020	S	500	S	S	3,400	S
Psychology	8,540	60	360	290	260	7,550	S
Social sciences	4,370	60	390	240	150	3,530	S

TABLE 15. Employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and race/ethnicity: 2003

Employment sector and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Engineering	2,880	S	780	S	50	2,000	S
Health	1,590	S	210	110	S	1,210	S
Federal government	41,090	320	4,900	1,300	900	33,570	110
Science	32,550	270	3,470	1,080	760	26,860	110
Biological, agricultural, and environmental life sciences	12,830	140	1,630	310	230	10,470	S
Computer and information sciences	310	S	S	S	S	260	S
Mathematics and statistics	1,420	S	280	70	S	1,050	S
Physical sciences	9,470	S	1,130	170	260	7,820	50
Psychology	3,280	90	60	190	120	2,820	S
Social sciences	5,240	S	350	300	130	4,450	S
Engineering	7,020	S	1,250	170	90	5,460	S
Health	1,520	S	170	60	S	1,250	S
State and local government	15,970	140	1,870	680	420	12,770	90
Science	13,970	140	1,300	620	390	11,440	90
Biological, agricultural, and environmental life sciences	2,950	S	310	90	S	2,450	S
Computer and information sciences	90	S	S	S	S	50	S
Mathematics and statistics	350	S	150	S	S	130	S
Physical sciences	2,320	S	310	S	90	1,860	S
Psychology	5,340	S	220	310	190	4,590	S
Social sciences	2,920	60	270	160	70	2,350	S
Engineering	1,500	S	500	S	S	940	S
Health	490	S	70	S	S	390	S
Self-employed	36,130	380	1,750	530	820	32,600	S
Science	31,460	360	1,260	420	770	28,650	S
Biological, agricultural, and environmental life sciences	4,100	70	440	S	100	3,460	S
Computer and information sciences	280	S	S	S	S	250	S
Mathematics and statistics	800	S	90	S	S	680	S
Physical sciences	3,700	S	440	S	90	3,130	S
Psychology	19,580	260	150	280	490	18,390	S
Social sciences	3,000	S	110	90	60	2,730	S
Engineering	3,570	S	450	60	S	2,970	S
Health	1,100	S	S	S	S	980	S
Other sector	3,340	S	600	60	150	2,520	S
Science	2,780	S	480	S	140	2,100	S
Biological, agricultural, and environmental life sciences	290	S	S	S	S	190	S
Computer and information sciences	S	S	S	S	S	S	S
Mathematics and statistics	60	S	60	S	S	S	S
Physical sciences	660	S	120	S	S	540	S
Psychology	320	S	S	S	S	310	S
Social sciences	1,450	S	260	S	120	1,060	S
Engineering	430	S	110	S	S	290	S
Health	130	S	S	S	S	130	S
				Percent			
All sectors	100.0	0.7	16.5	2.9	2.6	77.0	0.2
Science	100.0	0.7	13.2	3.0	2.8	80.2	0.2
Biological, agricultural, and environmental life sciences	100.0	0.7	15.5	2.4	2.6	78.6	0.2
Computer and information sciences	100.0	S	32.6	3.1	2.1	61.9	S
Mathematics and statistics	100.0	0.6	20.3	2.1	2.3	74.5	S

TABLE 15. Employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and race/ethnicity: 2003

Employment sector and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Physical sciences	100.0	0.5	18.0	1.5	2.2	77.6	0.2
Psychology	100.0	0.9	2.7	4.1	3.6	88.5	0.1
Social sciences	100.0	1.0	8.9	5.0	3.2	81.8	0.1
Engineering	100.0	0.4	33.0	2.3	2.0	62.1	0.2
Health	100.0	0.8	11.8	5.1	2.7	79.4	S
Universities and 4-year colleges	100.0	0.7	13.2	3.7	3.3	79.0	0.2
Science	100.0	0.7	12.2	3.6	3.3	80.1	0.1
Biological, agricultural, and environmental life sciences	100.0	0.6	15.5	2.6	3.2	78.0	0.1
Computer and information sciences	100.0	S	28.3	3.7	2.7	65.4	S
Mathematics and statistics	100.0	0.6	15.9	2.5	2.7	78.1	S
Physical sciences	100.0	0.6	14.0	2.0	2.8	80.6	0.1
Psychology	100.0	0.9	3.3	5.6	4.3	85.6	0.3
Social sciences	100.0	0.9	8.6	5.4	3.4	81.5	0.1
Engineering	100.0	0.4	22.2	3.9	3.3	69.9	0.3
Health	100.0	1.0	9.6	5.6	3.1	80.6	S
Other educational institutions	100.0	0.7	7.9	5.6	3.4	82.3	S
Science	100.0	0.7	7.3	6.0	3.4	82.5	S
Biological, agricultural, and environmental life sciences	100.0	S	8.9	4.7	1.4	84.4	S
Computer and information sciences	100.0	S	26.5	S	S	54.8	S
Mathematics and statistics	100.0	S	36.8	S	S	61.3	S
Physical sciences	100.0	S	6.9	4.4	2.9	84.8	S
Psychology	100.0	S	3.3	7.5	4.8	83.9	S
Social sciences	100.0	2.0	5.6	7.7	4.8	79.9	S
Engineering	100.0	S	18.9	S	S	78.0	S
Health	100.0	S	S	S	S	85.7	S
Private-for-profit	100.0	0.5	26.5	1.7	1.9	69.2	0.1
Science	100.0	0.6	19.7	1.7	2.1	75.9	0.1
Biological, agricultural, and environmental life sciences	100.0	0.6	17.9	2.0	2.4	77.1	0.2
Computer and information sciences	100.0	S	40.2	1.6	1.8	55.8	S
Mathematics and statistics	100.0	0.7	29.4	1.0	1.8	67.2	S
Physical sciences	100.0	0.4	24.3	1.1	1.6	72.5	0.1
Psychology	100.0	0.8	2.7	2.7	3.2	90.5	S
Social sciences	100.0	1.3	12.4	2.4	1.9	81.6	S
Engineering	100.0	0.3	42.2	1.6	1.6	54.2	0.1
Health	100.0	S	20.8	4.2	1.7	72.4	S
Private not-for-profit	100.0	0.8	11.9	2.9	2.0	82.1	0.3
Science	100.0	0.8	10.1	2.8	2.1	83.8	0.3
Biological, agricultural, and environmental life sciences	100.0	0.7	16.8	1.8	0.9	79.3	S
Computer and information sciences	100.0	S	S	S	S	70.9	S
Mathematics and statistics	100.0	S	S	S	S	93.6	S
Physical sciences	100.0	S	12.4	S	S	84.6	S
Psychology	100.0	0.7	4.2	3.4	3.1	88.5	S
Social sciences	100.0	1.3	8.9	5.6	3.5	80.7	S
Engineering	100.0	S	27.2	S	1.8	69.4	S
Health	100.0	S	13.6	6.9	S	76.5	S
Federal government	100.0	0.8	11.9	3.2	2.2	81.7	0.3
Science	100.0	0.8	10.7	3.3	2.3	82.5	0.3
Biological, agricultural, and environmental life sciences	100.0	1.1	12.7	2.4	1.8	81.6	S

TABLE 15. Employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and race/ethnicity: 2003

Employment sector and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Computer and information sciences	100.0	S	S	S	S	82.6	S
Mathematics and statistics	100.0	S	19.9	4.8	S	73.9	S
Physical sciences	100.0	S	12.0	1.8	2.7	82.5	0.6
Psychology	100.0	2.7	1.8	5.7	3.7	86.0	S
Social sciences	100.0	S	6.6	5.8	2.5	84.9	S
Engineering	100.0	S	17.9	2.4	1.3	77.8	S
Health	100.0	S	11.0	3.7	S	82.4	S
State and local government	100.0	0.9	11.7	4.2	2.6	79.9	0.6
Science	100.0	1.0	9.3	4.4	2.8	81.8	0.6
Biological, agricultural, and environmental life sciences	100.0	S	10.6	3.1	S	83.0	S
Computer and information sciences	100.0	S	S	S	S	59.5	S
Mathematics and statistics	100.0	S	43.9	S	S	38.7	S
Physical sciences	100.0	S	13.2	S	3.7	79.9	S
Psychology	100.0	S	4.1	5.8	3.5	85.9	S
Social sciences	100.0	2.2	9.3	5.5	2.5	80.6	S
Engineering	100.0	S	33.4	S	S	62.4	S
Health	100.0	S	14.5	S	S	79.6	S
Self-employed	100.0	1.1	4.8	1.5	2.3	90.2	S
Science	100.0	1.1	4.0	1.3	2.4	91.1	S
Biological, agricultural, and environmental life sciences	100.0	1.7	10.7	S	2.4	84.5	S
Computer and information sciences	100.0	S	S	S	S	90.7	S
Mathematics and statistics	100.0	S	11.2	S	S	85.1	S
Physical sciences	100.0	S	11.9	S	2.4	84.5	S
Psychology	100.0	1.3	0.8	1.4	2.5	93.9	S
Social sciences	100.0	S	3.7	3.1	1.9	91.0	S
Engineering	100.0	S	12.5	1.8	S	83.2	S
Health	100.0	S	S	S	S	89.4	S
Other sector	100.0	S	17.9	1.9	4.5	75.4	S
Science	100.0	S	17.4	S	5.2	75.5	S
Biological, agricultural, and environmental life sciences	100.0	S	S	S	S	66.8	S
Computer and information sciences	S	S	S	S	S	S	S
Mathematics and statistics	100.0	S	95.6	S	S	S	S
Physical sciences	100.0	S	17.5	S	S	81.8	S
Psychology	100.0	S	S	S	S	98.1	S
Social sciences	100.0	S	17.9	S	8.4	72.7	S
Engineering	100.0	S	26.6	S	S	67.2	S
Health	100.0	S	S	S	S	100.0	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 16. Employed doctoral scientists and engineers, by field of doctorate and primary or secondary work activity: 2003

Field	Total	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
		Number									
All fields	593,300	371,830	194,380	141,240	38,060	86,330	56,280	241,190	95,630	183,650	35,700
Science	468,570	283,660	145,260	127,470	20,410	52,050	38,380	191,540	85,750	154,230	28,020
Biological, agricultural, and environmental life sciences	145,760	99,330	49,890	54,510	3,060	15,150	6,300	65,730	20,220	40,730	8,880
Agricultural/food sciences	16,890	11,280	8,380	3,090	330	3,010	850	7,900	1,400	4,060	1,600
Biochemistry/biophysics	22,850	16,200	7,070	9,800	670	3,040	1,270	10,850	2,930	5,000	1,030
Cell/molecular biology	15,180	11,220	4,200	7,900	300	1,240	650	7,160	1,970	3,430	560
Environmental life sciences	5,620	3,820	3,180	690	210	450	220	2,820	380	1,430	540
Microbiology	10,970	7,150	3,680	3,810	330	1,380	310	4,980	1,980	2,600	680
Zoology	12,070	7,440	3,750	4,030	120	1,030	430	5,310	1,810	4,480	1,050
Other biological sciences	62,190	42,220	19,630	25,200	1,110	5,000	2,560	26,700	9,740	19,730	3,430
Computer and information sciences	11,960	8,630	4,640	2,510	1,320	1,960	4,220	3,330	230	3,960	320
Mathematics and statistics	28,330	18,120	7,390	8,340	2,160	2,730	6,280	7,680	1,320	14,470	1,370
Physical sciences	112,670	78,150	38,920	30,130	9,900	23,580	15,130	44,760	6,390	27,840	8,510
Astronomy/astrophysics	3,820	3,100	680	2,090	470	410	930	1,030	100	1,170	160
Chemistry, except biochemistry	57,040	38,050	21,820	11,960	2,990	14,580	3,620	26,570	3,900	12,770	5,070
Earth/atmospheric/ocean sciences	17,050	12,310	6,230	6,620	860	1,480	2,350	5,890	950	5,650	1,120
Physics	34,760	24,700	10,200	9,470	5,580	7,110	8,220	11,270	1,450	8,250	2,160
Psychology	91,410	32,190	18,820	11,300	2,240	4,320	2,960	39,580	48,860	26,140	3,940
Social sciences	78,450	47,230	25,610	20,680	1,730	4,310	3,490	30,460	8,730	41,100	5,000
Economics	22,060	14,810	10,580	4,640	740	1,230	1,370	8,280	2,650	9,720	1,170
Political sciences	17,730	9,320	4,010	4,970	180	740	570	7,070	1,640	9,980	1,490
Sociology	14,250	8,980	4,220	4,690	290	720	580	5,400	1,290	8,080	660
Other social sciences	24,410	14,110	6,800	6,370	520	1,630	960	9,700	3,150	13,310	1,680
Engineering	101,500	75,080	39,480	10,660	16,990	32,450	16,980	39,320	4,810	20,050	6,370
Aerospace/aeronautical/astronautical engineering	4,150	3,310	1,710	730	690	1,340	720	1,330	120	910	280
Chemical engineering	13,460	9,940	5,170	1,100	2,580	4,930	1,710	5,430	840	1,850	990
Civil engineering	9,170	6,250	3,480	870	1,650	1,350	1,220	3,910	770	2,930	430
Electrical/computer engineering	28,480	21,570	10,230	2,770	4,790	10,720	5,990	10,320	780	5,460	1,760
Materials/metallurgical engineering	10,820	8,060	4,440	960	1,430	4,750	750	4,730	490	1,260	1,020
Mechanical engineering	13,920	10,610	5,200	1,470	2,960	4,890	2,570	5,030	530	2,720	490
Other engineering	21,480	15,330	9,250	2,770	2,890	4,470	4,020	8,560	1,280	4,910	1,390
Health	23,230	13,100	9,640	3,110	660	1,830	910	10,330	5,060	9,370	1,310
		Percent									
All fields	593,300	62.7	32.8	23.8	6.4	14.6	9.5	40.7	16.1	31.0	6.0
Science	468,570	60.5	31.0	27.2	4.4	11.1	8.2	40.9	18.3	32.9	6.0

TABLE 16. Employed doctoral scientists and engineers, by field of doctorate and primary or secondary work activity: 2003

Field	Total	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
Biological, agricultural, and environmental life sciences	145,760	68.1	34.2	37.4	2.1	10.4	4.3	45.1	13.9	27.9	6.1
Agricultural/food sciences	16,890	66.8	49.6	18.3	2.0	17.8	5.0	46.7	8.3	24.0	9.5
Biochemistry/biophysics	22,850	70.9	31.0	42.9	2.9	13.3	5.6	47.5	12.8	21.9	4.5
Cell/molecular biology	15,180	73.9	27.6	52.0	2.0	8.2	4.3	47.2	13.0	22.6	3.7
Environmental life sciences	5,620	68.1	56.6	12.2	3.7	8.1	3.9	50.2	6.7	25.5	9.6
Microbiology	10,970	65.2	33.6	34.7	3.0	12.6	2.9	45.4	18.1	23.7	6.2
Zoology	12,070	61.7	31.1	33.4	1.0	8.5	3.6	44.0	15.0	37.2	8.7
Other biological sciences	62,190	67.9	31.6	40.5	1.8	8.0	4.1	42.9	15.7	31.7	5.5
Computer and information sciences	11,960	72.1	38.8	21.0	11.0	16.4	35.3	27.8	1.9	33.1	2.6
Mathematics and statistics	28,330	64.0	26.1	29.4	7.6	9.6	22.2	27.1	4.7	51.1	4.8
Physical sciences	112,670	69.4	34.5	26.7	8.8	20.9	13.4	39.7	5.7	24.7	7.6
Astronomy/astrophysics	3,820	81.1	17.7	54.8	12.4	10.8	24.3	26.9	2.5	30.6	4.2
Chemistry, except biochemistry	57,040	66.7	38.3	21.0	5.3	25.6	6.4	46.6	6.8	22.4	8.9
Earth/atmospheric/ocean sciences	17,050	72.2	36.5	38.8	5.0	8.7	13.8	34.6	5.6	33.1	6.6
Physics	34,760	71.0	29.3	27.2	16.0	20.5	23.6	32.4	4.2	23.7	6.2
Psychology	91,410	35.2	20.6	12.4	2.5	4.7	3.2	43.3	53.5	28.6	4.3
Social sciences	78,450	60.2	32.6	26.4	2.2	5.5	4.4	38.8	11.1	52.4	6.4
Economics	22,060	67.1	48.0	21.1	3.3	5.6	6.2	37.5	12.0	44.1	5.3
Political sciences	17,730	52.6	22.6	28.0	1.0	4.2	3.2	39.9	9.2	56.3	8.4
Sociology	14,250	63.1	29.6	32.9	2.0	5.0	4.1	37.9	9.1	56.7	4.7
Other social sciences	24,410	57.8	27.8	26.1	2.1	6.7	4.0	39.8	12.9	54.5	6.9
Engineering	101,500	74.0	38.9	10.5	16.7	32.0	16.7	38.7	4.7	19.8	6.3
Aerospace/aeronautical/astronautical engineering	4,150	79.7	41.1	17.5	16.6	32.3	17.3	32.1	3.0	21.9	6.8
Chemical engineering	13,460	73.8	38.4	8.1	19.1	36.6	12.7	40.4	6.2	13.7	7.4
Civil engineering	9,170	68.2	37.9	9.4	18.0	14.8	13.3	42.7	8.5	32.0	4.7
Electrical/computer engineering	28,480	75.7	35.9	9.7	16.8	37.6	21.0	36.2	2.7	19.2	6.2
Materials/metallurgical engineering	10,820	74.5	41.1	8.8	13.3	43.9	7.0	43.7	4.5	11.7	9.4
Mechanical engineering	13,920	76.2	37.4	10.5	21.2	35.1	18.4	36.1	3.8	19.6	3.5
Other engineering	21,480	71.4	43.1	12.9	13.4	20.8	18.7	39.9	5.9	22.8	6.5
Health	23,230	56.4	41.5	13.4	2.8	7.9	3.9	44.5	21.8	40.3	5.6

NOTES: Numbers are rounded to nearest 10. Detail may exceed total due to multiple responses.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 17. Employed doctoral scientists and engineers, by employer location and broad field of doctorate: 2003

Employer location	Total	Science							Engineering	Health
		All sciences	Biological, agricultural, and environmental life sciences	Computer and information sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences		
	Number									
All locations	593,300	468,570	145,760	11,960	28,330	112,670	91,410	78,450	101,500	23,230
New England	49,670	39,820	12,970	850	2,360	9,400	7,860	6,370	7,850	2,000
Connecticut	9,800	8,070	2,440	90	270	2,140	2,040	1,100	1,370	360
Maine	2,110	1,870	580	S	100	390	450	340	180	60
Massachusetts	30,180	24,260	8,810	540	1,540	5,570	4,170	3,630	4,700	1,220
New Hampshire	2,640	1,790	320	100	250	500	310	310	740	110
Rhode Island	3,170	2,480	360	120	200	620	580	600	560	140
Vermont	1,770	1,360	450	S	S	180	310	410	290	120
Middle Atlantic	93,580	76,330	20,360	2,310	5,190	18,880	16,610	12,970	13,540	3,720
New Jersey	20,980	16,650	4,320	760	1,340	5,540	2,460	2,240	3,500	830
New York	44,730	37,410	9,640	1,170	2,550	7,490	9,690	6,850	5,720	1,610
Pennsylvania	27,880	22,270	6,410	380	1,300	5,850	4,450	3,880	4,320	1,290
East North Central	78,370	60,330	17,640	1,200	3,860	14,060	12,580	10,970	14,950	3,100
Illinois	22,400	17,910	5,140	530	1,010	4,190	3,260	3,780	3,640	840
Indiana	9,590	7,580	2,000	100	670	1,650	1,680	1,480	1,490	530
Michigan	17,110	12,330	3,360	220	1,040	2,940	2,820	1,960	4,320	460
Ohio	20,870	15,620	4,770	270	750	3,900	3,410	2,520	4,260	990
Wisconsin	8,390	6,890	2,380	90	390	1,380	1,420	1,230	1,230	280
West North Central	33,880	27,850	11,320	400	1,370	4,670	5,390	4,700	4,360	1,670
Iowa	4,660	3,980	1,530	110	390	560	490	880	470	210
Kansas	4,030	3,200	1,120	80	110	410	850	630	650	190
Minnesota	11,160	8,900	3,440	70	260	1,870	1,980	1,280	1,460	800
Missouri	9,060	7,520	3,260	110	410	1,250	1,380	1,110	1,250	290
Nebraska	1,130	910	530	S	S	150	120	90	160	60
North Dakota	2,820	2,480	1,080	S	100	360	420	520	280	60
South Dakota	1,020	860	360	S	80	80	150	180	90	60
South Atlantic	113,590	92,760	29,620	1,760	6,120	20,060	16,190	19,000	15,590	5,240
Delaware	3,000	2,100	770	S	80	830	220	170	740	160
District of Columbia	13,770	12,060	1,940	120	580	1,750	1,320	6,340	1,220	490
Florida	15,970	12,400	3,890	320	750	2,070	3,150	2,220	2,780	790
Georgia	12,190	10,030	3,260	150	530	2,220	1,890	1,980	1,420	730
Maryland	25,280	20,690	8,900	380	1,380	4,790	2,810	2,440	3,230	1,360
North Carolina	17,420	14,510	5,880	180	920	3,140	2,730	1,670	2,000	900
South Carolina	5,180	4,220	1,230	50	280	1,020	790	840	730	240
Virginia	18,800	15,210	3,270	540	1,540	3,830	3,050	2,980	3,130	460
West Virginia	1,980	1,540	480	S	60	400	240	350	330	110
East South Central	22,450	17,310	6,220	290	1,190	3,690	3,310	2,610	3,910	1,240
Alabama	5,750	3,990	1,590	120	340	810	650	480	1,250	510
Kentucky	4,730	4,070	1,470	50	450	400	910	790	420	240
Mississippi	3,120	2,360	1,090	70	80	500	240	380	610	150
Tennessee	8,860	6,890	2,080	60	320	1,980	1,500	950	1,630	340
West South Central	46,020	34,440	11,490	1,050	1,940	8,620	6,270	5,070	9,380	2,200
Arkansas	2,760	2,310	970	S	S	480	320	460	280	160
Louisiana	5,420	4,400	1,700	100	290	800	850	670	640	380
Oklahoma	4,660	3,650	1,050	150	60	820	960	620	780	230
Texas	33,180	24,070	7,760	780	1,550	6,530	4,140	3,330	7,680	1,420
Mountain	39,140	30,140	8,730	670	1,600	9,030	5,550	4,560	7,780	1,220
Arizona	7,590	5,780	1,540	80	220	1,500	1,320	1,130	1,560	240
Colorado	12,200	9,880	2,690	240	520	3,080	1,970	1,370	1,910	410

TABLE 17. Employed doctoral scientists and engineers, by employer location and broad field of doctorate: 2003

Employer location	Total	Science							Engineering	Health
		All sciences	Biological, agricultural, and environmental life sciences	Computer and information sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences		
Idaho	2,450	1,920	820	S	90	430	370	180	440	100
Montana	1,800	1,580	580	S	220	270	330	160	160	60
New Mexico	8,140	5,480	1,080	120	260	2,710	600	710	2,440	220
Nevada	2,070	1,640	630	50	130	340	320	170	380	S
Utah	4,240	3,270	1,150	80	120	530	620	770	820	140
Wyoming	650	580	240	S	60	160	S	80	60	S
Pacific	113,980	87,440	26,570	3,410	4,590	23,940	17,140	11,790	23,800	2,740
Alaska	1,140	1,030	380	S	S	320	70	220	100	S
California	86,570	65,300	18,560	2,740	3,640	18,760	13,440	8,150	19,390	1,880
Hawaii	3,040	2,740	1,050	S	110	600	320	630	210	100
Oregon	7,780	6,070	2,260	270	270	1,390	1,000	880	1,450	250
Washington	15,450	12,300	4,320	330	580	2,870	2,300	1,900	2,650	500
Puerto Rico	1,810	1,560	610	S	70	240	440	200	210	S
Other U.S. territories and other areas	790	600	230	S	S	70	70	210	140	50
					Percent					
All locations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New England	8.4	8.5	8.9	7.1	8.3	8.3	8.6	8.1	7.7	8.6
Connecticut	1.7	1.7	1.7	0.7	0.9	1.9	2.2	1.4	1.4	1.5
Maine	0.4	0.4	0.4	S	0.4	0.4	0.5	0.4	0.2	0.2
Massachusetts	5.1	5.2	6.0	4.5	5.4	4.9	4.6	4.6	4.6	5.2
New Hampshire	0.4	0.4	0.2	0.9	0.9	0.4	0.3	0.4	0.7	0.5
Rhode Island	0.5	0.5	0.2	1.0	0.7	0.6	0.6	0.8	0.6	0.6
Vermont	0.3	0.3	0.3	S	S	0.2	0.3	0.5	0.3	0.5
Middle Atlantic	15.8	16.3	14.0	19.3	18.3	16.8	18.2	16.5	13.3	16.0
New Jersey	3.5	3.6	3.0	6.3	4.7	4.9	2.7	2.9	3.4	3.6
New York	7.5	8.0	6.6	9.8	9.0	6.7	10.6	8.7	5.6	6.9
Pennsylvania	4.7	4.8	4.4	3.2	4.6	5.2	4.9	4.9	4.3	5.5
East North Central	13.2	12.9	12.1	10.1	13.6	12.5	13.8	14.0	14.7	13.3
Illinois	3.8	3.8	3.5	4.4	3.6	3.7	3.6	4.8	3.6	3.6
Indiana	1.6	1.6	1.4	0.8	2.4	1.5	1.8	1.9	1.5	2.3
Michigan	2.9	2.6	2.3	1.8	3.7	2.6	3.1	2.5	4.3	2.0
Ohio	3.5	3.3	3.3	2.3	2.6	3.5	3.7	3.2	4.2	4.3
Wisconsin	1.4	1.5	1.6	0.8	1.4	1.2	1.6	1.6	1.2	1.2
West North Central	5.7	5.9	7.8	3.3	4.8	4.1	5.9	6.0	4.3	7.2
Iowa	0.8	0.8	1.1	1.0	1.4	0.5	0.5	1.1	0.5	0.9
Kansas	0.7	0.7	0.8	0.7	0.4	0.4	0.9	0.8	0.6	0.8
Minnesota	1.9	1.9	2.4	0.6	0.9	1.7	2.2	1.6	1.4	3.4
Missouri	1.5	1.6	2.2	0.9	1.4	1.1	1.5	1.4	1.2	1.3
Nebraska	0.2	0.2	0.4	S	S	0.1	0.1	0.1	0.2	0.3
North Dakota	0.5	0.5	0.7	S	0.4	0.3	0.5	0.7	0.3	0.3
South Dakota	0.2	0.2	0.2	S	0.3	0.1	0.2	0.2	0.1	0.3
South Atlantic	19.1	19.8	20.3	14.7	21.6	17.8	17.7	24.2	15.4	22.6
Delaware	0.5	0.4	0.5	S	0.3	0.7	0.2	0.2	0.7	0.7
District of Columbia	2.3	2.6	1.3	1.0	2.0	1.6	1.4	8.1	1.2	2.1
Florida	2.7	2.6	2.7	2.7	2.6	1.8	3.4	2.8	2.7	3.4
Georgia	2.1	2.1	2.2	1.2	1.9	2.0	2.1	2.5	1.4	3.2
Maryland	4.3	4.4	6.1	3.2	4.9	4.3	3.1	3.1	3.2	5.9
North Carolina	2.9	3.1	4.0	1.5	3.2	2.8	3.0	2.1	2.0	3.9
South Carolina	0.9	0.9	0.8	0.5	1.0	0.9	0.9	1.1	0.7	1.0

TABLE 17. Employed doctoral scientists and engineers, by employer location and broad field of doctorate: 2003

Employer location	Total	Science							Engineering	Health
		All sciences	Biological, agricultural, and environmental life sciences	Computer and information sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences		
Virginia	3.2	3.2	2.2	4.5	5.4	3.4	3.3	3.8	3.1	2.0
West Virginia	0.3	0.3	0.3	S	0.2	0.4	0.3	0.4	0.3	0.5
East South Central	3.8	3.7	4.3	2.5	4.2	3.3	3.6	3.3	3.8	5.3
Alabama	1.0	0.9	1.1	1.0	1.2	0.7	0.7	0.6	1.2	2.2
Kentucky	0.8	0.9	1.0	0.4	1.6	0.4	1.0	1.0	0.4	1.0
Mississippi	0.5	0.5	0.7	0.5	0.3	0.4	0.3	0.5	0.6	0.6
Tennessee	1.5	1.5	1.4	0.5	1.1	1.8	1.6	1.2	1.6	1.5
West South Central	7.8	7.3	7.9	8.8	6.8	7.7	6.9	6.5	9.2	9.5
Arkansas	0.5	0.5	0.7	S	S	0.4	0.4	0.6	0.3	0.7
Louisiana	0.9	0.9	1.2	0.8	1.0	0.7	0.9	0.9	0.6	1.6
Oklahoma	0.8	0.8	0.7	1.2	0.2	0.7	1.1	0.8	0.8	1.0
Texas	5.6	5.1	5.3	6.5	5.5	5.8	4.5	4.2	7.6	6.1
Mountain	6.6	6.4	6.0	5.6	5.7	8.0	6.1	5.8	7.7	5.3
Arizona	1.3	1.2	1.1	0.7	0.8	1.3	1.4	1.4	1.5	1.0
Colorado	2.1	2.1	1.8	2.0	1.9	2.7	2.2	1.7	1.9	1.8
Idaho	0.4	0.4	0.6	S	0.3	0.4	0.4	0.2	0.4	0.4
Montana	0.3	0.3	0.4	S	0.8	0.2	0.4	0.2	0.2	0.2
New Mexico	1.4	1.2	0.7	1.0	0.9	2.4	0.7	0.9	2.4	1.0
Nevada	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.4	S
Utah	0.7	0.7	0.8	0.7	0.4	0.5	0.7	1.0	0.8	0.6
Wyoming	0.1	0.1	0.2	S	0.2	0.1	S	0.1	0.1	S
Pacific	19.2	18.7	18.2	28.5	16.2	21.2	18.8	15.0	23.5	11.8
Alaska	0.2	0.2	0.3	S	S	0.3	0.1	0.3	0.1	S
California	14.6	13.9	12.7	22.9	12.9	16.7	14.7	10.4	19.1	8.1
Hawaii	0.5	0.6	0.7	S	0.4	0.5	0.4	0.8	0.2	0.4
Oregon	1.3	1.3	1.6	2.3	1.0	1.2	1.1	1.1	1.4	1.1
Washington	2.6	2.6	3.0	2.8	2.0	2.5	2.5	2.4	2.6	2.2
Puerto Rico	0.3	0.3	0.4	S	0.3	0.2	0.5	0.3	0.2	S
Other U.S. territories and other areas	0.1	0.1	0.2	S	S	0.1	0.1	0.3	0.1	0.2

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Because survey sample design does not include geography, the reliability of estimates in some states may be poor due to small sample size. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 18. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, and faculty rank: 2003

Field and sex	Total	Full professor	Associate professor	Assistant professor	Instructor/ lecturer	All other faculty	Rank not applicable
All fields	259,380	91,380	57,080	52,350	10,110	1,230	47,230
Male	(70.2)	(82.4)	(68.9)	(59.0)	(48.6)	(80.6)	(64.9)
Female	(29.8)	(17.6)	(31.1)	(41.0)	(51.4)	(19.4)	(35.1)
Science	217,940	76,620	47,280	42,890	8,940	1,130	41,080
Male	(69.7)	(82.2)	(68.8)	(58.5)	(48.3)	(81.7)	(63.6)
Female	(30.3)	(17.8)	(31.2)	(41.5)	(51.7)	(18.3)	(36.4)
Biological, agricultural, and environmental life sciences	76,040	23,320	14,750	15,360	2,720	210	19,690
Male	(67.9)	(81.0)	(70.6)	(61.6)	(39.5)	(66.6)	(59.4)
Female	(32.1)	(19.0)	(29.4)	(38.4)	(60.5)	(33.4)	(40.6)
Computer and information sciences	5,280	1,170	1,910	1,370	230	S	600
Male	(81.7)	(87.7)	(80.1)	(76.7)	(74.7)	S	(89.4)
Female	(18.3)	(12.3)	(19.9)	(23.3)	(25.3)	S	(10.6)
Mathematics and statistics	16,630	7,430	4,050	2,940	870	80	1,250
Male	(82.9)	(90.8)	(84.1)	70.8	(58.2)	(95.2)	(76.6)
Female	(17.1)	(9.2)	(15.9)	29.2	(41.8)	S	(23.4)
Physical sciences	39,320	14,850	7,090	6,490	1,200	420	9,270
Male	(85.2)	(93.2)	(80.8)	(75.5)	(72.4)	(92.9)	(83.9)
Female	(14.8)	(6.8)	(19.2)	(24.5)	(27.6)	S	(16.1)
Psychology	31,680	10,290	6,440	6,990	1,690	200	6,070
Male	(50.0)	(69.2)	(47.5)	(36.9)	(19.0)	(86.5)	(42.6)
Female	(50.0)	(30.8)	(52.5)	(63.1)	(81.0)	S	(57.4)
Social sciences	48,980	19,560	13,040	9,730	2,230	220	4,190
Male	(67.2)	(78.6)	(64.5)	(51.6)	(61.6)	(65.6)	(61.5)
Female	(32.8)	(21.4)	(35.5)	(48.4)	(38.4)	(34.4)	(38.5)
Engineering	28,170	11,420	6,010	5,380	680	50	4,630
Male	(89.7)	(96.2)	(88.1)	(84.0)	(69.5)	(100.0)	(85.0)
Female	(10.3)	(3.8)	(11.9)	(16.0)	(30.5)	S	(15.0)
Health	13,280	3,340	3,780	4,080	500	50	1,520
Male	(36.5)	(41.1)	(38.9)	(30.8)	(26.9)	S	(38.6)
Female	(63.5)	(58.9)	(61.1)	(69.2)	(73.1)	S	(61.4)

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Percentage distribution is shown in parentheses. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 19. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, faculty rank, and years since doctorate: 2003

Field and sex	Total		Full professor		Associate professor		Assistant professor		Instructor/lecturer		All other faculty		Rank not applicable	
	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more
All fields	93,540	165,840	2,340	89,040	15,700	41,380	40,720	11,630	5,450	4,670	160	1,070	29,180	18,050
Male	(59.6)	(76.2)	(60.3)	(83.0)	(67.0)	(69.6)	(58.5)	(60.5)	(43.7)	(54.5)	(46.9)	(85.7)	(60.3)	(72.4)
Female	(40.4)	(23.8)	(39.7)	(17.0)	(33.0)	(30.4)	(41.5)	(39.5)	(56.3)	(45.5)	(53.1)	(14.3)	(39.7)	(27.6)
Science	76,900	141,040	1,700	74,920	12,200	35,080	32,870	10,020	4,660	4,280	130	1,000	25,330	15,750
Male	(59.2)	(75.5)	(65.9)	(82.6)	(66.9)	(69.5)	(58.4)	(58.7)	(43.4)	(53.6)	(58.7)	(84.7)	(59.1)	(71.0)
Female	(40.8)	(24.5)	(34.1)	(17.4)	(33.1)	(30.5)	(41.6)	(41.3)	(56.6)	(46.4)	(41.3)	(15.3)	(40.9)	(29.0)
Biological, agricultural, and environmental life sciences	28,460	47,580	350	22,960	2,350	12,400	10,070	5,290	1,350	1,370	S	160	14,290	5,400
Male	(59.3)	(73.1)	(53.8)	(81.4)	(66.4)	(71.4)	(62.6)	(59.7)	(43.3)	(35.7)	S	(85.2)	(57.6)	(64.3)
Female	(40.7)	(26.9)	(46.2)	(18.6)	(33.6)	(28.6)	(37.4)	(40.3)	(56.7)	(64.3)	S	S	(42.4)	(35.7)
Computer and information sciences	3,060	2,220	190	970	920	990	1,280	(90.0)	(110.0)	(120.0)	S	S	560	S
Male	(81.6)	(81.9)	(84.4)	(88.3)	(80.2)	(80.0)	(77.8)	(60.9)	(80.9)	(69.2)	S	S	(91.4)	S
Female	(18.4)	(18.1)	S	(11.7)	(19.8)	(20.0)	(22.2)	S	S	S	S	S	S	S
Mathematics and statistics	4,870	11,770	160	7,270	1,070	2,980	2,610	330	420	450	S	80	600	660
Male	(72.7)	(87.1)	(96.6)	(90.7)	78.5	(86.0)	(72.6)	(56.8)	(48.7)	(67.0)	S	(100.0)	(73.7)	(79.3)
Female	(27.3)	(12.9)	S	(9.3)	21.5	(14.0)	(27.4)	(43.2)	(51.3)	(33.0)	S	S	(26.3)	(20.7)
Physical sciences	12,300	27,020	240	14,610	1,590	5,510	5,020	1,470	470	730	80	340	4,910	4,360
Male	(77.5)	(88.7)	(97.5)	(93.1)	(78.0)	(81.7)	(75.0)	(77.2)	(69.5)	(74.2)	(94.5)	(92.5)	(79.5)	(88.8)
Female	(22.5)	(11.3)	S	(6.9)	(22.0)	(18.3)	(25.0)	(22.8)	(30.5)	(25.8)	S	S	(20.5)	(11.2)
Psychology	12,170	19,510	170	10,120	2,030	4,410	5,510	1,480	1,180	510	S	200	3,280	2,780
Male	(34.8)	(59.4)	(53.7)	(69.4)	(43.1)	(49.6)	(36.0)	(40.3)	(15.8)	(26.5)	S	(86.5)	(33.6)	(53.1)
Female	(65.2)	(40.6)	(46.3)	(30.6)	(56.9)	(50.4)	(64.0)	(59.7)	(84.2)	(73.5)	S	S	(66.4)	(46.9)
Social sciences	16,050	32,930	580	18,980	4,250	8,790	8,390	1,350	1,130	1,100	S	220	1,690	2,500
Male	(55.3)	(72.9)	(49.3)	(79.5)	(68.5)	(62.5)	(51.0)	(55.4)	(55.8)	(67.7)	S	(65.6)	(45.7)	(72.2)
Female	(44.7)	(27.1)	(50.7)	(20.5)	(31.5)	(37.5)	(49.0)	(44.6)	(44.2)	(32.3)	S	(34.4)	(54.3)	(27.8)
Engineering	9,960	18,210	290	11,140	2,160	3,850	4,310	1,070	420	260	S	50	2,790	1,840
Male	(81.3)	(94.2)	(91.9)	(96.3)	(87.5)	(88.5)	(80.7)	(97.0)	(61.3)	(82.5)	S	(100.0)	(79.2)	(93.8)
Female	(18.7)	(5.8)	S	(3.7)	(12.5)	(11.5)	(19.3)	S	(38.7)	S	S	S	(20.8)	(6.2)
Health	6,680	6,590	350	2,990	1,330	2,450	3,540	540	370	130	S	S	1,060	460
Male	(32.1)	(41.0)	S	(45.1)	(34.6)	(41.3)	(32.3)	(21.5)	(27.5)	S	S	S	(39.1)	(37.4)
Female	(67.9)	(59.0)	(93.1)	(54.9)	(65.4)	(58.7)	(67.7)	(78.5)	(72.5)	(74.6)	S	S	(60.9)	(62.6)

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Percentage distribution is shown in parentheses. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 20. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and faculty rank: 2003

Field and race/ethnicity	Total	Full professor	Associate professor	Assistant professor	Instructor/ lecturer	All other faculty	Rank not applicable
All fields	259,380	91,380	57,080	52,350	10,110	1,230	47,230
American Indian/Alaska Native	(0.7)	(0.9)	(0.5)	(0.8)	S	S	(0.6)
Asian	(13.2)	(9.1)	(11.1)	(16.1)	(12.2)	S	(20.8)
Black	(3.7)	(2.7)	(4.3)	(4.9)	(4.2)	S	(3.7)
Hispanic	(3.3)	(2.6)	(3.3)	(4.0)	(3.5)	S	(3.7)
White	(79.0)	(84.6)	(80.7)	(73.8)	(79.7)	(95.9)	(71.2)
Other/unknown race/ethnicity [a]	(0.2)	(0.2)	(0.1)	(0.3)	S	S	S
Science	217,940	76,620	47,280	42,890	8,940	1,130	41,080
American Indian/Alaska Native	(0.7)	(0.9)	(0.5)	(1.0)	S	S	(0.5)
Asian	(12.2)	(7.7)	(10.7)	(14.9)	(10.6)	S	(20.3)
Black	(3.6)	(2.5)	(4.2)	(4.6)	(3.8)	S	(3.8)
Hispanic	(3.3)	(2.7)	(3.2)	(4.2)	(3.3)	S	(3.5)
White	(80.1)	(86.1)	(81.4)	(75.0)	(81.8)	(95.5)	(71.8)
Other/unknown race/ethnicity [a]	(0.1)	(0.1)	S	(0.3)	S	S	S
Biological, agricultural, and environmental life sciences	76,040	23,320	14,750	15,360	2,720	210	19,690
American Indian/Alaska Native	(0.6)	(0.8)	(1.0)	(0.6)	S	S	(0.3)
Asian	(15.5)	(6.6)	(10.7)	(20.2)	(16.1)	S	(26.0)
Black	(2.6)	(2.4)	(2.3)	(3.2)	(3.0)	S	(2.6)
Hispanic	(3.2)	(2.3)	(3.7)	(4.0)	(3.6)	S	(3.2)
White	(78.0)	(87.9)	(82.3)	(71.6)	(76.7)	(96.1)	(67.9)
Other/unknown race/ethnicity [a]	(0.1)	S	S	S	S	S	S
Computer and information sciences	5,280	1,170	1,910	1,370	230	S	600
American Indian/Alaska Native	S	S	S	S	S	S	S
Asian	(28.3)	(34.2)	(28.9)	(28.8)	S	S	(20.1)
Black	(3.7)	S	(6.1)	(4.5)	S	S	S
Hispanic	(2.7)	S	S	S	S	S	S
White	(65.4)	(61.8)	(62.8)	(63.4)	(83.9)	S	(77.8)
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Mathematics and statistics	16,630	7,430	4,050	2,940	870	80	1,250
American Indian/Alaska Native	(0.6)	(1.0)	S	S	S	S	S
Asian	(15.9)	(13.4)	(17.2)	(18.8)	(19.2)	S	(18.8)
Black	(2.5)	(2.2)	(3.3)	(2.1)	S	S	S
Hispanic	(2.7)	(2.6)	(3.3)	(3.0)	S	S	S
White	(78.1)	(80.7)	(76.0)	(75.7)	(80.3)	(95.2)	(72.5)
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Physical sciences	39,320	14,850	7,090	6,490	1,200	420	9,270
American Indian/Alaska Native	(0.6)	(0.7)	S	(1.2)	S	S	S
Asian	(14.0)	(10.5)	(9.5)	(14.1)	(11.4)	S	(23.4)
Black	(2.0)	(1.5)	(2.1)	(3.3)	S	S	(1.5)
Hispanic	(2.8)	(3.6)	(2.8)	(1.9)	S	S	(2.2)
White	(80.6)	(83.7)	(85.6)	(79.3)	(79.6)	(90.7)	(72.5)
Other/unknown race/ethnicity [a]	(0.1)	S	S	S	S	S	S
Psychology	31,680	10,290	6,440	6,990	1,690	200	6,070
American Indian/Alaska Native	(0.9)	(1.2)	S	(1.4)	S	S	S
Asian	(3.3)	(1.2)	(3.5)	(4.7)	S	S	(5.5)
Black	(5.6)	(1.9)	(8.0)	(5.1)	(8.0)	S	(9.5)
Hispanic	(4.3)	(2.5)	(4.2)	(6.5)	(4.9)	S	(5.2)
White	(85.6)	(93.1)	(83.4)	(82.0)	(85.1)	(100.0)	(79.2)
Other/unknown race/ethnicity [a]	(0.3)	S	S	S	S	S	S
Social sciences	48,980	19,560	13,040	9,730	2,230	220	4,190
American Indian/Alaska Native	(0.9)	(0.9)	S	(1.4)	S	S	(2.0)
Asian	(8.6)	(6.7)	(10.1)	(11.3)	(6.4)	S	(8.3)
Black	(5.4)	(3.9)	(5.5)	(8.3)	(3.4)	S	(6.6)

TABLE 20. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and faculty rank: 2003

Field and race/ethnicity	Total	Full professor	Associate professor	Assistant professor	Instructor/ lecturer	All other faculty	Rank not applicable
Hispanic	(3.4)	(2.7)	(2.6)	(4.9)	(2.9)	S	(6.3)
White	(81.5)	(85.6)	(81.4)	(73.8)	(87.0)	(100.0)	(76.8)
Other/unknown race/ethnicity [a]	(0.1)	S	S	S	S	S	S
Engineering	28,170	11,420	6,010	5,380	680	50	4,630
American Indian/Alaska Native	(0.4)	(0.7)	S	S	S	S	S
Asian	(22.2)	(19.6)	(19.2)	(28.0)	(30.8)	S	(24.8)
Black	(3.9)	(3.7)	(4.7)	(4.5)	S	S	(2.2)
Hispanic	(3.3)	(2.3)	(4.3)	(3.5)	S	S	(4.4)
White	(69.9)	(73.2)	(71.8)	(63.5)	(60.1)	(100.0)	(67.6)
Other/unknown race/ethnicity [a]	(0.3)	S	S	S	S	S	S
Health	13,280	3,340	3,780	4,080	500	50	1,520
American Indian/Alaska Native	(1.0)	(1.6)	(1.5)	S	S	S	S
Asian	(9.6)	(4.3)	(4.1)	(13.4)	(15.6)	S	(23.1)
Black	(5.6)	(3.6)	(5.3)	(8.0)	S	S	(4.0)
Hispanic	(3.1)	(2.3)	(2.5)	(2.9)	S	S	(5.9)
White	(80.6)	(88.2)	(86.5)	(75.2)	(68.8)	(100.0)	(66.9)
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Percentage distribution is shown in parentheses. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 21. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, and tenure status: 2003

Field and sex	Total	Tenured	Not tenured		Tenure not applicable
			On tenure track	Not on tenure track	
All fields	259,380	127,670	42,870	27,020	61,820
Male	(70.2)	(78.3)	(63.5)	(58.0)	(63.5)
Female	(29.8)	(21.7)	(36.5)	(42.0)	(36.5)
Science	217,940	106,750	34,670	22,980	53,550
Male	(69.7)	(77.8)	(63.6)	(58.2)	(62.6)
Female	(30.3)	(22.2)	(36.4)	(41.8)	(37.4)
Biological, agricultural, and environmental life sciences	76,040	30,940	11,740	9,360	24,000
Male	(67.9)	(78.3)	(66.8)	(55.8)	(59.9)
Female	(32.1)	(21.7)	(33.2)	(44.2)	(40.1)
Computer and information sciences	5,280	2,670	1,460	420	740
Male	(81.7)	(82.3)	(82.9)	(72.0)	(82.8)
Female	(18.3)	(17.7)	(17.1)	(28.0)	(17.2)
Mathematics and statistics	16,630	10,610	2,930	1,090	1,990
Male	(82.9)	(88.1)	(77.5)	(50.7)	(80.5)
Female	(17.1)	(11.9)	(22.5)	(49.3)	(19.5)
Physical sciences	39,320	18,930	5,350	4,140	10,900
Male	(85.2)	(88.9)	(75.9)	(81.9)	(84.5)
Female	(14.8)	(11.1)	(24.1)	(18.1)	(15.5)
Psychology	31,680	13,970	4,590	3,820	9,300
Male	(50.0)	(62.4)	(38.3)	(38.1)	(41.9)
Female	(50.0)	(37.6)	(61.7)	(61.9)	(58.1)
Social sciences	48,980	29,620	8,600	4,150	6,610
Male	(67.2)	(73.4)	(57.2)	(59.0)	(57.5)
Female	(32.8)	(26.6)	(42.8)	(41.0)	(42.5)
Engineering	28,170	15,480	4,930	2,170	5,580
Male	(89.7)	(93.8)	(82.0)	(84.5)	(86.9)
Female	(10.3)	(6.2)	(18.0)	(15.5)	(13.1)
Health	13,280	5,440	3,270	1,880	2,690
Male	(36.5)	(43.5)	(34.2)	(25.6)	(32.6)
Female	(63.5)	(56.5)	(65.8)	(74.4)	(67.4)

NOTES: Percentage distribution is shown in parentheses. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 22. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, tenure status, and years since doctorate: 2003

Field and sex	Total		Tenured		Not tenured				Tenure not applicable	
					On tenure track		Not on tenure track			
	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more
All fields	93,540	165,840	13,650	114,010	33,190	9,680	13,340	13,680	33,360	28,460
Male	(59.6)	(76.2)	(67.6)	(79.6)	(62.6)	(66.6)	(51.2)	(64.7)	(56.8)	(71.3)
Female	(40.4)	(23.8)	(32.4)	(20.4)	(37.4)	(33.4)	(48.8)	(35.3)	(43.2)	(28.7)
Science	76,900	141,040	10,670	96,070	26,560	8,110	10,810	12,170	28,860	24,680
Male	(59.2)	(75.5)	(68.0)	(78.9)	(62.7)	(66.8)	(51.8)	(63.8)	(55.6)	(70.8)
Female	(40.8)	(24.5)	(32.0)	(21.1)	(37.3)	(33.2)	(48.2)	(36.2)	(44.4)	(29.2)
Biological, agricultural, and environmental life sciences	28,460	47,580	2,020	28,920	7,440	4,300	4,110	5,250	14,890	9,110
Male	(59.3)	(73.1)	(71.3)	(78.8)	(67.0)	(66.4)	(51.8)	(58.9)	(55.8)	(66.6)
Female	(40.7)	(26.9)	(28.7)	(21.2)	(33.0)	(33.6)	(48.2)	(41.1)	(44.2)	(33.4)
Computer and information sciences	3,060	2,220	830	1,840	1,330	130	250	170	650	90
Male	(81.6)	(81.9)	(80.4)	(83.1)	(81.2)	(100.0)	(75.3)	(67.1)	(86.1)	(58.2)
Female	(18.4)	(18.1)	(19.6)	(16.9)	(18.8)	S	(24.7)	(32.9)	(13.9)	S
Mathematics and statistics	4,870	11,770	930	9,680	2,490	440	540	550	900	1,090
Male	(72.7)	(87.1)	(78.1)	(89.1)	(75.4)	(89.7)	(46.2)	(55.2)	(75.7)	(84.4)
Female	(27.3)	(12.9)	(21.9)	(10.9)	24.6	S	(53.8)	(44.8)	(24.3)	(15.6)
Psychology	12,300	27,020	1,440	17,490	4,060	1,300	1,670	2,460	5,130	5,770
Male	(77.5)	(88.7)	(81.0)	(89.6)	(76.7)	(73.3)	(77.8)	(84.6)	(77.0)	(91.2)
Female	(22.5)	(11.3)	(19.0)	(10.4)	(23.3)	(26.7)	(22.2)	(15.4)	(23.0)	(8.8)
Physical sciences	12,170	19,510	1,530	12,440	3,760	820	2,100	1,720	4,780	4,520
Male	(34.8)	(59.4)	(46.7)	(64.4)	(38.9)	(35.4)	(24.8)	(54.2)	(32.2)	(52.3)
Female	(65.2)	(40.6)	(53.3)	(35.6)	(61.1)	(64.6)	(75.2)	(45.8)	(67.8)	(47.7)
Social sciences	16,050	32,930	3,920	25,710	7,480	1,120	2,140	2,010	2,510	4,100
Male	(55.3)	(72.9)	(64.9)	(74.6)	(55.1)	(71.0)	(56.7)	(61.4)	(39.8)	(68.3)
Female	(44.7)	(27.1)	(35.1)	(25.4)	(44.9)	(29.0)	(43.3)	(38.6)	(60.2)	(31.7)
Engineering	9,960	18,210	1,780	13,700	3,940	990	1,320	860	2,920	2,660
Male	(81.3)	(94.2)	(87.7)	(94.6)	(79.4)	(92.6)	(76.8)	(96.3)	(81.9)	(92.3)
Female	(18.7)	(5.8)	(12.3)	(5.4)	(20.6)	(7.4)	(23.2)	S	(18.1)	(7.7)
Health	6,680	6,590	1,200	4,240	2,690	580	1,210	660	1,580	1,110
Male	(32.1)	(41.0)	(34.2)	(46.2)	(37.4)	(19.6)	(17.4)	(40.5)	(32.7)	(32.5)
Female	(67.9)	(59.0)	(65.8)	(53.8)	(62.6)	(80.4)	(82.6)	(59.5)	(67.3)	(67.5)

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Percentage distribution is shown in parentheses. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 23. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and tenure status: 2003

Field and race/ethnicity	Total	Tenured	Not tenured		Tenure not applicable
			On tenure track	Not on tenure track	
All fields	259,380	127,670	42,870	27,020	61,820
American Indian/Alaska Native	(0.7)	(0.8)	(0.9)	(0.4)	(0.5)
Asian	(13.2)	(10.0)	(15.4)	(15.6)	(17.3)
Black	(3.7)	(3.2)	(5.4)	(3.7)	(3.6)
Hispanic	(3.3)	(2.8)	(4.0)	(3.4)	(3.6)
White	(79.0)	(83.1)	(74.0)	(76.6)	(74.9)
Other/unknown race/ethnicity [a]	(0.2)	(0.1)	(0.2)	(0.3)	S
Science	217,940	106,750	34,670	22,980	53,550
American Indian/Alaska Native	(0.7)	(0.8)	(1.0)	(0.4)	(0.5)
Asian	(12.2)	(8.8)	(14.1)	(15.3)	(16.7)
Black	(3.6)	(3.0)	(5.2)	(3.6)	(3.7)
Hispanic	(3.3)	(2.8)	(4.1)	(3.3)	(3.6)
White	(80.1)	(84.5)	(75.3)	(77.3)	(75.5)
Other/unknown race/ethnicity [a]	(0.1)	(0.2)	(0.2)	S	S
Biological, agricultural, and environmental life sciences	76,040	30,940	11,740	9,360	24,000
American Indian/Alaska Native	(0.6)	(0.8)	(0.8)	S	(0.5)
Asian	(15.5)	(8.0)	(16.5)	(23.6)	(21.5)
Black	(2.6)	(2.2)	(3.8)	(3.1)	(2.4)
Hispanic	(3.2)	(2.4)	(4.6)	(2.5)	(3.7)
White	(78.0)	(86.3)	(74.2)	(70.7)	(71.9)
Other/unknown race/ethnicity [a]	(0.1)	(0.2)	S	S	S
Computer and information sciences	5,280	2,670	1,460	420	740
American Indian/Alaska Native	S	S	S	S	S
Asian	(28.3)	(31.3)	(34.6)	S	(14.9)
Black	(3.7)	(4.7)	S	S	S
Hispanic	(2.7)	(3.0)	S	S	S
White	(65.4)	(61.1)	(58.9)	(85.2)	(82.5)
Other/unknown race/ethnicity [a]	S	S	S	S	S
Mathematics and statistics	16,630	10,610	2,930	1,090	1,990
American Indian/Alaska Native	(0.6)	(0.7)	S	S	S
Asian	(15.9)	(13.8)	(21.2)	(23.5)	(15.5)
Black	(2.5)	(2.5)	(2.8)	S	(2.7)
Hispanic	(2.7)	(3.1)	(2.1)	S	(2.6)
White	(78.1)	(79.7)	(73.7)	(74.4)	(77.9)
Other/unknown race/ethnicity [a]	S	S	S	S	S
Physical sciences	39,320	18,930	5,350	4,140	10,900
American Indian/Alaska Native	(0.6)	(0.5)	(0.9)	S	S
Asian	(14.0)	(10.6)	(11.2)	(14.0)	(21.1)
Black	(2.0)	(1.3)	(3.3)	(3.5)	(1.8)
Hispanic	(2.8)	(3.7)	(1.8)	(2.5)	(1.7)
White	(80.6)	(83.7)	(82.6)	(79.4)	(74.7)
Other/unknown race/ethnicity [a]	(0.1)	S	S	S	S
Psychology	31,680	13,970	4,590	3,820	9,300
American Indian/Alaska Native	(0.9)	(1.1)	(1.6)	S	S
Asian	(3.3)	(1.7)	(6.2)	(3.4)	(4.2)
Black	(5.6)	(4.0)	(7.0)	(4.3)	(8.0)
Hispanic	(4.3)	(2.5)	(4.9)	(8.0)	(5.2)
White	(85.6)	(90.3)	(80.2)	(83.0)	(82.3)
Other/unknown race/ethnicity [a]	(0.3)	S	S	S	S
Social sciences	48,980	29,620	8,600	4,150	6,610
American Indian/Alaska Native	(0.9)	(0.8)	(1.6)	S	(0.8)

TABLE 23. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and tenure status: 2003

Field and race/ethnicity	Total	Tenured	Not tenured		Tenure not applicable
			On tenure track	Not on tenure track	
Asian	(8.6)	(7.8)	(11.0)	(7.0)	(10.0)
Black	(5.4)	(4.5)	(8.5)	(4.9)	(6.0)
Hispanic	(3.4)	(2.7)	(5.5)	(2.2)	(4.8)
White	(81.5)	(84.1)	(73.2)	(84.9)	(78.4)
Other/unknown race/ethnicity [a]	(0.1)	S	S	S	S
Engineering	28,170	15,480	4,930	2,170	5,580
American Indian/Alaska Native	(0.4)	(0.5)	S	S	S
Asian	(22.2)	(20.0)	(27.2)	(20.0)	(24.8)
Black	(3.9)	(4.3)	(5.4)	(3.0)	(1.9)
Hispanic	(3.3)	(3.1)	(3.6)	(3.2)	(3.7)
White	(69.9)	(72.1)	(63.2)	(71.9)	(68.8)
Other/unknown race/ethnicity [a]	(0.3)	S	S	S	S
Health	13,280	5,440	3,270	1,880	2,690
American Indian/Alaska Native	(1.0)	(1.4)	S	S	S
Asian	(9.6)	(4.6)	(11.6)	(14.2)	(14.1)
Black	(5.6)	(4.9)	(7.4)	(6.3)	(4.5)
Hispanic	(3.1)	(1.7)	(3.6)	(5.3)	(4.1)
White	(80.6)	(87.4)	(76.0)	(74.0)	(77.2)
Other/unknown race/ethnicity [a]	S	S	S	S	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Percentage distribution is shown in parentheses. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 24. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, primary work activity, and secondary work activity: 2003

Field and primary work activity	Total	Secondary work activity (%)						
		Total	Computer applications	Management, sales, administration	R&D [a]	Teaching	Other	None
All fields	259,380	100.0	3.2	21.9	38.6	21.0	6.0	9.3
Computer applications	3,700	100.0	na	16.2	51.0	14.1	3.2	15.6
Management, sales, administration	30,210	100.0	1.9	29.8	29.5	25.9	7.1	5.7
R&D [a]	105,090	100.0	4.3	23.0	22.9	39.7	3.7	6.4
Teaching	103,880	100.0	2.7	17.5	58.8	na	8.8	12.2
Other	16,500	100.0	1.8	29.1	25.1	27.6	0.7	15.7
Science	217,940	100.0	2.9	22.3	38.2	20.5	6.2	9.9
Computer applications	2,940	100.0	na	15.1	52.9	12.5	4.0	15.5
Management, sales, administration	24,260	100.0	1.8	29.7	29.5	25.6	7.0	6.4
R&D [a]	88,810	100.0	4.1	24.4	22.2	38.5	4.1	6.8
Teaching	87,370	100.0	2.3	17.1	58.7	na	9.0	12.8
Other	14,560	100.0	1.5	30.1	24.4	26.7	0.7	16.6
Biological, agricultural, and environmental life sciences	76,040	100.0	2.1	27.6	33.3	20.8	6.1	10.1
Computer applications	510	100.0	na	S	55.5	19.9	S	19.5
Management, sales, administration	8,060	100.0	0.6	25.8	38.3	22.0	7.0	6.2
R&D [a]	42,690	100.0	3.1	31.6	23.5	28.2	5.2	8.4
Teaching	18,550	100.0	0.8	21.2	55.3	na	9.8	12.9
Other	6,230	100.0	S	24.2	26.7	29.8	0.8	18.0
Computer and information sciences	5,280	100.0	9.8	13.6	45.9	21.2	3.2	6.3
Computer applications	260	100.0	na	S	91.1	S	S	S
Management, sales, administration	450	100.0	S	34.7	26.2	17.4	S	S
R&D [a]	1,860	100.0	9.1	11.2	20.9	55.1	S	2.7
Teaching	2,620	100.0	10.4	12.6	64.0	na	4.8	8.2
Other	80	100.0	S	S	S	S	S	S
Mathematics and statistics	16,630	100.0	3.8	14.4	42.6	22.9	4.2	12.1
Computer applications	370	100.0	na	S	30.8	23.4	S	35.4
Management, sales, administration	1,720	100.0	S	30.9	17.1	42.6	3.0	4.8
R&D [a]	4,260	100.0	2.3	9.5	15.7	66.8	S	4.7
Teaching	9,820	100.0	5.0	14.2	60.0	na	5.9	14.8
Other	470	100.0	S	11.2	23.8	30.7	S	30.6
Physical sciences	39,320	100.0	6.2	20.3	41.8	17.7	4.0	10.0
Computer applications	1,330	100.0	na	20.5	57.9	4.4	4.6	12.6
Management, sales, administration	4,350	100.0	4.5	32.9	36.4	16.4	2.6	7.2
R&D [a]	16,440	100.0	9.5	18.4	26.6	36.6	1.8	7.1
Teaching	15,750	100.0	3.9	18.5	58.2	na	7.0	12.4
Other	1,450	100.0	5.3	23.8	35.6	13.4	S	21.9
Psychology	31,680	100.0	1.7	23.4	34.9	19.8	10.4	9.7
Computer applications	S	S	na	S	S	S	S	S
Management, sales, administration	3,200	100.0	3.3	20.1	23.6	22.7	19.5	10.9
R&D [a]	10,330	100.0	2.3	23.9	19.9	41.9	7.0	4.9
Teaching	13,330	100.0	1.6	16.7	54.8	na	14.4	12.6
Other	4,800	100.0	S	42.7	19.7	25.4	S	11.6
Social sciences	48,980	100.0	1.1	18.7	42.8	21.8	6.2	9.5
Computer applications	440	100.0	na	19.1	34.2	27.6	S	13.3
Management, sales, administration	6,480	100.0	S	36.4	20.4	33.6	4.8	4.5
R&D [a]	13,220	100.0	1.5	15.9	16.6	59.7	2.3	4.0
Teaching	27,300	100.0	1.0	15.3	62.1	na	8.6	12.9
Other	1,530	100.0	4.1	27.6	21.0	30.4	S	15.6

TABLE 24. Employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, primary work activity, and secondary work activity: 2003

		Secondary work activity (%)						
Field and primary work activity	Total	Total	Computer applications	Management, sales, administration	R&D [a]	Teaching	Other	None
Engineering	28,170	100.0	6.0	17.0	44.2	25.0	2.6	5.2
Computer applications	650	100.0	na	16.1	48.2	20.1	S	15.5
Management, sales, administration	3,690	100.0	2.7	31.2	33.5	27.5	4.4	S
R&D [a]	11,640	100.0	6.8	11.7	29.9	47.7	1.2	2.6
Teaching	11,110	100.0	6.6	18.0	63.5	na	4.0	8.0
Other	1,080	100.0	6.7	14.8	35.0	30.9	S	12.5
Health	13,280	100.0	1.7	24.6	33.5	22.0	9.9	8.4
Computer applications	110	100.0	na	45.0	S	S	S	S
Management, sales, administration	2,260	100.0	S	29.4	22.6	27.3	12.9	6.6
R&D [a]	4,640	100.0	2.4	24.4	19.9	42.0	3.4	7.8
Teaching	5,400	100.0	1.5	21.4	51.5	na	15.5	10.1
Other	860	100.0	S	30.4	23.9	38.9	S	S

na = not applicable. Same work activity cannot be reported as both primary and secondary except "R&D," "Management," and "Other," because these categories include more than one type of work activity.

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] R&D includes basic or applied research, development, and design.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 25. Doctoral scientists and engineers, by occupation and employment status: 2003

Occupation	All fields	Employed			Unemployed	Retired	Not employed/ not seeking work
		Total	Full-time	Part-time			
All occupations	685,010	593,300	530,960	62,340	12,940	64,120	14,640
Science occupations	405,330	352,960	312,640	40,320	6,430	36,960	8,990
Biological, agricultural, and other life scientist	120,900	104,650	97,780	6,870	1,830	11,150	3,260
Agricultural/food scientist	9,930	8,200	7,720	480	140	1,470	110
Biochemist/biophysicist	16,140	13,920	13,250	660	380	1,280	570
Biological scientist	21,430	18,390	17,230	1,160	430	1,830	790
Forestry/conservation scientist	1,700	1,390	1,270	120	S	270	S
Medical scientist	32,170	28,860	27,280	1,580	610	1,840	860
Postsecondary teacher, agricultural/other natural sciences	5,270	4,410	4,320	90	S	800	60
Postsecondary teacher, biological sciences	27,990	24,280	21,840	2,440	110	3,180	420
Other biological/agricultural/life scientist	6,250	5,200	4,860	340	160	480	410
Computer and information scientist	38,460	34,410	32,100	2,310	1,200	2,200	650
Computer/information scientist	30,210	26,770	25,100	1,670	1,200	1,650	600
Postsecondary teacher, computer science	8,250	7,640	7,000	640	S	550	60
Mathematical scientist	26,080	22,460	20,470	1,990	370	2,840	400
Mathematical scientist	10,250	8,830	8,210	620	310	890	220
Postsecondary teacher, mathematics/statistics	15,830	13,640	12,260	1,380	50	1,950	190
Physical scientist	87,590	73,730	68,140	5,590	1,740	10,600	1,510
Chemist, except biochemist	29,400	23,700	21,990	1,710	1,010	3,930	750
Earth/atmospheric/ocean scientist	10,930	9,010	8,400	600	210	1,560	160
Physicist/astronomer	15,710	13,650	12,620	1,040	200	1,650	210
Postsecondary teacher, chemistry	13,140	11,400	10,500	900	90	1,460	190
Postsecondary teacher, physics	9,110	7,810	7,100	720	50	1,140	110
Postsecondary teacher, other physical sciences	6,820	6,020	5,650	370	S	720	S
Other physical scientist	2,470	2,130	1,880	250	150	140	60
Psychologist	74,060	67,110	49,530	17,580	560	4,270	2,120
Psychologist	54,540	49,600	34,440	15,160	440	2,780	1,720
Postsecondary teacher, psychology	19,520	17,510	15,090	2,420	120	1,480	400
Social scientist	58,250	50,590	44,620	5,970	730	5,900	1,040
Economist	8,790	7,720	6,970	750	70	840	170
Political scientist	2,000	1,450	1,070	380	S	470	60
Postsecondary teacher, economics	9,690	8,410	7,360	1,050	90	1,000	180
Postsecondary teacher, political science	9,470	8,470	7,590	870	S	910	70
Postsecondary teacher, sociology	8,320	7,140	6,300	840	50	1,080	50
Postsecondary teacher, other social sciences	10,030	9,010	7,900	1,100	70	810	150
Sociologist/anthropologist	5,130	4,130	3,590	540	250	600	150
Other social scientist	4,820	4,280	3,840	440	150	200	200
Engineering occupations	89,160	77,000	72,050	4,950	2,130	8,780	1,250
Aerospace/aeronautical/astronautical engineer	5,110	4,050	3,840	210	110	850	90
Chemical engineer	8,430	7,010	6,570	440	230	950	240
Civil/architectural/sanitary engineer	4,430	3,780	3,520	250	70	520	70
Electrical engineer	18,430	16,550	15,440	1,110	640	1,170	80
Materials/metallurgical engineer	1,580	1,340	1,260	80	50	120	70
Mechanical engineer	10,000	8,570	7,940	630	260	1,030	140
Postsecondary teacher, engineering	19,600	17,380	16,660	720	90	1,990	140
Other engineer	21,570	18,330	16,820	1,510	680	2,150	420
Science and engineering-related occupations	73,970	64,650	59,700	4,940	1,350	6,620	1,360
Health-related occupation, except postsecondary teacher	19,420	17,050	14,820	2,230	400	1,370	600
Postsecondary teacher, health and related sciences	19,560	17,330	16,030	1,300	80	1,890	260
S&E manager	25,980	23,060	22,530	520	400	2,350	180
S&E precollege teacher	3,800	3,240	2,690	550	100	320	130
S&E technician/technologist	4,780	3,560	3,280	270	360	700	160

TABLE 25. Doctoral scientists and engineers, by occupation and employment status: 2003

Occupation	All fields	Employed			Unemployed	Retired	Not employed/ not seeking work
		Total	Full-time	Part-time			
Other S&E-related occupation	440	410	350	60	S	S	S
Non-science and engineering occupations	116,540	98,700	86,570	12,130	3,030	11,760	3,050
Arts/humanities-related occupation	6,280	5,210	3,530	1,680	90	530	460
Management-related occupation	17,630	15,120	12,670	2,460	590	1,600	320
Non-S&E manager	51,680	44,320	43,120	1,190	1,150	5,750	470
Non-S&E postsecondary teacher	13,620	11,860	10,400	1,460	130	1,320	300
Non-S&E precollege/other teacher	3,100	2,400	1,320	1,080	160	290	250
Sales/marketing occupation	9,130	7,810	6,340	1,470	380	670	270
Social service-related occupation	3,920	3,390	2,570	820	60	230	240
Other non-S&E occupation	10,650	8,130	6,270	1,860	460	1,300	750

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: If respondent was not employed during survey reference period, occupation of last job was reported. Numbers are rounded to nearest 10. Detail may not add to total because of rounding. Excludes estimated 291 individuals who reported never having worked so could not be classified by occupation.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 26. Doctoral scientists and engineers, by broad occupation, employment status, and sex: 2003

Employment status and occupation	Total	Male	Female
All occupations	685,010	501,110	183,900
Employed full-time	530,960	397,380	133,580
Employed part-time	62,340	34,770	27,570
Unemployed	12,940	9,020	3,920
Retired	64,120	54,880	9,240
Not employed, not seeking work	14,640	5,050	9,590
Science occupations	405,330	286,130	119,200
Employed full-time	312,640	227,160	85,480
Employed part-time	40,320	20,950	19,370
Unemployed	6,430	4,190	2,240
Retired	36,960	31,220	5,740
Not employed, not seeking work	8,990	2,600	6,390
Biological, agricultural, and other life scientist	120,900	82,340	38,560
Employed full-time	97,780	67,280	30,500
Employed part-time	6,870	3,830	3,040
Unemployed	1,830	1,050	780
Retired	11,150	9,380	1,770
Not employed, not seeking work	3,260	800	2,460
Computer and information scientist	38,460	33,080	5,380
Employed full-time	32,100	27,910	4,190
Employed part-time	2,310	1,840	470
Unemployed	1,200	960	240
Retired	2,200	1,970	230
Not employed, not seeking work	650	400	250
Mathematical scientist	26,080	20,800	5,270
Employed full-time	20,470	16,220	4,240
Employed part-time	1,990	1,610	380
Unemployed	370	240	130
Retired	2,840	2,570	280
Not employed, not seeking work	400	150	250
Physical scientist	87,590	74,710	12,880
Employed full-time	68,140	58,320	9,820
Employed part-time	5,590	4,400	1,190
Unemployed	1,740	1,390	360
Retired	10,600	9,870	730
Not employed, not seeking work	1,510	730	790
Psychologist	74,060	35,220	38,830
Employed full-time	49,530	26,880	22,650
Employed part-time	17,580	5,440	12,140
Unemployed	560	230	330
Retired	4,270	2,480	1,780
Not employed, not seeking work	2,120	190	1,930
Social scientist	58,250	39,970	18,280
Employed full-time	44,620	30,540	14,080
Employed part-time	5,970	3,830	2,140
Unemployed	730	330	400
Retired	5,900	4,940	950
Not employed, not seeking work	1,040	330	710
Engineering occupations	89,160	81,310	7,850
Employed full-time	72,050	65,640	6,420
Employed part-time	4,950	4,410	540
Unemployed	2,130	1,880	250
Retired	8,780	8,700	80
Not employed, not seeking work	1,250	690	560

TABLE 26. Doctoral scientists and engineers, by broad occupation, employment status, and sex: 2003

Employment status and occupation	Total	Male	Female
Science and engineering-related occupations	73,970	50,370	23,600
Employed full-time	59,700	41,150	18,550
Employed part-time	4,940	2,560	2,390
Unemployed	1,350	920	420
Retired	6,620	5,160	1,470
Not employed, not seeking work	1,360	590	770
Non-science and engineering occupations	116,540	83,300	33,240
Employed full-time	86,570	63,430	23,140
Employed part-time	12,130	6,860	5,270
Unemployed, seeking work	3,030	2,030	1,000
Unemployed	11,760	9,800	1,950
Not employed, not seeking work	3,050	1,170	1,880

NOTES: If respondent was not employed during survey reference period, occupation of last job was reported. Numbers are rounded to nearest 10. Detail may not add to total because of rounding. Excludes 291 individuals who reported never having worked so could not be classified by occupation.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 27. Doctoral scientists and engineers, by broad occupation, employment status, and race/ethnicity: 2003

Employment status and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
All occupations	685,010	4,460	107,970	18,950	17,020	535,500	1,100
Employed full-time	530,960	3,430	93,200	15,890	14,080	403,430	940
Employed part-time	62,340	520	4,970	1,600	1,570	53,610	60
Unemployed	12,940	60	2,880	380	270	9,350	S
Retired	64,120	320	5,080	800	720	57,180	S
Not employed, not seeking work	14,640	130	1,850	290	380	11,920	70
Science occupations	405,330	2,980	58,660	10,700	11,130	321,160	710
Employed full-time	312,640	2,260	50,450	8,860	9,210	241,230	630
Employed part-time	40,320	380	2,900	980	1,150	34,900	S
Unemployed	6,430	S	1,450	220	150	4,580	S
Retired	36,960	240	2,650	470	440	33,140	S
Not employed, not seeking work	8,990	60	1,220	170	180	7,310	S
Biological, agricultural, and other life scientist	120,900	810	20,360	2,620	3,270	93,590	260
Employed full-time	97,780	670	17,920	2,240	2,880	73,870	210
Employed part-time	6,870	80	710	130	120	5,830	S
Unemployed	1,830	S	410	60	70	1,290	S
Retired	11,150	S	980	80	130	9,900	S
Not employed, not seeking work	3,260	S	330	120	70	2,690	S
Computer and information scientist	38,460	190	12,540	760	660	24,260	50
Employed full-time	32,100	150	11,340	540	630	19,390	S
Employed part-time	2,310	S	350	170	S	1,740	S
Unemployed	1,200	S	470	S	S	690	S
Retired	2,200	S	100	S	S	2,060	S
Not employed, not seeking work	650	S	270	S	S	380	S
Mathematical scientist	26,080	S	5,160	640	730	19,510	S
Employed full-time	20,470	S	4,340	570	580	14,950	S
Employed part-time	1,990	S	410	S	S	1,510	S
Unemployed	370	S	110	S	S	210	S
Retired	2,840	S	270	S	80	2,470	S
Not employed, not seeking work	400	S	S	S	S	370	S
Physical scientist	87,590	480	13,500	1,270	1,980	70,210	160
Employed full-time	68,140	430	11,510	1,090	1,730	53,220	160
Employed part-time	5,590	S	480	70	110	4,920	S
Unemployed	1,740	S	360	60	S	1,310	S
Retired	10,600	S	820	S	90	9,620	S
Not employed, not seeking work	1,510	S	330	S	S	1,130	S
Psychologist	74,060	850	1,910	2,680	2,630	65,840	140
Employed full-time	49,530	560	1,440	2,160	1,780	43,460	130
Employed part-time	17,580	190	330	380	750	15,930	S
Unemployed	560	S	S	S	S	490	S
Retired	4,270	70	S	110	60	3,990	S
Not employed, not seeking work	2,120	S	80	S	S	1,970	S
Social scientist	58,250	620	5,200	2,730	1,860	47,770	90
Employed full-time	44,620	430	3,890	2,260	1,610	36,340	80
Employed part-time	5,970	60	620	200	110	4,970	S
Unemployed	730	S	70	S	S	580	S
Retired	5,900	80	440	210	70	5,100	S
Not employed, not seeking work	1,040	S	180	S	S	770	S
Engineering occupations	89,160	250	26,270	1,730	1,860	58,900	150
Employed full-time	72,050	240	23,580	1,580	1,630	44,900	120
Employed part-time	4,950	S	400	100	S	4,380	S
Unemployed	2,130	S	850	S	S	1,210	S

TABLE 27. Doctoral scientists and engineers, by broad occupation, employment status, and race/ethnicity: 2003

Employment status and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Retired	8,780	S	1,140	S	120	7,500	S
Not employed, not seeking work	1,250	S	300	S	S	910	S
Science and engineering-related occupations	73,970	450	10,270	2,240	1,380	59,490	150
Employed full-time	59,700	370	8,880	1,820	1,200	47,290	140
Employed part-time	4,940	S	550	240	60	4,050	S
Unemployed	1,350	S	260	S	S	1,050	S
Retired	6,620	S	450	110	S	6,010	S
Not employed, not seeking work	1,360	S	120	60	80	1,090	S
Non-science and engineering occupations	116,540	790	12,770	4,280	2,650	95,950	100
Employed full-time	86,570	550	10,290	3,630	2,040	70,010	S
Employed part-time	12,130	110	1,110	280	330	10,290	S
Unemployed	3,030	S	330	110	50	2,510	S
Retired	11,760	50	840	210	130	10,530	S
Not employed, not seeking work	3,050	50	210	50	90	2,620	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: If respondent was not employed during survey reference period, occupation of last job was reported. Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding. Excludes 291 individuals who reported never having worked so could not be classified by occupation.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 28. Selected employment characteristics of doctoral scientists and engineers, by occupation: 2003
(Percent)

Occupation	Unemployment rate	Involuntarily-out-of-field rate	Labor force participation rate
All occupations	2.1	5.0	88.5
Science occupations	1.8	3.8	88.7
Biological, agricultural, and other life scientist	1.7	2.0	88.1
Agricultural/food scientist	1.7	2.0	84.0
Biochemist/biophysicist	2.6	1.3	88.6
Biological scientist	2.3	2.5	87.8
Forestry/conservation scientist	S	S	81.4
Medical scientist	2.1	1.2	91.6
Postsecondary teacher, agricultural/other natural sciences	S	S	83.7
Postsecondary teacher, biological sciences	0.5	2.9	87.1
Other biological/agricultural/life scientist	2.9	3.0	85.7
Computer and information scientist	3.4	13.8	92.6
Computer/information scientist	4.3	16.1	92.6
Postsecondary teacher, computer science	S	5.6	92.6
Mathematical scientist	1.6	4.5	87.5
Mathematical scientist	3.4	6.0	89.2
Postsecondary teacher, mathematics/statistics	0.4	3.5	86.5
Physical scientist	2.3	2.7	86.2
Chemist, except biochemist	4.1	3.0	84.1
Earth/atmostpheric/ocean scientist	2.3	2.6	84.3
Physicist/astronomer	1.5	2.8	88.2
Postsecondary teacher, chemistry	0.8	1.1	87.5
Postsecondary teacher, physics	0.6	3.2	86.3
Postsecondary teacher, other physical sciences	S	2.9	88.7
Other physical scientist	6.4	5.9	92.1
Psychologist	0.8	3.6	91.4
Psychologist	0.9	3.4	91.7
Postsecondary teacher, psychology	0.7	4.0	90.4
Social scientist	1.4	2.6	88.1
Economist	0.8	2.4	88.5
Political scientist	S	S	73.5
Postsecondary teacher, economics	1.1	2.4	87.8
Postsecondary teacher, political science	S	2.8	89.7
Postsecondary teacher, sociology	0.7	2.5	86.5
Postsecondary teacher, other social sciences	0.8	3.3	90.5
Sociologist/anthropologist	5.8	2.1	85.4
Other social scientist	3.3	2.8	91.7
Engineering occupations	2.7	3.5	88.8
Aerospace/aeronautical/astronautical engineer	2.6	7.3	81.5
Chemical engineer	3.2	2.3	85.9
Civil/architectural/sanitary engineer	1.7	3.1	86.7
Electrical engineer	3.7	4.1	93.2
Materials/metallurgical engineer	3.8	9.7	88.0
Mechanical engineer	3.0	3.2	88.3
Postsecondary teacher, engineering	0.5	1.4	89.1
Other engineer	3.6	4.3	88.1
Science and engineering-related occupations	2.0	6.7	89.2
Health-related occupation, except postsecondary teacher	2.3	10.1	89.9
Postsecondary teacher, health and related sciences	0.5	2.6	89.0
S&E manager	1.7	3.8	90.3
S&E precollege teacher	3.1	13.8	88.0
S&E technician/technologist	9.1	21.8	82.0

TABLE 28. Selected employment characteristics of doctoral scientists and engineers, by occupation: 2003
(Percent)

Occupation	Unemployment rate	Involuntarily-out-of-field rate	Labor force participation rate
Other S&E-related occupation	S	22.5	93.6
Non-science and engineering occupations	3.0	8.9	87.3
Arts/humanities-related occupation	1.7	11.6	84.3
Management-related occupation	3.8	10.9	89.1
Non-S&E manager	2.5	4.1	88.0
Non-S&E postsecondary teacher	1.1	3.8	88.1
Non-S&E precollege/other teacher	6.3	17.9	82.6
Sales/marketing occupation	4.7	23.5	89.8
Social service-related occupation	1.8	11.0	88.1
Other non-S&E occupation	5.4	19.6	80.7

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: If the respondent was not employed during the survey reference period, occupation of last job was reported. Excludes estimated 291 individuals who reported never having worked so could not be classified by occupation. Unemployment rate (R_U) = U/(E+U). Involuntarily-out-of field rate is the percentage of employed individuals who reported working part time exclusively because suitable full-time work was not available and/or reported working in an area not related to the first doctoral degree (in their principal job) at least partially because suitable work in the field was not available. Labor force is defined as those employed (E) plus those unemployed and seeking work (U). Population (P) is defined as all S&E doctorate holders under age 76, residing in the United States during the week of October 1, 2003, who earned doctorates from U.S. institutions. Labor force participation rate (R_{LF}) = (E+U)/P.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 29. Doctoral scientists and engineers, by occupation and sex: 2003

Occupation	Total	Male	Female	Total	Male	Female
	Number			Percent		
All occupations	685,010	501,110	183,900	100.0	73.2	26.8
Science occupations	405,330	286,130	119,200	100.0	70.6	29.4
Biological, agricultural, and other life scientist	120,900	82,340	38,560	100.0	68.1	31.9
Agricultural/food scientist	9,930	8,390	1,540	100.0	84.5	15.5
Biochemist/biophysicist	16,140	11,110	5,030	100.0	68.9	31.1
Biological scientist	21,430	13,630	7,800	100.0	63.6	36.4
Forestry/conservation scientist	1,700	1,380	320	100.0	81.1	18.9
Medical scientist	32,170	20,350	11,820	100.0	63.3	36.7
Postsecondary teacher, agricultural/other natural sciences	5,270	4,450	830	100.0	84.3	15.7
Postsecondary teacher, biological sciences	27,990	19,280	8,710	100.0	68.9	31.1
Other biological/agricultural/life scientist	6,250	3,740	2,510	100.0	59.8	40.2
Computer and information scientist	38,460	33,080	5,380	100.0	86.0	14.0
Computer/information scientist	30,210	26,030	4,180	100.0	86.2	13.8
Postsecondary teacher, computer science	8,250	7,050	1,200	100.0	85.5	14.5
Mathematical scientist	26,080	20,800	5,270	100.0	79.8	20.2
Mathematical scientist	10,250	8,140	2,110	100.0	79.4	20.6
Postsecondary teacher, mathematics/statistics	15,830	12,660	3,170	100.0	80.0	20.0
Physical scientist	87,590	74,710	12,880	100.0	85.3	14.7
Chemist, except biochemist	29,400	24,370	5,030	100.0	82.9	17.1
Earth/atmospheric/ocean scientist	10,930	9,630	1,310	100.0	88.1	11.9
Physicist/astronomer	15,710	14,590	1,120	100.0	92.9	7.1
Postsecondary teacher, chemistry	13,140	10,500	2,640	100.0	79.9	20.1
Postsecondary teacher, physics	9,110	8,060	1,050	100.0	88.4	11.6
Postsecondary teacher, other physical sciences	6,820	5,570	1,250	100.0	81.7	18.3
Other physical scientist	2,470	1,990	480	100.0	80.6	19.4
Psychologist	74,060	35,220	38,830	100.0	47.6	52.4
Psychologist	54,540	24,740	29,800	100.0	45.4	54.6
Postsecondary teacher, psychology	19,520	10,480	9,040	100.0	53.7	46.3
Social scientist	58,250	39,970	18,280	100.0	68.6	31.4
Economist	8,790	6,940	1,850	100.0	78.9	21.1
Political scientist	2,000	1,470	520	100.0	73.8	26.2
Postsecondary teacher, economics	9,690	8,120	1,570	100.0	83.8	16.2
Postsecondary teacher, political science	9,470	7,110	2,360	100.0	75.0	25.0
Postsecondary teacher, sociology	8,320	5,060	3,260	100.0	60.8	39.2
Postsecondary teacher, other social sciences	10,030	6,080	3,950	100.0	60.7	39.3
Sociologist/anthropologist	5,130	2,700	2,440	100.0	52.6	47.4
Other social scientist	4,820	2,490	2,330	100.0	51.7	48.3
Engineering occupations	89,160	81,310	7,850	100.0	91.2	8.8
Aerospace/aeronautical/astronautical engineer	5,110	4,880	220	100.0	95.6	4.4
Chemical engineer	8,430	7,520	920	100.0	89.1	10.9
Civil/architectural/sanitary engineer	4,430	4,230	200	100.0	95.6	4.4
Electrical engineer	18,430	17,000	1,440	100.0	92.2	7.8
Materials/metallurgical engineer	1,580	1,270	310	100.0	80.6	19.4
Mechanical engineer	10,000	9,410	590	100.0	94.1	5.9
Postsecondary teacher, engineering	19,600	18,070	1,530	100.0	92.2	7.8
Other engineer	21,570	18,920	2,650	100.0	87.7	12.3
Science and engineering-related occupations	73,970	50,370	23,600	100.0	68.1	31.9
Health-related occupation, except postsecondary teacher	19,420	11,730	7,690	100.0	60.4	39.6
Postsecondary teacher, health and related sciences	19,560	9,900	9,660	100.0	50.6	49.4
S&E manager	25,980	21,700	4,290	100.0	83.5	16.5
S&E precollege teacher	3,800	2,580	1,220	100.0	68.0	32.0
S&E technician/technologist	4,780	4,100	670	100.0	85.9	14.1
Other S&E-related occupation	440	360	80	100.0	82.1	17.9

TABLE 29. Doctoral scientists and engineers, by occupation and sex: 2003

Occupation	Total	Male	Female	Total	Male	Female
	Number			Percent		
Non-science and engineering occupations	116,540	83,300	33,240	100.0	71.5	28.5
Arts/humanities-related occupation	6,280	3,250	3,040	100.0	51.7	48.3
Management-related occupation	17,630	12,420	5,220	100.0	70.4	29.6
Non-S&E manager	51,680	40,590	11,090	100.0	78.5	21.5
Non-S&E postsecondary teacher	13,620	8,540	5,080	100.0	62.7	37.3
Non-S&E precollege/other teacher	3,100	1,360	1,740	100.0	44.0	56.0
Sales/marketing occupation	9,130	7,180	1,950	100.0	78.7	21.3
Social service-related occupation	3,920	2,280	1,640	100.0	58.2	41.8
Other non-S&E occupation	10,650	7,200	3,440	100.0	67.7	32.3

S&E = science and engineering.

NOTES: If respondent was not employed during survey reference period, occupation of last job was reported. Numbers are rounded to nearest 10. Detail may not add to total because of rounding. Excludes estimated 291 individuals who reported never having worked so could not be classified by occupation.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 30. Doctoral scientists and engineers, by occupation and race/ethnicity: 2003

Occupation	Total	American Indian/ Alaskan Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
	Number						
All occupations	685,010	4,460	107,970	18,950	17,020	535,500	1,100
Science occupations	405,330	2,980	58,660	10,700	11,130	321,160	710
Biological, agricultural, and other life scientist	120,900	810	20,360	2,620	3,270	93,590	260
Agricultural/food scientist	9,930	120	1,340	250	360	7,860	S
Biochemist/biophysicist	16,140	50	4,500	150	250	11,140	S
Biological scientist	21,430	140	3,790	400	600	16,410	80
Forestry/conservation scientist	1,700	S	S	S	S	1,600	S
Medical scientist	32,170	120	6,800	740	860	23,640	S
Postsecondary teacher, agricultural/other natural sciences	5,270	100	300	130	210	4,540	S
Postsecondary teacher, biological sciences	27,990	180	2,210	810	810	23,880	100
Other biological/agricultural/life scientist	6,250	60	1,380	130	150	4,520	S
Computer and information scientist	38,460	190	12,540	760	660	24,260	50
Computer/information scientist	30,210	150	10,630	500	430	18,450	S
Postsecondary teacher, computer science	8,250	S	1,900	260	230	5,810	S
Mathematical scientist	26,080	S	5,160	640	730	19,510	S
Mathematical scientist	10,250	S	2,650	300	280	7,000	S
Postsecondary teacher, mathematics/statistics	15,830	S	2,500	340	450	12,510	S
Physical scientist	87,590	480	13,500	1,270	1,980	70,210	160
Chemist, except biochemist	29,400	200	7,020	460	570	21,090	50
Earth/atmospheric/ocean scientist	10,930	60	1,240	S	300	9,240	S
Physicist/astronomer	15,710	S	2,420	120	290	12,850	S
Postsecondary teacher, chemistry	13,140	70	900	370	400	11,390	S
Postsecondary teacher, physics	9,110	S	1,110	120	250	7,570	S
Postsecondary teacher, other physical sciences	6,820	80	360	70	110	6,160	S
Other physical scientist	2,470	S	450	80	S	1,900	S
Psychologist	74,060	850	1,910	2,680	2,630	65,840	140
Psychologist	54,540	570	1,340	1,820	1,790	48,910	110
Postsecondary teacher, psychology	19,520	280	570	870	840	16,920	S
Social scientist	58,250	620	5,200	2,730	1,860	47,770	90
Economist	8,790	80	1,280	230	340	6,850	S
Political scientist	2,000	50	180	70	120	1,570	S
Postsecondary teacher, economics	9,690	70	1,450	420	120	7,620	S
Postsecondary teacher, political science	9,470	70	410	610	240	8,140	S
Postsecondary teacher, sociology	8,320	70	470	600	250	6,930	S
Postsecondary teacher, other social sciences	10,030	220	880	320	490	8,090	S
Sociologist/anthropologist	5,130	S	170	200	150	4,550	S
Other social scientist	4,820	S	350	270	150	4,010	S
Engineering occupations	89,160	250	26,270	1,730	1,860	58,900	150
Aerospace/aeronautical/astronautical engineer	5,110	S	890	70	S	4,080	S
Chemical engineer	8,430	S	2,720	180	230	5,290	S
Civil/architectural/sanitary engineer	4,430	S	1,390	80	180	2,760	S
Electrical engineer	18,430	S	7,110	270	250	10,720	S
Materials/metallurgical engineer	1,580	S	530	S	S	1,010	S
Mechanical engineer	10,000	S	3,860	80	120	5,910	S
Postsecondary teacher, engineering	19,600	90	3,900	850	610	14,120	S
Other engineer	21,570	S	5,880	200	410	15,000	60
Science and engineering-related occupations	73,970	450	10,270	2,240	1,380	59,490	150
Health-related occupation, except postsecondary teacher	19,420	140	2,820	780	470	15,130	70
Postsecondary teacher, health and related sciences	19,560	130	1,890	810	440	16,270	S
S&E manager	25,980	110	3,800	440	350	21,250	S
S&E precollege teacher	3,800	50	240	210	80	3,220	S

TABLE 30. Doctoral scientists and engineers, by occupation and race/ethnicity: 2003

Occupation	Total	American Indian/ Alaskan Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
S&E technician/technologist	4,780	S	1,430	S	S	3,300	S
Other S&E-related occupation	440	S	90	S	S	310	S
Non-science and engineering occupations	116,540	790	12,770	4,280	2,650	95,950	100
Arts/humanities-related occupation	6,280	S	540	150	80	5,510	S
Management-related occupation	17,630	100	2,990	580	380	13,570	S
Non-S&E manager	51,680	240	5,450	1,950	1,110	42,910	S
Non-S&E postsecondary teacher	13,620	100	1,180	740	520	11,070	S
Non-S&E precollege/other teacher	3,100	S	190	120	100	2,660	S
Sales/marketing occupation	9,130	120	1,380	120	160	7,350	S
Social service-related occupation	3,920	90	290	290	140	3,100	S
Other non-S&E occupation	10,650	130	760	330	160	9,250	S
				Percent			
All occupations	100.0	0.7	15.8	2.8	2.5	78.2	0.2
Science occupations	100.0	0.7	14.5	2.6	2.7	79.2	0.2
Biological, agricultural, and other life scientist	100.0	0.7	16.8	2.2	2.7	77.4	0.2
Agricultural/food scientist	100.0	1.2	13.5	2.6	3.6	79.2	S
Biochemist/biophysicist	100.0	0.3	27.9	0.9	1.6	69.0	S
Biological scientist	100.0	0.7	17.7	1.9	2.8	76.5	0.4
Forestry/conservation scientist	100.0	S	S	S	S	93.9	S
Medical scientist	100.0	0.4	21.1	2.3	2.7	73.5	S
Postsecondary teacher, agricultural/other natural sciences	100.0	2.0	5.6	2.4	3.9	86.0	S
Postsecondary teacher, biological sciences	100.0	0.6	7.9	2.9	2.9	85.3	0.4
Other biological/agricultural/life scientist	100.0	1.0	22.1	2.1	2.5	72.3	S
Computer and information scientist	100.0	0.5	32.6	2.0	1.7	63.1	0.1
Computer/information scientist	100.0	0.5	35.2	1.6	1.4	61.1	S
Postsecondary teacher, computer science	100.0	S	23.1	3.2	2.7	70.4	S
Mathematical scientist	100.0	S	19.8	2.4	2.8	74.8	S
Mathematical scientist	100.0	S	25.9	2.9	2.8	68.3	S
Postsecondary teacher, mathematics/statistics	100.0	S	15.8	2.1	2.8	79.0	S
Physical scientist	100.0	0.5	15.4	1.5	2.3	80.2	0.2
Chemist, except biochemist	100.0	0.7	23.9	1.6	2.0	71.7	0.2
Earth/atmospheric/ocean scientist	100.0	0.5	11.4	S	2.8	84.5	S
Physicist/astronomer	100.0	S	15.4	0.8	1.8	81.8	S
Postsecondary teacher, chemistry	100.0	0.5	6.8	2.8	3.0	86.7	S
Postsecondary teacher, physics	100.0	S	12.2	1.4	2.8	83.1	S
Postsecondary teacher, other physical sciences	100.0	1.2	5.2	1.0	1.7	90.3	S
Other physical scientist	100.0	S	18.2	3.1	S	76.8	S
Psychologist	100.0	1.1	2.6	3.6	3.6	88.9	0.2
Psychologist	100.0	1.0	2.5	3.3	3.3	89.7	0.2
Postsecondary teacher, psychology	100.0	1.4	2.9	4.4	4.3	86.7	S
Social scientist	100.0	1.1	8.9	4.7	3.2	82.0	0.2
Economist	100.0	0.9	14.6	2.6	3.8	78.0	S
Political scientist	100.0	2.7	9.3	3.7	6.0	78.4	S
Postsecondary teacher, economics	100.0	0.7	15.0	4.4	1.2	78.7	S
Postsecondary teacher, political science	100.0	0.7	4.3	6.4	2.6	85.9	S
Postsecondary teacher, sociology	100.0	0.8	5.6	7.2	3.0	83.3	S
Postsecondary teacher, other social sciences	100.0	2.2	8.8	3.2	4.9	80.6	S
Sociologist/anthropologist	100.0	S	3.3	4.0	3.0	88.7	S
Other social scientist	100.0	S	7.3	5.7	3.0	83.2	S
Engineering occupations	100.0	0.3	29.5	1.9	2.1	66.1	0.2
Aerospace/aeronautical/astronautical engineer	100.0	S	17.4	1.4	S	79.9	S

TABLE 30. Doctoral scientists and engineers, by occupation and race/ethnicity: 2003

Occupation	Total	American Indian/ Alaskan Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Chemical engineer	100.0	S	32.2	2.1	2.7	62.7	S
Civil/architectural/sanitary engineer	100.0	S	31.4	1.7	4.0	62.3	S
Electrical engineer	100.0	S	38.6	1.5	1.4	58.2	S
Materials/metallurgical engineer	100.0	S	33.7	S	S	64.0	S
Mechanical engineer	100.0	S	38.6	0.8	1.2	59.1	S
Postsecondary teacher, engineering	100.0	0.4	19.9	4.3	3.1	72.0	S
Other engineer	100.0	S	27.3	0.9	1.9	69.5	0.3
Science and engineering-related occupations	100.0	0.6	13.9	3.0	1.9	80.4	0.2
Health-related occupation, except postsecondary teacher	100.0	0.7	14.5	4.0	2.4	77.9	0.4
Postsecondary teacher, health and related sciences	100.0	0.6	9.7	4.1	2.3	83.2	S
S&E manager	100.0	0.4	14.6	1.7	1.4	81.8	S
S&E precollege teacher	100.0	1.3	6.4	5.4	2.1	84.8	S
S&E technician/technologist	100.0	S	29.8	S	S	69.0	S
Other S&E-related occupation	100.0	S	20.7	S	S	71.0	S
Non-science and engineering occupations	100.0	0.7	11.0	3.7	2.3	82.3	0.1
Arts/humanities-related occupation	100.0	S	8.6	2.3	1.3	87.7	S
Management-related occupation	100.0	0.6	16.9	3.3	2.1	77.0	S
Non-S&E manager	100.0	0.5	10.5	3.8	2.2	83.0	S
Non-S&E postsecondary teacher	100.0	0.7	8.7	5.4	3.8	81.3	S
Non-S&E precollege/other teacher	100.0	S	6.0	3.9	3.1	85.8	S
Sales/marketing occupation	100.0	1.3	15.1	1.3	1.7	80.5	S
Social service-related occupation	100.0	2.4	7.5	7.5	3.5	79.2	S
Other non-S&E occupation	100.0	1.2	7.1	3.1	1.5	86.9	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding. Excludes estimated 291 individuals who reported never having worked so could not be classified by occupation.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 31. Doctoral scientists and engineers employed as postdocs, by occupation: 2003

Occupation	Number	Percent
Total in postdoc [a]	19,780	100.0
Science occupations	17,940	90.7
Biological, agricultural, and other life scientist	12,380	62.6
Agricultural/food scientist	390	2.0
Biochemist/biophysicist	3,210	16.2
Biological scientist	3,700	18.7
Forestry/conservation scientist	110	0.6
Medical scientist	3,750	19.0
Postsecondary teacher, agricultural/other natural sciences	S	S
Postsecondary teacher, biological sciences	200	1.0
Other biological/agricultural/life scientist	1,010	5.1
Computer and information scientist	180	0.9
Computer/information scientist	180	0.9
Postsecondary teacher, computer science	S	S
Mathematical scientist	430	2.2
Mathematical scientist	140	0.7
Postsecondary teacher, mathematics/statistics	290	1.5
Physical scientist	2,950	14.9
Chemist, except biochemist	960	4.9
Earth/atmospheric/ocean scientist	390	2.0
Physicist/astronomer	1,320	6.7
Postsecondary teacher, chemistry	S	S
Postsecondary teacher, physics	S	S
Postsecondary teacher, other physical sciences	S	S
Other physical scientist	170	0.9
Psychologist	1,470	7.4
Psychologist	1,330	6.7
Postsecondary teacher, psychology	140	0.7
Social scientist	540	2.7
Economist	100	0.5
Political scientist	S	S
Postsecondary teacher, economics	50	0.3
Postsecondary teacher, political science	S	S
Postsecondary teacher, sociology	S	S
Postsecondary teacher, other social sciences	50	0.3
Sociologist/anthropologist	240	1.2
Other social scientist	60	0.3
Engineering occupations	1,020	5.2
Aerospace/aeronautical/astronautical engineer	S	S
Chemical engineer	60	0.3
Civil/architectural/sanitary engineer	S	S
Electrical engineer	100	0.5
Materials/metallurgical engineer		
Mechanical engineer	140	0.7
Postsecondary teacher, engineering	60	0.3
Other engineer	610	3.1
Science and engineering-related occupations	740	3.7
Health-related occupation, except postsecondary teacher	480	2.4
Postsecondary teacher, health and related sciences	180	0.9
S&E manager	S	S
S&E precollege teacher	S	S
S&E technician/technologist	60	0.3
Other S&E-related occupation	S	S
Non-science and engineering occupations	70	0.4

TABLE 31. Doctoral scientists and engineers employed as postdocs, by occupation: 2003

Occupation	Number	Percent
Arts/humanities-related occupation	S	S
Management-related occupation	S	S
Non-S&E manager	S	S
Non-S&E postsecondary teacher	S	S
Non-S&E precollege/other teacher	S	S
Sales/marketing occupation	S	S
Social service-related occupation	S	S
Other non-S&E occupation	S	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

[a] Postdoc is a temporary position awarded in academe, industry, or government primarily for gaining additional education and training in research.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 32. Employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
	Number											
All occupations	593,300	432,150	161,150	15,650	10,130	5,520	457,040	332,650	124,390	120,610	89,380	31,230
Science occupations	352,960	248,120	104,840	10,360	6,450	3,910	276,120	195,060	81,060	66,480	46,600	19,880
Biological, agricultural, and other life scientist	104,650	71,100	33,550	2,990	1,920	1,070	79,700	55,410	24,280	21,960	13,770	8,190
Agricultural/food scientist	8,200	6,820	1,380	300	230	70	6,390	5,370	1,020	1,520	1,230	290
Biochemist/biophysicist	13,920	9,800	4,120	240	160	90	9,450	7,130	2,310	4,230	2,510	1,720
Biological scientist	18,390	11,860	6,530	550	310	240	13,810	9,430	4,390	4,030	2,130	1,900
Forestry/conservation scientist	1,390	1,090	300	S	S	S	1,280	1,010	270	80	60	S
Medical scientist	28,860	18,210	10,650	760	470	290	20,930	13,030	7,900	7,170	4,710	2,460
Postsecondary teacher, agricultural/other natural sciences	4,410	3,640	780	190	160	S	3,770	3,100	670	460	380	80
Postsecondary teacher, biological sciences	24,280	16,590	7,690	780	500	280	20,440	14,130	6,310	3,050	1,950	1,100
Other biological/agricultural/life scientist	5,200	3,100	2,100	150	80	70	3,630	2,210	1,420	1,420	810	620
Computer and information scientist	34,410	29,750	4,660	650	570	80	21,130	18,580	2,550	12,630	10,600	2,030
Computer/information scientist	26,770	23,220	3,550	430	370	60	15,870	14,080	1,780	10,470	8,770	1,700
Postsecondary teacher, computer science	7,640	6,530	1,110	220	200	S	5,260	4,490	760	2,160	1,830	330
Mathematical scientist	22,460	17,840	4,620	630	520	110	16,460	13,290	3,170	5,380	4,030	1,350
Mathematical scientist	8,830	6,990	1,830	250	190	50	5,800	4,710	1,100	2,770	2,100	680
Postsecondary teacher, mathematics/statistics	13,640	10,840	2,790	380	320	60	10,650	8,590	2,070	2,600	1,940	670
Physical scientist	73,730	62,730	11,010	1,840	1,510	330	58,140	50,040	8,100	13,750	11,180	2,570
Chemist, except biochemist	23,700	19,580	4,120	550	410	140	16,400	13,940	2,460	6,760	5,230	1,530
Earth/atmospheric/ocean scientist	9,010	7,850	1,160	280	250	S	7,480	6,520	960	1,240	1,080	170
Physicist/astronomer	13,650	12,670	980	240	210	S	11,140	10,410	720	2,280	2,050	230
Postsecondary teacher, chemistry	11,400	9,160	2,250	380	310	80	9,740	7,850	1,890	1,280	1,000	280
Postsecondary teacher, physics	7,810	6,910	900	250	230	S	6,370	5,650	720	1,190	1,030	160
Postsecondary teacher, other physical sciences	6,020	4,850	1,170	110	90	S	5,370	4,320	1,050	530	440	90
Other physical scientist	2,130	1,710	430	S	S	S	1,650	1,340	310	460	350	110
Psychologist	67,110	32,320	34,790	2,530	880	1,650	59,390	29,640	29,750	5,190	1,800	3,390
Psychologist	49,600	22,900	26,690	1,740	590	1,150	44,330	21,080	23,250	3,520	1,240	2,280
Postsecondary teacher, psychology	17,510	9,420	8,100	790	290	490	15,060	8,560	6,500	1,670	560	1,110
Social scientist	50,590	34,370	16,220	1,720	1,060	660	41,310	28,110	13,210	7,560	5,210	2,350
Economist	7,720	6,110	1,600	300	260	S	6,010	4,780	1,240	1,400	1,080	320
Political scientist	1,450	1,060	390	100	60	S	1,180	890	280	170	100	80
Postsecondary teacher, economics	8,410	7,080	1,340	100	90	S	6,590	5,580	1,010	1,720	1,400	320
Postsecondary teacher, political science	8,470	6,250	2,220	230	110	120	7,290	5,490	1,800	940	640	300
Postsecondary teacher, sociology	7,140	4,170	2,970	250	130	120	5,890	3,370	2,520	1,000	670	330
Postsecondary teacher, other social sciences	9,010	5,280	3,730	490	290	200	7,150	4,130	3,020	1,360	860	500
Sociologist/anthropologist	4,130	2,260	1,870	100	S	60	3,680	2,040	1,640	350	170	180
Other social scientist	4,280	2,180	2,090	140	70	70	3,530	1,830	1,690	610	280	330

TABLE 32. Employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Engineering occupations	77,000	70,040	6,960	1,660	1,420	240	49,280	45,150	4,130	26,070	23,470	2,600
Aerospace/aeronautical/astronautical engineer	4,050	3,880	180	S	S	S	3,130	3,020	110	880	840	S
Chemical engineer	7,010	6,300	700	190	180	S	4,280	3,950	340	2,540	2,170	370
Civil/architectural/sanitary engineer	3,780	3,610	160	170	170	S	2,330	2,190	130	1,280	1,250	S
Electrical engineer	16,550	15,240	1,310	230	190	S	9,320	8,820	490	7,000	6,220	780
Materials/metallurgical engineer	1,340	1,120	220	S	S	S	770	660	110	550	460	90
Mechanical engineer	8,570	8,020	540	90	80	S	4,920	4,700	220	3,550	3,240	310
Postsecondary teacher, engineering	17,380	15,910	1,470	550	470	70	12,080	10,950	1,130	4,760	4,480	270
Other engineer	18,330	15,970	2,360	370	300	80	12,450	10,860	1,580	5,510	4,810	700
Science and engineering-related occupations	64,650	43,700	20,940	1,260	780	480	51,340	34,820	16,530	12,040	8,100	3,940
Health-related occupation, except postsecondary teacher	17,050	10,280	6,770	410	230	190	13,020	8,000	5,020	3,620	2,050	1,570
Postsecondary teacher, health and related sciences	17,330	8,710	8,620	420	190	230	14,270	7,090	7,180	2,640	1,440	1,210
S&E manager	23,060	19,070	3,980	340	310	S	18,720	15,510	3,210	3,990	3,250	740
S&E precollege teacher	3,240	2,180	1,050	70	S	S	2,680	1,820	860	490	320	170
S&E technician/technologist	3,560	3,090	460	S	S	S	2,360	2,130	230	1,180	950	220
Other S&E-related occupation	410	360	50	S	S	S	290	260	S	120	100	S
Non-science and engineering occupations	98,700	70,290	28,410	2,370	1,470	900	80,300	57,610	22,680	16,030	11,200	4,830
Arts/humanities-related occupation	5,210	2,790	2,410	80	S	60	4,550	2,470	2,080	570	300	280
Management-related occupation	15,120	10,520	4,600	320	200	120	11,410	7,950	3,460	3,390	2,370	1,020
Non-S&E manager	44,320	34,450	9,870	990	700	290	36,520	28,550	7,970	6,810	5,200	1,600
Non-S&E postsecondary teacher	11,860	7,380	4,470	490	270	220	9,450	6,050	3,410	1,910	1,070	850
Non-S&E precollege/other teacher	2,400	1,100	1,310	90	50	S	2,000	910	1,090	310	130	180
Sales/marketing occupation	7,810	6,190	1,630	140	100	S	6,280	5,020	1,260	1,390	1,070	320
Social service-related occupation	3,390	1,880	1,510	130	60	70	2,680	1,480	1,190	590	340	250
Other non-S&E occupation	8,130	5,560	2,570	120	60	60	6,950	4,770	2,180	1,060	730	320
	Percent											
All occupations	100.0	72.8	27.2	100.0	64.7	35.3	100.0	72.8	27.2	100.0	74.1	25.9
Science occupations	100.0	70.3	29.7	100.0	62.3	37.7	100.0	70.6	29.4	100.0	70.1	29.9
Biological, agricultural, and other life scientist	100.0	67.9	32.1	100.0	64.1	35.9	100.0	69.5	30.5	100.0	62.7	37.3
Agricultural/food scientist	100.0	83.1	16.9	100.0	75.2	24.8	100.0	84.0	16.0	100.0	81.0	19.0
Biochemist/biophysicist	100.0	70.4	29.6	100.0	65.0	35.0	100.0	75.5	24.5	100.0	59.3	40.7
Biological scientist	100.0	64.5	35.5	100.0	56.5	43.5	100.0	68.2	31.8	100.0	52.8	47.2
Forestry/conservation scientist	100.0	78.4	21.6	100.0	S	S	100.0	78.6	21.4	100.0	73.6	S
Medical scientist	100.0	63.1	36.9	100.0	61.4	38.6	100.0	62.3	37.7	100.0	65.7	34.3
Postsecondary teacher, agricultural/other natural sciences	100.0	82.4	17.6	100.0	83.4	S	100.0	82.3	17.7	100.0	82.5	17.5
Postsecondary teacher, biological sciences	100.0	68.3	31.7	100.0	64.2	35.8	100.0	69.1	30.9	100.0	64.0	36.0
Other biological/agricultural/life scientist	100.0	59.6	40.4	100.0	54.2	45.8	100.0	61.0	39.0	100.0	56.7	43.3
Computer and information scientist	100.0	86.5	13.5	100.0	87.4	12.6	100.0	87.9	12.1	100.0	83.9	16.1
Computer/information scientist	100.0	86.8	13.2	100.0	85.3	14.7	100.0	88.8	11.2	100.0	83.8	16.2

TABLE 32. Employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Postsecondary teacher, computer science	100.0	85.4	14.6	100.0	91.5	S	100.0	85.5	14.5	100.0	84.7	15.3
Mathematical scientist	100.0	79.4	20.6	100.0	82.3	17.7	100.0	80.8	19.2	100.0	75.0	25.0
Mathematical scientist	100.0	79.2	20.8	100.0	78.0	22.0	100.0	81.1	18.9	100.0	75.5	24.5
Postsecondary teacher, mathematics/statistics	100.0	79.5	20.5	100.0	85.1	14.9	100.0	80.6	19.4	100.0	74.4	25.6
Physical scientist	100.0	85.1	14.9	100.0	82.1	17.9	100.0	86.1	13.9	100.0	81.3	18.7
Chemist, except biochemist	100.0	82.6	17.4	100.0	75.0	25.0	100.0	85.0	15.0	100.0	77.4	22.6
Earth/atmospheric/ocean scientist	100.0	87.1	12.9	100.0	89.2	S	100.0	87.1	12.9	100.0	86.7	13.3
Physicist/astronomer	100.0	92.8	7.2	100.0	88.4	S	100.0	93.5	6.5	100.0	89.9	10.1
Postsecondary teacher, chemistry	100.0	80.3	19.7	100.0	80.1	19.9	100.0	80.6	19.4	100.0	78.1	21.9
Postsecondary teacher, physics	100.0	88.5	11.5	100.0	90.8	S	100.0	88.8	11.2	100.0	86.4	13.6
Postsecondary teacher, other physical sciences	100.0	80.6	19.4	100.0	76.9	S	100.0	80.4	19.6	100.0	82.4	17.6
Other physical scientist	100.0	80.0	20.0	100.0	S	S	100.0	81.5	18.5	100.0	75.4	24.6
Psychologist	100.0	48.2	51.8	100.0	34.8	65.2	100.0	49.9	50.1	100.0	34.7	65.3
Psychologist	100.0	46.2	53.8	100.0	33.7	66.3	100.0	47.5	52.5	100.0	35.2	64.8
Postsecondary teacher, psychology	100.0	53.8	46.2	100.0	37.4	62.6	100.0	56.8	43.2	100.0	33.8	66.2
Social scientist	100.0	67.9	32.1	100.0	61.5	38.5	100.0	68.0	32.0	100.0	68.9	31.1
Economist	100.0	79.3	20.7	100.0	84.5	S	100.0	79.4	20.6	100.0	77.3	22.7
Political scientist	100.0	72.8	27.2	100.0	64.7	S	100.0	75.9	24.1	100.0	56.7	43.3
Postsecondary teacher, economics	100.0	84.1	15.9	100.0	90.9	S	100.0	84.7	15.3	100.0	81.3	18.7
Postsecondary teacher, political science	100.0	73.8	26.2	100.0	48.1	51.9	100.0	75.3	24.7	100.0	68.5	31.5
Postsecondary teacher, sociology	100.0	58.4	41.6	100.0	50.8	49.2	100.0	57.2	42.8	100.0	67.2	32.8
Postsecondary teacher, other social sciences	100.0	58.6	41.4	100.0	59.1	40.9	100.0	57.7	42.3	100.0	63.1	36.9
Sociologist/anthropologist	100.0	54.7	45.3	100.0	S	56.7	100.0	55.4	44.6	100.0	49.8	50.2
Other social scientist	100.0	51.1	48.9	100.0	51.4	48.6	100.0	51.9	48.1	100.0	45.8	54.2
Engineering occupations	100.0	91.0	9.0	100.0	85.8	14.2	100.0	91.6	8.4	100.0	90.0	10.0
Aerospace/aeronautical/astronautical engineer	100.0	95.6	4.4	100.0	S	S	100.0	96.4	3.6	100.0	95.3	S
Chemical engineer	100.0	89.9	10.1	100.0	97.8	S	100.0	92.2	7.8	100.0	85.6	14.4
Civil/architectural/sanitary engineer	100.0	95.7	4.3	100.0	100.0	S	100.0	94.3	5.7	100.0	97.6	S
Electrical engineer	100.0	92.1	7.9	100.0	83.7	S	100.0	94.7	5.3	100.0	88.9	11.1
Materials/metallurgical engineer	100.0	83.8	16.2	100.0	S	S	100.0	85.5	14.5	100.0	83.3	16.7
Mechanical engineer	100.0	93.6	6.4	100.0	86.2	S	100.0	95.5	4.5	100.0	91.3	8.7
Postsecondary teacher, engineering	100.0	91.5	8.5	100.0	87.0	13.0	100.0	90.6	9.4	100.0	94.3	5.7
Other engineer	100.0	87.1	12.9	100.0	79.8	20.2	100.0	87.3	12.7	100.0	87.2	12.8
Science and engineering-related occupations	100.0	67.6	32.4	100.0	62.0	38.0	100.0	67.8	32.2	100.0	67.3	32.7
Health-related occupation, except postsecondary teacher	100.0	60.3	39.7	100.0	54.8	45.2	100.0	61.5	38.5	100.0	56.7	43.3
Postsecondary teacher, health and related sciences	100.0	50.3	49.7	100.0	44.5	55.5	100.0	49.7	50.3	100.0	54.3	45.7
S&E manager	100.0	82.7	17.3	100.0	91.2	S	100.0	82.8	17.2	100.0	81.4	18.6
S&E precollege teacher	100.0	67.5	32.5	100.0	S	S	100.0	67.8	32.2	100.0	65.1	34.9
S&E technician/technologist	100.0	87.0	13.0	100.0	S	S	100.0	90.4	9.6	100.0	80.9	19.1
Other S&E-related occupation	100.0	87.8	12.2	100.0	S	S	100.0	91.6	S	100.0	78.7	S

TABLE 32. Employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			Hispanic			White			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Non-science and engineering occupations	100.0	71.2	28.8	100.0	62.1	37.9	100.0	71.8	28.2	100.0	69.9	30.1
Arts/humanities-related occupation	100.0	53.6	46.4	100.0	S	68.0	100.0	54.3	45.7	100.0	51.6	48.4
Management-related occupation	100.0	69.6	30.4	100.0	62.4	37.6	100.0	69.7	30.3	100.0	69.9	30.1
Non-S&E manager	100.0	77.7	22.3	100.0	70.6	29.4	100.0	78.2	21.8	100.0	76.5	23.5
Non-S&E postsecondary teacher	100.0	62.3	37.7	100.0	55.2	44.8	100.0	64.0	36.0	100.0	55.7	44.3
Non-S&E precollege/other teacher	100.0	45.6	54.4	100.0	56.5	S	100.0	45.7	54.3	100.0	41.9	58.1
Sales/marketing occupation	100.0	79.2	20.8	100.0	67.1	S	100.0	80.0	20.0	100.0	76.8	23.2
Social service-related occupation	100.0	55.5	44.5	100.0	47.7	52.3	100.0	55.5	44.5	100.0	57.2	42.8
Other non-S&E occupation	100.0	68.4	31.6	100.0	52.1	47.9	100.0	68.6	31.4	100.0	69.3	30.7

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

[a] Includes American Indians/Native Americans, Asians, Blacks, Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity). Detail for "American Indian/Alaska Native," Asian," "Black," and "Other/unknown race/ethnicity" can be found in Table 33.

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 33. Non-Hispanic, minority employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			American Indian/ Alaska Native			Asian			Black			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
	Number														
All occupations	120,610	89,380	31,230	3,950	2,790	1,170	98,170	75,340	22,830	17,480	10,560	6,930	1,010	700	310
Science occupations	66,480	46,600	19,880	2,640	1,890	760	53,350	38,470	14,880	9,830	5,800	4,030	650	450	200
Biological, agricultural, and other life scientist	21,960	13,770	8,190	750	530	220	18,630	11,720	6,910	2,370	1,390	970	210	130	80
Agricultural/food scientist	1,520	1,230	290	100	80	S	1,190	940	240	230	210	S	S	S	S
Biochemist/biophysicist	4,230	2,510	1,720	50	S	S	4,020	2,410	1,600	120	S	70	S	S	S
Biological scientist	4,030	2,130	1,900	140	60	80	3,460	1,860	1,600	360	160	200	80	S	S
Forestry/conservation scientist	80	60	S	S	S	S	S	S	S	S	S	S	S	S	S
Medical scientist	7,170	4,710	2,460	100	70	S	6,430	4,300	2,130	620	340	280	S	S	S
Postsecondary teacher, agricultural/other natural sciences	460	380	80	100	100	S	240	170	70	130	110	S	S	S	S
Postsecondary teacher, biological sciences	3,050	1,950	1,100	180	150	S	2,010	1,280	730	780	450	330	80	70	S
Other biological/agricultural/life scientist	1,420	810	620	50	S	S	1,260	720	540	110	60	50	S	S	S
Computer and information scientist	12,630	10,600	2,030	170	170	S	11,700	9,790	1,910	720	600	110	S	S	S
Computer/information scientist	10,470	8,770	1,700	150	150	S	9,830	8,190	1,640	460	390	60	S	S	S
Postsecondary teacher, computer science	2,160	1,830	330	S	S	S	1,870	1,600	270	260	210	50	S	S	S
Mathematical scientist	5,380	4,030	1,350	S	S	S	4,750	3,550	1,200	600	450	140	S	S	S
Mathematical scientist	2,770	2,100	680	S	S	S	2,480	1,890	590	290	210	80	S	S	S
Postsecondary teacher, mathematics/statistics	2,600	1,940	670	S	S	S	2,270	1,660	600	310	250	60	S	S	S
Physical scientist	13,750	11,180	2,570	460	400	50	11,980	9,740	2,250	1,150	910	250	160	130	S
Chemist, except biochemist	6,760	5,230	1,530	170	160	S	6,100	4,680	1,420	430	360	80	50	S	S
Earth/atmospheric/ocean scientist	1,240	1,080	170	60	50	S	1,100	940	160	S	S	S	S	S	S
Physicist/astronomer	2,280	2,050	230	S	S	S	2,160	1,970	190	80	70	S	S	S	S
Postsecondary teacher, chemistry	1,280	1,000	280	70	70	S	860	680	170	350	250	100	S	S	S
Postsecondary teacher, physics	1,190	1,030	160	S	S	S	1,030	880	140	110	90	S	S	S	S
Postsecondary teacher, other physical sciences	530	440	90	80	70	S	350	290	60	60	S	S	S	S	S
Other physical scientist	460	350	110	S	S	S	390	280	110	80	70	S	S	S	S
Psychologist	5,190	1,800	3,390	750	420	330	1,770	470	1,300	2,540	840	1,700	140	80	60
Psychologist	3,520	1,240	2,280	520	320	200	1,230	300	930	1,670	560	1,110	100	60	S
Postsecondary teacher, psychology	1,670	560	1,110	230	100	130	540	160	380	870	280	590	S	S	S
Social scientist	7,560	5,210	2,350	490	350	150	4,520	3,200	1,320	2,460	1,600	860	90	60	S
Economist	1,400	1,080	320	50	50	S	1,130	860	270	200	160	S	S	S	S
Political scientist	170	100	80	S	S	S	90	50	S	60	S	S	S	S	S
Postsecondary teacher, economics	1,720	1,400	320	S	S	S	1,300	1,070	230	400	310	90	S	S	S
Postsecondary teacher, political science	940	640	300	S	S	S	370	220	150	520	400	120	S	S	S
Postsecondary teacher, sociology	1,000	670	330	70	50	S	400	260	140	540	360	180	S	S	S
Postsecondary teacher, other social sciences	1,360	860	500	220	170	S	810	560	250	300	100	190	S	S	S
Sociologist/anthropologist	350	170	180	S	S	S	110	60	60	180	70	110	S	S	S

TABLE 33. Non-Hispanic, minority employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			American Indian/ Alaska Native			Asian			Black			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Other social scientist	610	280	330	S	S	S	310	130	180	260	150	110	S	S	S
Engineering occupations	26,070	23,470	2,600	250	240	S	23,980	21,640	2,340	1,690	1,470	220	150	120	S
Aerospace/aeronautical/astronautical engineer	880	840	S	S	S	S	800	770	S	60	S	S	S	S	S
Chemical engineer	2,540	2,170	370	S	S	S	2,340	2,010	330	170	140	S	S	S	S
Civil/architectural/sanitary engineer	1,280	1,250	S	S	S	S	1,170	1,150	S	80	80	S	S	S	S
Electrical engineer	7,000	6,220	780	S	S	S	6,670	5,940	740	250	230	S	S	S	S
Materials/metallurgical engineer	550	460	90	S	S	S	530	450	80	S	S	S	S	S	S
Mechanical engineer	3,550	3,240	310	S	S	S	3,450	3,140	310	80	70	S	S	S	S
Postsecondary teacher, engineering	4,760	4,480	270	90	90	S	3,780	3,620	160	850	740	110	S	S	S
Other engineer	5,510	4,810	700	S	S	S	5,240	4,570	660	190	160	S	60	60	S
Science and engineering-related occupations	12,040	8,100	3,940	400	210	190	9,440	6,720	2,720	2,050	1,070	990	150	110	S
Health-related occupation, except postsecondary teacher	3,620	2,050	1,570	140	110	S	2,690	1,510	1,180	720	390	340	70	S	S
Postsecondary teacher, health and related sciences	2,640	1,440	1,210	120	S	120	1,800	1,190	610	710	240	470	S	S	S
S&E manager	3,990	3,250	740	80	S	S	3,460	2,860	610	420	320	100	S	S	S
S&E precollege teacher	490	320	170	50	S	S	240	170	80	200	120	70	S	S	S
S&E technician/technologist	1,180	950	220	S	S	S	1,150	930	220	S	S	S	S	S	S
Other S&E-related occupation	120	100	S	S	S	S	90	60	S	S	S	S	S	S	S
Non-science and engineering occupations	16,030	11,200	4,830	660	450	200	11,400	8,510	2,890	3,910	2,210	1,690	60	S	S
Arts/humanities-related occupation	570	300	280	S	S	S	440	190	250	130	110	S	S	S	S
Management-related occupation	3,390	2,370	1,020	80	S	S	2,790	2,000	790	520	320	200	S	S	S
Non-S&E manager	6,810	5,200	1,600	210	190	S	4,800	3,970	820	1,780	1,020	760	S	S	S
Non-S&E postsecondary teacher	1,910	1,070	850	70	S	S	1,110	690	420	720	320	400	S	S	S
Non-S&E precollege/other teacher	310	130	180	S	S	S	180	60	110	120	70	60	S	S	S
Sales/marketing occupation	1,390	1,070	320	120	S	70	1,150	940	210	120	80	S	S	S	S
Social service-related occupation	590	340	250	60	S	S	260	180	80	270	120	150	S	S	S
Other non-S&E occupation	1,060	730	320	110	80	S	670	470	200	260	180	80	S	S	S
	Percent														
All occupations	100.0	74.1	25.9	100.0	70.4	29.6	100.0	76.7	23.3	100.0	60.4	39.6	100.0	69.5	30.5
Science occupations	100.0	70.1	29.9	100.0	71.4	28.6	100.0	72.1	27.9	100.0	59.0	41.0	100.0	68.7	31.3
Biological, agricultural, and other life scientist	100.0	62.7	37.3	100.0	70.3	29.7	100.0	62.9	37.1	100.0	58.9	41.1	100.0	62.1	37.9
Agricultural/food scientist	100.0	81.0	19.0	100.0	74.9	S	100.0	79.7	20.3	100.0	90.0	S	100.0	S	S
Biochemist/biophysicist	100.0	59.3	40.7	100.0	S	S	100.0	60.1	39.9	100.0	S	59.7	100.0	S	S
Biological scientist	100.0	52.8	47.2	100.0	46.3	53.7	100.0	53.8	46.2	100.0	45.1	54.9	100.0	S	S
Forestry/conservation scientist	100.0	73.6	S	100.0	S	S	100.0	S	S	100.0	S	S	100.0	S	S
Medical scientist	100.0	65.7	34.3	100.0	71.9	S	100.0	66.8	33.2	100.0	55.2	44.8	100.0	S	S
Postsecondary teacher, agricultural/other natural sciences	100.0	82.5	17.5	100.0	100.0	S	100.0	72.4	27.6	100.0	87.8	S	100.0	S	S
Postsecondary teacher, biological sciences	100.0	64.0	36.0	100.0	81.0	S	100.0	63.7	36.3	100.0	58.0	42.0	100.0	93.2	S

TABLE 33. Non-Hispanic, minority employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			American Indian/ Alaska Native			Asian			Black			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Other biological/agricultural/ life scientist	100.0	56.7	43.3	100.0	S	S	100.0	57.4	42.6	100.0	54.3	45.7	100.0	S	S
Computer and information scientist	100.0	83.9	16.1	100.0	100.0	S	100.0	83.7	16.3	100.0	84.2	15.8	100.0	S	S
Computer/information scientist	100.0	83.8	16.2	100.0	100.0	S	100.0	83.3	16.7	100.0	86.6	13.4	100.0	S	S
Postsecondary teacher, computer science	100.0	84.7	15.3	100.0	S	S	100.0	85.6	14.4	100.0	80.1	19.9	100.0	S	S
Mathematical scientist	100.0	75.0	25.0	100.0	S	S	100.0	74.8	25.2	100.0	75.9	24.1	100.0	S	S
Mathematical scientist	100.0	75.5	24.5	100.0	S	S	100.0	76.1	23.9	100.0	71.9	28.1	100.0	S	S
Postsecondary teacher, mathematics/statistics	100.0	74.4	25.6	100.0	S	S	100.0	73.4	26.6	100.0	79.6	20.4	100.0	S	S
Physical scientist	100.0	81.3	18.7	100.0	88.4	11.6	100.0	81.2	18.8	100.0	78.7	21.3	100.0	82.9	S
Chemist, except biochemist	100.0	77.4	22.6	100.0	91.9	S	100.0	76.8	23.2	100.0	81.8	18.2	100.0	S	S
Earth/atmospheric/ocean scientist	100.0	86.7	13.3	100.0	92.0	S	100.0	85.4	14.6	100.0	S	S	100.0	S	S
Physicist/astronomer	100.0	89.9	10.1	100.0	S	S	100.0	91.0	9.0	100.0	85.5	S	100.0	S	S
Postsecondary teacher, chemistry	100.0	78.1	21.9	100.0	100.0	S	100.0	80.0	20.0	100.0	71.2	28.8	100.0	S	S
Postsecondary teacher, physics	100.0	86.4	13.6	100.0	S	S	100.0	86.0	14.0	100.0	83.2	S	100.0	S	S
Postsecondary teacher, other physical sciences	100.0	82.4	17.6	100.0	88.9	S	100.0	83.7	16.3	100.0	S	S	100.0	S	S
Other physical scientist	100.0	75.4	24.6	100.0	S	S	100.0	72.7	27.3	100.0	88.9	S	100.0	S	S
Psychologist	100.0	34.7	65.3	100.0	55.8	44.2	100.0	26.4	73.6	100.0	33.2	66.8	100.0	56.4	43.6
Psychologist	100.0	35.2	64.8	100.0	61.7	38.3	100.0	24.6	75.4	100.0	33.6	66.4	100.0	53.1	S
Postsecondary teacher, psychology	100.0	33.8	66.2	100.0	42.5	57.5	100.0	30.4	69.6	100.0	32.3	67.7	100.0	S	S
Social scientist	100.0	68.9	31.1	100.0	70.1	29.9	100.0	70.9	29.1	100.0	65.1	34.9	100.0	69.0	S
Economist	100.0	77.3	22.7	100.0	100.0	S	100.0	76.0	24.0	100.0	79.2	S	100.0	S	S
Political scientist	100.0	56.7	43.3	100.0	S	S	100.0	60.9	S	100.0	S	S	100.0	S	S
Postsecondary teacher, economics	100.0	81.3	18.7	100.0	S	S	100.0	82.2	17.8	100.0	77.6	22.4	100.0	S	S
Postsecondary teacher, political science	100.0	68.5	31.5	100.0	S	S	100.0	58.4	41.6	100.0	77.2	22.8	100.0	S	S
Postsecondary teacher, sociology	100.0	67.2	32.8	100.0	78.1	S	100.0	65.0	35.0	100.0	67.4	32.6	100.0	S	S
Postsecondary teacher, other social sciences	100.0	63.1	36.9	100.0	78.4	S	100.0	69.2	30.8	100.0	34.6	65.4	100.0	S	S
Sociologist/anthropologist	100.0	49.8	50.2	100.0	S	S	100.0	49.7	50.3	100.0	40.0	60.0	100.0	S	S
Other social scientist	100.0	45.8	54.2	100.0	S	S	100.0	42.1	57.9	100.0	57.1	42.9	100.0	S	S
Engineering occupations	100.0	90.0	10.0	100.0	94.5	S	100.0	90.3	9.7	100.0	87.2	12.8	100.0	79.7	S
Aerospace/aeronautical/astronautical engineer	100.0	95.3	S	100.0	S	S	100.0	96.7	S	100.0	S	S	100.0	S	S
Chemical engineer	100.0	85.6	14.4	100.0	S	S	100.0	85.7	14.3	100.0	84.5	S	100.0	S	S
Civil/architectural/sanitary engineer	100.0	97.6	S	100.0	S	S	100.0	98.2	S	100.0	100.0	S	100.0	S	S
Electrical engineer	100.0	88.9	11.1	100.0	S	S	100.0	88.9	11.1	100.0	93.4	S	100.0	S	S
Materials/metallurgical engineer	100.0	83.3	16.7	100.0	S	S	100.0	84.8	15.2	100.0	S	S	100.0	S	S
Mechanical engineer	100.0	91.3	8.7	100.0	S	S	100.0	91.1	8.9	100.0	93.1	S	100.0	S	S
Postsecondary teacher, engineering	100.0	94.3	5.7	100.0	100.0	S	100.0	95.7	4.3	100.0	87.3	12.7	100.0	S	S
Other engineer	100.0	87.2	12.8	100.0	S	S	100.0	87.3	12.7	100.0	82.0	S	100.0	100.0	S
Science and engineering-related occupations	100.0	67.3	32.7	100.0	51.9	48.1	100.0	71.2	28.8	100.0	52.0	48.0	100.0	75.2	S

TABLE 33. Non-Hispanic, minority employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

Occupation	Total			American Indian/ Alaska Native			Asian			Black			Other/unknown race/ethnicity [a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Health-related occupation, except postsecondary teacher	100.0	56.7	43.3	100.0	82.8	S	100.0	56.1	43.9	100.0	53.4	46.6	100.0	S	S
Postsecondary teacher, health and related sciences	100.0	54.3	45.7	100.0	S	100.0	100.0	66.1	33.9	100.0	33.5	66.5	100.0	S	S
S&E manager	100.0	81.4	18.6	100.0	S	S	100.0	82.5	17.5	100.0	75.9	24.1	100.0	S	S
S&E precollege teacher	100.0	65.1	34.9	100.0	S	S	100.0	68.7	31.3	100.0	62.8	37.2	100.0	S	S
S&E technician/technologist	100.0	80.9	19.1	100.0	S	S	100.0	80.8	19.2	100.0	S	S	100.0	S	S
Other S&E-related occupation	100.0	78.7	S	100.0	S	S	100.0	71.2	S	100.0	S	S	100.0	S	S
Non-science and engineering occupations	100.0	69.9	30.1	100.0	68.9	31.1	100.0	74.6	25.4	100.0	56.7	43.3	100.0	S	S
Arts/humanities-related occupation	100.0	51.6	48.4	100.0	S	S	100.0	43.2	56.8	100.0	82.4	S	100.0	S	S
Management-related occupation	100.0	69.9	30.1	100.0	S	S	100.0	71.6	28.4	100.0	61.3	38.7	100.0	S	S
Non-S&E manager	100.0	76.5	23.5	100.0	91.4	S	100.0	82.8	17.2	100.0	57.4	42.6	100.0	S	S
Non-S&E postsecondary teacher	100.0	55.7	44.3	100.0	S	S	100.0	62.1	37.9	100.0	44.9	55.1	100.0	S	S
Non-S&E precollege/other teacher	100.0	41.9	58.1	100.0	S	S	100.0	35.9	64.1	100.0	54.0	46.0	100.0	S	S
Sales/marketing occupation	100.0	76.8	23.2	100.0	S	61.3	100.0	81.5	18.5	100.0	69.7	S	100.0	S	S
Social service-related occupation	100.0	57.2	42.8	100.0	S	S	100.0	69.8	30.2	100.0	44.9	55.1	100.0	S	S
Other non-S&E occupation	100.0	69.3	30.7	100.0	78.5	S	100.0	70.4	29.6	100.0	69.7	30.3	100.0	S	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity). Detail for "Hispanic" and "White" can be found in Table 32.

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 34. Employed doctoral scientists and engineers, by occupation and citizenship status: 2003

Occupation	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
	Number						
All occupations	593,300	533,960	445,960	88,000	59,340	39,620	19,720
Science occupations	352,960	316,040	271,340	44,700	36,910	24,260	12,660
Biological, agricultural, and other life scientist	104,650	92,600	79,120	13,470	12,050	7,550	4,510
Agricultural/food scientist	8,200	7,110	6,270	840	1,090	790	300
Biochemist/biophysicist	13,920	11,700	9,150	2,550	2,220	1,530	690
Biological scientist	18,390	16,250	14,090	2,160	2,150	1,140	1,010
Forestry/conservation scientist	1,390	1,330	1,260	70	60	S	60
Medical scientist	28,860	24,690	20,070	4,630	4,170	2,740	1,430
Postsecondary teacher, agricultural/other natural sciences	4,410	4,180	3,860	320	230	90	140
Postsecondary teacher, biological sciences	24,280	22,990	20,840	2,150	1,280	910	380
Other biological/agricultural/life scientist	5,200	4,350	3,580	770	850	360	490
Computer and information scientist	34,410	26,970	19,130	7,840	7,440	5,440	2,000
Computer/information scientist	26,770	20,690	14,650	6,040	6,080	4,440	1,640
Postsecondary teacher, computer science	7,640	6,280	4,480	1,800	1,360	1,000	360
Mathematical scientist	22,460	18,970	15,090	3,880	3,490	2,240	1,250
Mathematical scientist	8,830	7,290	5,400	1,890	1,530	880	650
Postsecondary teacher, mathematics/statistics	13,640	11,680	9,690	1,990	1,960	1,360	600
Physical scientist	73,730	65,950	55,300	10,650	7,780	4,670	3,110
Chemist, except biochemist	23,700	20,590	15,960	4,630	3,110	1,890	1,220
Earth/atmospheric/ocean scientist	9,010	8,050	7,130	920	960	500	460
Physicist/astronomer	13,650	11,960	9,960	2,000	1,690	970	720
Postsecondary teacher, chemistry	11,400	10,850	9,820	1,030	550	320	230
Postsecondary teacher, physics	7,810	7,150	5,750	1,400	670	510	160
Postsecondary teacher, other physical sciences	6,020	5,510	5,090	420	510	350	150
Other physical scientist	2,130	1,840	1,580	270	290	120	170
Psychologist	67,110	65,690	62,200	3,480	1,420	1,150	280
Psychologist	49,600	48,820	46,090	2,730	780	630	140
Postsecondary teacher, psychology	17,510	16,870	16,110	750	650	510	130
Social scientist	50,590	45,870	40,500	5,360	4,730	3,210	1,510
Economist	7,720	6,490	5,460	1,030	1,220	730	490
Political scientist	1,450	1,390	1,210	180	60	S	S
Postsecondary teacher, economics	8,410	7,040	5,840	1,200	1,380	950	430
Postsecondary teacher, political science	8,470	8,040	7,180	860	420	360	70
Postsecondary teacher, sociology	7,140	6,660	6,040	620	480	330	150
Postsecondary teacher, other social sciences	9,010	8,230	7,260	970	780	610	170
Sociologist/anthropologist	4,130	4,000	3,810	190	130	80	S
Other social scientist	4,280	4,010	3,700	310	260	140	120
Engineering occupations	77,000	63,340	43,250	20,090	13,660	8,630	5,030
Aerospace/aeronautical/astronautical engineer	4,050	3,840	2,830	1,010	220	190	S
Chemical engineer	7,010	5,800	4,010	1,790	1,200	970	240
Civil/architectural/sanitary engineer	3,780	2,850	1,660	1,190	930	540	390
Electrical engineer	16,550	12,650	8,140	4,510	3,900	2,300	1,600
Materials/metallurgical engineer	1,340	1,080	760	320	260	170	90
Mechanical engineer	8,570	6,700	4,130	2,560	1,870	1,020	860
Postsecondary teacher, engineering	17,380	15,370	10,540	4,840	2,010	1,400	610
Other engineer	18,330	15,060	11,180	3,880	3,270	2,060	1,220
Science and engineering-related occupations	64,650	60,960	50,950	10,010	3,690	2,940	750
Health-related occupation, except postsecondary teacher	17,050	16,170	13,240	2,930	880	660	220
Postsecondary teacher, health and related sciences	17,330	16,460	14,490	1,970	870	740	130
S&E manager	23,060	21,890	18,150	3,740	1,170	1,010	160
S&E precollege teacher	3,240	3,020	2,590	430	220	170	S
S&E technician/technologist	3,560	3,040	2,210	830	520	330	190

TABLE 34. Employed doctoral scientists and engineers, by occupation and citizenship status: 2003

Occupation	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
Other S&E-related occupation	410	380	260	110	S	S	S
Non-science and engineering occupations	98,700	93,620	80,420	13,200	5,080	3,790	1,290
Arts/humanities-related occupation	5,210	4,920	4,490	430	290	230	50
Management-related occupation	15,120	13,800	11,450	2,350	1,330	870	460
Non-S&E manager	44,320	42,800	36,670	6,130	1,520	1,290	230
Non-S&E postsecondary teacher	11,860	11,000	9,640	1,360	860	610	260
Non-S&E precollege/other teacher	2,400	2,280	1,980	300	120	80	S
Sales/marketing occupation	7,810	7,110	5,900	1,210	710	540	170
Social service-related occupation	3,390	3,360	2,940	420	S	S	S
Other non-S&E occupation	8,130	7,950	6,970	970	180	120	60
				Percent			
All occupations	100.0	90.0	75.2	14.8	10.0	6.7	3.3
Science occupations	100.0	89.5	76.9	12.7	10.5	6.9	3.6
Biological, agricultural, and other life scientist	100.0	88.5	75.6	12.9	11.5	7.2	4.3
Agricultural/food scientist	100.0	86.7	76.5	10.2	13.3	9.7	3.7
Biochemist/biophysicist	100.0	84.0	65.7	18.3	16.0	11.0	5.0
Biological scientist	100.0	88.3	76.6	11.7	11.7	6.2	5.5
Forestry/conservation scientist	100.0	95.7	90.7	4.9	4.3	S	4.3
Medical scientist	100.0	85.6	69.5	16.0	14.4	9.5	5.0
Postsecondary teacher, agricultural/other natural sciences	100.0	94.8	87.5	7.3	5.2	2.0	3.2
Postsecondary teacher, biological sciences	100.0	94.7	85.9	8.8	5.3	3.7	1.6
Other biological/agricultural/life scientist	100.0	83.6	68.9	14.8	16.4	6.8	9.5
Computer and information scientist	100.0	78.4	55.6	22.8	21.6	15.8	5.8
Computer/information scientist	100.0	77.3	54.7	22.6	22.7	16.6	6.1
Postsecondary teacher, computer science	100.0	82.2	58.6	23.6	17.8	13.1	4.7
Mathematical scientist	100.0	84.5	67.2	17.3	15.5	10.0	5.6
Mathematical scientist	100.0	82.6	61.2	21.4	17.4	10.0	7.4
Postsecondary teacher, mathematics/statistics	100.0	85.6	71.0	14.6	14.4	10.0	4.4
Physical scientist	100.0	89.4	75.0	14.4	10.6	6.3	4.2
Chemist, except biochemist	100.0	86.9	67.3	19.5	13.1	8.0	5.1
Earth/atmospheric/ocean scientist	100.0	89.4	79.2	10.2	10.6	5.5	5.1
Physicist/astronomer	100.0	87.6	73.0	14.6	12.4	7.1	5.3
Postsecondary teacher, chemistry	100.0	95.2	86.2	9.0	4.8	2.8	2.1
Postsecondary teacher, physics	100.0	91.4	73.5	17.9	8.6	6.5	2.0
Postsecondary teacher, other physical sciences	100.0	91.6	84.6	7.0	8.4	5.9	2.5
Other physical scientist	100.0	86.4	74.0	12.5	13.6	5.7	7.9
Psychologist	100.0	97.9	92.7	5.2	2.1	1.7	0.4
Psychologist	100.0	98.4	92.9	5.5	1.6	1.3	0.3
Postsecondary teacher, psychology	100.0	96.3	92.0	4.3	3.7	2.9	0.8
Social scientist	100.0	90.7	80.1	10.6	9.3	6.3	3.0
Economist	100.0	84.1	70.8	13.4	15.9	9.5	6.4
Political scientist	100.0	96.1	83.6	12.5	3.9	S	S
Postsecondary teacher, economics	100.0	83.6	69.4	14.2	16.4	11.3	5.1
Postsecondary teacher, political science	100.0	95.0	84.8	10.2	5.0	4.2	0.8
Postsecondary teacher, sociology	100.0	93.3	84.6	8.7	6.7	4.6	2.1
Postsecondary teacher, other social sciences	100.0	91.3	80.6	10.8	8.7	6.8	1.9
Sociologist/anthropologist	100.0	96.9	92.2	4.7	3.1	1.9	S
Other social scientist	100.0	93.8	86.6	7.2	6.2	3.3	2.9
Engineering occupations	100.0	82.3	56.2	26.1	17.7	11.2	6.5
Aerospace/aeronautical/astronautical engineer	100.0	94.7	69.9	24.8	5.3	4.7	S
Chemical engineer	100.0	82.8	57.3	25.5	17.2	13.8	3.4
Civil/architectural/sanitary engineer	100.0	75.4	44.0	31.4	24.6	14.3	10.3

TABLE 34. Employed doctoral scientists and engineers, by occupation and citizenship status: 2003

Occupation	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
Electrical engineer	100.0	76.4	49.2	27.3	23.6	13.9	9.7
Materials/metallurgical engineer	100.0	80.8	56.9	23.8	19.2	12.7	6.5
Mechanical engineer	100.0	78.2	48.2	29.9	21.8	11.9	10.0
Postsecondary teacher, engineering	100.0	88.4	60.6	27.8	11.6	8.0	3.5
Other engineer	100.0	82.2	61.0	21.2	17.8	11.2	6.6
Science and engineering-related occupations	100.0	94.3	78.8	15.5	5.7	4.6	1.2
Health-related occupation, except postsecondary teacher	100.0	94.9	77.7	17.2	5.1	3.8	1.3
Postsecondary teacher, health and related sciences	100.0	95.0	83.6	11.4	5.0	4.3	0.8
S&E manager	100.0	94.9	78.7	16.2	5.1	4.4	0.7
S&E precollege teacher	100.0	93.3	80.0	13.3	6.7	5.3	S
S&E technician/technologist	100.0	85.5	62.2	23.3	14.5	9.3	5.2
Other S&E-related occupation	100.0	91.6	64.2	27.4	S	S	S
Non-science and engineering occupations	100.0	94.9	81.5	13.4	5.1	3.8	1.3
Arts/humanities-related occupation	100.0	94.5	86.2	8.3	5.5	4.5	1.0
Management-related occupation	100.0	91.2	75.7	15.5	8.8	5.8	3.0
Non-S&E manager	100.0	96.6	82.7	13.8	3.4	2.9	0.5
Non-S&E postsecondary teacher	100.0	92.7	81.3	11.5	7.3	5.1	2.2
Non-S&E precollege/other teacher	100.0	95.0	82.6	12.4	5.0	3.5	S
Sales/marketing occupation	100.0	91.0	75.5	15.5	9.0	6.9	2.2
Social service-related occupation	100.0	99.2	86.8	12.4	S	S	S
Other non-S&E occupation	100.0	97.8	85.8	12.0	2.2	1.4	0.8

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 35. Employed doctoral scientists and engineers, by occupation and age: 2003

Occupation	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
	Number								
All occupations	593,300	60,020	79,400	88,710	92,610	90,340	84,690	62,350	35,180
Science occupations	352,960	40,700	51,270	53,500	56,120	51,360	46,850	33,940	19,220
Biological, agricultural, and other life scientist	104,650	13,890	17,400	17,120	17,890	14,060	11,860	8,230	4,190
Agricultural/food scientist	8,200	500	1,080	1,460	1,750	1,210	1,090	900	220
Biochemist/biophysicist	13,920	2,910	2,940	2,450	1,830	1,410	1,060	840	470
Biological scientist	18,390	3,310	3,420	3,080	2,600	2,310	1,870	1,210	590
Forestry/conservation scientist	1,390	S	S	210	390	310	170	130	80
Medical scientist	28,860	4,150	5,630	4,420	5,080	4,160	2,970	1,510	930
Postsecondary teacher, agricultural/other natural sciences	4,410	280	320	880	960	570	590	630	190
Postsecondary teacher, biological sciences	24,280	1,490	2,770	3,930	4,500	3,600	3,740	2,820	1,430
Other biological/agricultural/life scientist	5,200	1,200	1,190	690	760	500	370	200	280
Computer and information scientist	34,410	4,530	5,950	6,540	5,540	4,540	3,960	2,580	770
Computer/information scientist	26,770	3,940	4,720	5,510	4,260	3,400	2,780	1,710	440
Postsecondary teacher, computer science	7,640	590	1,230	1,030	1,280	1,130	1,170	870	330
Mathematical scientist	22,460	2,660	3,410	3,340	2,970	3,360	2,660	2,710	1,370
Mathematical scientist	8,830	910	1,500	1,540	1,180	1,300	1,190	920	290
Postsecondary teacher, mathematics/statistics	13,640	1,750	1,910	1,800	1,790	2,060	1,470	1,780	1,080
Physical scientist	73,730	9,530	10,740	11,690	11,530	9,150	8,380	7,450	5,260
Chemist, except biochemist	23,700	3,640	3,960	4,170	3,790	2,970	2,500	1,620	1,060
Earth/atmospheric/ocean scientist	9,010	700	1,090	1,510	1,570	1,510	1,300	700	630
Physicist/astronomer	13,650	2,300	1,880	1,710	2,070	1,550	1,440	1,530	1,180
Postsecondary teacher, chemistry	11,400	1,420	1,550	1,740	1,560	1,190	1,180	1,790	980
Postsecondary teacher, physics	7,810	700	1,160	1,100	1,100	660	1,140	1,060	880
Postsecondary teacher, other physical sciences	6,020	430	740	1,040	1,240	950	650	610	370
Other physical scientist	2,130	340	360	420	200	320	170	140	180
Psychologist	67,110	5,700	7,140	8,440	10,200	12,410	12,160	6,570	4,490
Psychologist	49,600	3,750	4,990	5,920	8,020	9,930	8,880	4,810	3,290
Postsecondary teacher, psychology	17,510	1,950	2,140	2,530	2,180	2,480	3,270	1,760	1,200
Social scientist	50,590	4,380	6,630	6,370	7,990	7,840	7,830	6,410	3,130
Economist	7,720	810	1,300	1,350	1,150	800	1,360	530	420
Political scientist	1,450	90	120	190	170	200	160	290	220
Postsecondary teacher, economics	8,410	810	840	910	1,430	1,510	1,440	1,210	270
Postsecondary teacher, political science	8,470	780	1,300	1,070	1,340	980	1,230	1,120	650
Postsecondary teacher, sociology	7,140	530	880	840	930	1,240	1,040	920	750
Postsecondary teacher, other social sciences	9,010	580	930	920	1,770	1,360	1,330	1,670	450
Sociologist/anthropologist	4,130	250	440	580	640	980	790	260	190
Other social scientist	4,280	540	830	500	560	780	490	410	180
Engineering occupations	77,000	10,340	12,760	13,750	10,540	8,410	8,600	7,220	5,380
Aerospace/aeronautical/astronautical engineer	4,050	360	610	760	470	520	560	450	330
Chemical engineer	7,010	1,090	1,290	1,410	1,060	590	650	510	400
Civil/architectural/sanitary engineer	3,780	300	630	560	470	500	410	510	400
Electrical engineer	16,550	2,690	3,250	3,360	1,960	1,170	1,850	1,280	990
Materials/metallurgical engineer	1,340	100	190	270	150	260	180	100	100
Mechanical engineer	8,570	1,270	1,580	1,630	1,080	830	680	880	600
Postsecondary teacher, engineering	17,380	1,460	2,220	2,960	2,670	2,400	2,250	1,880	1,530
Other engineer	18,330	3,070	2,980	2,800	2,680	2,160	2,020	1,600	1,020
Science and engineering-related occupations	64,650	3,850	6,910	9,390	11,710	11,850	10,760	6,960	3,220
Health-related occupation, except postsecondary teacher	17,050	1,630	2,000	2,120	3,050	2,640	2,770	1,710	1,130
Postsecondary teacher, health and related sciences	17,330	610	1,490	2,070	3,060	3,790	2,980	2,330	1,010
S&E manager	23,060	1,010	2,220	4,000	4,450	4,500	4,060	2,110	690
S&E precollege teacher	3,240	180	370	400	600	620	410	410	240
S&E technician/technologist	3,560	430	750	740	520	230	430	360	100
Other S&E-related occupation	410	S	80	60	S	70	110	S	S

TABLE 35. Employed doctoral scientists and engineers, by occupation and age: 2003

Occupation	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
Non-science and engineering occupations	98,700	5,130	8,460	12,070	14,240	18,710	18,480	14,240	7,370
Arts/humanities-related occupation	5,210	500	480	770	540	660	670	730	860
Management-related occupation	15,120	1,230	1,830	2,020	2,120	2,820	2,610	1,700	780
Non-S&E manager	44,320	960	2,700	5,390	6,910	9,550	9,520	6,950	2,320
Non-S&E postsecondary teacher	11,860	860	1,300	1,100	1,710	2,040	1,980	1,570	1,310
Non-S&E precollege/other teacher	2,400	140	140	380	390	630	230	320	170
Sales/marketing occupation	7,810	750	740	970	970	1,180	1,270	1,240	690
Social service-related occupation	3,390	190	280	300	360	630	870	470	290
Other non-S&E occupation	8,130	460	920	1,110	1,220	1,060	1,310	1,140	910
					Percent				
All occupations	100.0	10.1	13.4	15.0	15.6	15.2	14.3	10.5	5.9
Science occupations	100.0	11.5	14.5	15.2	15.9	14.6	13.3	9.6	5.4
Biological, agricultural, and other life scientist	100.0	13.3	16.6	16.4	17.1	13.4	11.3	7.9	4.0
Agricultural/food scientist	100.0	6.0	13.2	17.8	21.4	14.7	13.3	11.0	2.7
Biochemist/biophysicist	100.0	20.9	21.1	17.6	13.2	10.1	7.6	6.1	3.4
Biological scientist	100.0	18.0	18.6	16.8	14.2	12.6	10.2	6.6	3.2
Forestry/conservation scientist	100.0	S	S	15.5	28.1	22.2	12.3	9.1	5.7
Medical scientist	100.0	14.4	19.5	15.3	17.6	14.4	10.3	5.2	3.2
Postsecondary teacher, agricultural/other natural sciences	100.0	6.4	7.2	19.9	21.7	12.9	13.5	14.2	4.2
Postsecondary teacher, biological sciences	100.0	6.1	11.4	16.2	18.5	14.8	15.4	11.6	5.9
Other biological/agricultural/life scientist	100.0	23.2	22.9	13.2	14.7	9.5	7.1	3.9	5.4
Computer and information scientist	100.0	13.2	17.3	19.0	16.1	13.2	11.5	7.5	2.2
Computer/information scientist	100.0	14.7	17.6	20.6	15.9	12.7	10.4	6.4	1.7
Postsecondary teacher, computer science	100.0	7.7	16.1	13.5	16.8	14.8	15.4	11.4	4.3
Mathematical scientist	100.0	11.8	15.2	14.9	13.2	15.0	11.8	12.0	6.1
Mathematical scientist	100.0	10.3	17.0	17.4	13.4	14.8	13.5	10.4	3.3
Postsecondary teacher, mathematics/statistics	100.0	12.8	14.0	13.2	13.1	15.1	10.8	13.1	7.9
Physical scientist	100.0	12.9	14.6	15.8	15.6	12.4	11.4	10.1	7.1
Chemist, except biochemist	100.0	15.3	16.7	17.6	16.0	12.5	10.5	6.8	4.5
Earth/atmospheric/ocean scientist	100.0	7.8	12.1	16.8	17.5	16.8	14.4	7.7	6.9
Physicist/astronomer	100.0	16.9	13.8	12.5	15.1	11.4	10.5	11.2	8.6
Postsecondary teacher, chemistry	100.0	12.5	13.6	15.2	13.7	10.4	10.4	15.7	8.6
Postsecondary teacher, physics	100.0	9.0	14.9	14.0	14.1	8.5	14.6	13.6	11.2
Postsecondary teacher, other physical sciences	100.0	7.1	12.3	17.2	20.5	15.7	10.8	10.1	6.1
Other physical scientist	100.0	15.7	16.8	19.9	9.4	15.1	8.0	6.6	8.5
Psychologist	100.0	8.5	10.6	12.6	15.2	18.5	18.1	9.8	6.7
Psychologist	100.0	7.6	10.1	11.9	16.2	20.0	17.9	9.7	6.6
Postsecondary teacher, psychology	100.0	11.1	12.2	14.4	12.4	14.2	18.7	10.0	6.8
Social scientist	100.0	8.7	13.1	12.6	15.8	15.5	15.5	12.7	6.2
Economist	100.0	10.5	16.8	17.5	14.9	10.4	17.6	6.9	5.4
Political scientist	100.0	6.3	8.1	13.4	12.1	13.7	10.9	20.3	15.3
Postsecondary teacher, economics	100.0	9.7	9.9	10.8	16.9	17.9	17.1	14.3	3.3
Postsecondary teacher, political science	100.0	9.2	15.4	12.6	15.8	11.5	14.6	13.3	7.7
Postsecondary teacher, sociology	100.0	7.4	12.3	11.8	13.1	17.4	14.5	13.0	10.6
Postsecondary teacher, other social sciences	100.0	6.4	10.3	10.3	19.6	15.1	14.8	18.5	5.0
Sociologist/anthropologist	100.0	6.1	10.7	14.0	15.5	23.7	19.1	6.2	4.6
Other social scientist	100.0	12.6	19.3	11.6	13.0	18.2	11.5	9.5	4.1
Engineering occupations	100.0	13.4	16.6	17.9	13.7	10.9	11.2	9.4	7.0
Aerospace/aeronautical/astronautical engineer	100.0	8.9	15.0	18.8	11.5	12.7	13.7	11.2	8.1
Chemical engineer	100.0	15.5	18.5	20.1	15.1	8.4	9.3	7.3	5.7
Civil/architectural/sanitary engineer	100.0	7.9	16.7	14.8	12.5	13.2	10.8	13.4	10.6
Electrical engineer	100.0	16.3	19.6	20.3	11.9	7.0	11.2	7.7	6.0
Materials/metallurgical engineer	100.0	7.2	14.0	19.9	11.3	19.3	13.5	7.3	7.5
Mechanical engineer	100.0	14.9	18.5	19.0	12.6	9.7	8.0	10.3	7.0
Postsecondary teacher, engineering	100.0	8.4	12.8	17.0	15.4	13.8	12.9	10.8	8.8

TABLE 35. Employed doctoral scientists and engineers, by occupation and age: 2003

Occupation	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
Other engineer	100.0	16.7	16.3	15.3	14.6	11.8	11.0	8.7	5.6
Science and engineering-related occupations	100.0	6.0	10.7	14.5	18.1	18.3	16.6	10.8	5.0
Health-related occupation, except postsecondary teacher	100.0	9.5	11.7	12.4	17.9	15.5	16.2	10.0	6.6
Postsecondary teacher, health and related sciences	100.0	3.5	8.6	11.9	17.6	21.9	17.2	13.4	5.9
S&E manager	100.0	4.4	9.6	17.4	19.3	19.5	17.6	9.2	3.0
S&E precollege teacher	100.0	5.5	11.5	12.4	18.4	19.1	12.8	12.8	7.4
S&E technician/technologist	100.0	12.1	21.0	20.8	14.6	6.5	11.9	10.2	2.8
Other S&E-related occupation	100.0	S	19.8	14.9	S	17.5	27.1	S	S
Non-science and engineering occupations	100.0	5.2	8.6	12.2	14.4	19.0	18.7	14.4	7.5
Arts/humanities-related occupation	100.0	9.6	9.3	14.9	10.3	12.6	12.9	14.0	16.5
Management-related occupation	100.0	8.1	12.1	13.4	14.0	18.7	17.3	11.2	5.2
Non-S&E manager	100.0	2.2	6.1	12.2	15.6	21.6	21.5	15.7	5.2
Non-S&E postsecondary teacher	100.0	7.2	11.0	9.3	14.4	17.2	16.7	13.2	11.1
Non-S&E precollege/other teacher	100.0	5.7	5.9	16.0	16.2	26.2	9.5	13.4	7.1
Sales/marketing occupation	100.0	9.6	9.4	12.4	12.4	15.2	16.2	15.9	8.8
Social service-related occupation	100.0	5.7	8.1	8.8	10.7	18.6	25.6	13.8	8.6
Other non-S&E occupation	100.0	5.7	11.3	13.6	15.0	13.0	16.1	14.1	11.2

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 36. Employed doctoral scientists and engineers, by occupation and years since doctorate: 2003

Occupation	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
				Number			
All occupations	593,300	115,670	107,500	87,230	76,620	68,200	138,080
Science occupations	352,960	76,740	64,980	51,980	45,310	38,780	75,160
Biological, agricultural, and other life scientist	104,650	25,840	20,240	16,210	12,490	10,550	19,320
Agricultural/food scientist	8,200	1,410	1,090	1,730	1,370	820	1,790
Biochemist/biophysicist	13,920	4,310	3,050	1,990	1,350	1,160	2,060
Biological scientist	18,390	6,390	3,640	2,320	1,730	1,820	2,490
Forestry/conservation scientist	1,390	230	140	380	350	80	210
Medical scientist	28,860	7,910	6,400	4,070	3,640	3,030	3,810
Postsecondary teacher, agricultural/other natural sciences	4,410	670	720	750	550	540	1,180
Postsecondary teacher, biological sciences	24,280	2,900	4,230	4,190	3,090	2,740	7,130
Other biological/agricultural/life scientist	5,200	2,020	970	780	420	360	650
Computer and information scientist	34,410	8,410	8,500	5,120	3,690	3,480	5,210
Computer/information scientist	26,770	6,790	6,930	4,000	2,790	2,730	3,530
Postsecondary teacher, computer science	7,640	1,620	1,570	1,130	900	740	1,680
Mathematical scientist	22,460	4,500	3,960	3,340	2,700	2,010	5,950
Mathematical scientist	8,830	1,960	1,780	1,380	1,090	740	1,880
Postsecondary teacher, mathematics/statistics	13,640	2,530	2,190	1,960	1,600	1,270	4,080
Physical scientist	73,730	14,680	12,130	10,700	9,900	7,290	19,030
Chemist, except biochemist	23,700	5,270	4,570	3,450	3,190	2,360	4,850
Earth/atmospheric/ocean scientist	9,010	2,050	1,310	1,090	1,280	1,130	2,150
Physicist/astronomer	13,650	2,930	1,830	1,990	1,930	1,300	3,670
Postsecondary teacher, chemistry	11,400	1,710	1,800	1,580	1,530	850	3,930
Postsecondary teacher, physics	7,810	1,090	1,190	1,270	1,000	680	2,590
Postsecondary teacher, other physical sciences	6,020	960	1,100	1,030	900	680	1,360
Other physical scientist	2,130	660	340	300	70	280	480
Psychologist	67,110	12,090	11,500	10,060	10,000	9,440	14,010
Psychologist	49,600	8,760	8,370	8,000	8,020	7,200	9,240
Postsecondary teacher, psychology	17,510	3,330	3,130	2,060	1,980	2,240	4,770
Social scientist	50,590	11,230	8,650	6,540	6,540	6,000	11,630
Economist	7,720	1,580	1,530	1,110	960	880	1,660
Political scientist	1,450	280	280	130	100	120	540
Postsecondary teacher, economics	8,410	1,350	1,080	1,230	1,270	1,400	2,090
Postsecondary teacher, political science	8,470	1,860	1,450	1,030	920	1,100	2,110
Postsecondary teacher, sociology	7,140	1,590	980	1,010	790	1,010	1,750
Postsecondary teacher, other social sciences	9,010	2,110	1,680	1,130	1,290	740	2,070
Sociologist/anthropologist	4,130	990	730	510	750	500	640
Other social scientist	4,280	1,470	930	400	460	260	760
Engineering occupations	77,000	17,260	16,320	11,370	8,320	6,170	17,560
Aerospace/aeronautical/astronautical engineer	4,050	680	720	630	500	280	1,240
Chemical engineer	7,010	1,220	1,720	1,340	800	470	1,460
Civil/architectural/sanitary engineer	3,780	870	710	630	260	360	930
Electrical engineer	16,550	4,200	4,230	2,210	1,460	1,110	3,330
Materials/metallurgical engineer	1,340	170	310	210	240	80	320
Mechanical engineer	8,570	2,450	1,890	1,080	770	410	1,960
Postsecondary teacher, engineering	17,380	2,880	2,690	2,830	2,670	1,730	4,590
Other engineer	18,330	4,770	4,030	2,430	1,620	1,740	3,730
Science and engineering-related occupations	64,650	9,920	11,800	10,000	9,620	8,630	14,680
Health-related occupation, except postsecondary teacher	17,050	3,450	3,020	2,480	2,150	2,090	3,860
Postsecondary teacher, health and related sciences	17,330	3,050	3,020	3,080	2,460	2,020	3,700
S&E manager	23,060	1,870	4,210	3,500	4,220	3,800	5,470
S&E precollege teacher	3,240	500	550	510	480	470	730
S&E technician/technologist	3,560	970	960	440	240	200	740

TABLE 36. Employed doctoral scientists and engineers, by occupation and years since doctorate: 2003

Occupation	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
Other S&E-related occupation	410	70	S	S	60	50	180
Non-science and engineering occupations	98,700	11,750	14,410	13,880	13,370	14,620	30,670
Arts/humanities-related occupation	5,210	930	790	600	480	570	1,830
Management-related occupation	15,120	2,280	2,680	2,090	2,000	2,420	3,650
Non-S&E manager	44,320	2,580	5,500	6,230	6,640	7,710	15,650
Non-S&E postsecondary teacher	11,860	2,740	1,860	1,530	1,490	1,250	2,980
Non-S&E precollege/other teacher	2,400	340	460	500	440	200	450
Sales/marketing occupation	7,810	990	1,150	820	1,110	1,090	2,640
Social service-related occupation	3,390	750	480	520	480	330	820
Other non-S&E occupation	8,130	1,030	1,390	1,560	690	980	2,480
				Percent			
All occupations	100.0	19.5	18.1	14.7	12.9	11.5	23.3
Science occupations	100.0	21.7	18.4	14.7	12.8	11.0	21.3
Biological, agricultural, and other life scientist	100.0	24.7	19.3	15.5	11.9	10.1	18.5
Agricultural/food scientist	100.0	17.2	13.3	21.1	16.6	10.0	21.8
Biochemist/biophysicist	100.0	31.0	21.9	14.3	9.7	8.3	14.8
Biological scientist	100.0	34.8	19.8	12.6	9.4	9.9	13.5
Forestry/conservation scientist	100.0	16.6	9.9	27.3	25.5	5.6	15.0
Medical scientist	100.0	27.4	22.2	14.1	12.6	10.5	13.2
Postsecondary teacher, agricultural/other natural sciences	100.0	15.1	16.4	17.0	12.4	12.3	26.8
Postsecondary teacher, biological sciences	100.0	12.0	17.4	17.3	12.7	11.3	29.4
Other biological/agricultural/life scientist	100.0	38.8	18.7	15.0	8.0	6.9	12.5
Computer and information scientist	100.0	24.4	24.7	14.9	10.7	10.1	15.2
Computer/information scientist	100.0	25.3	25.9	14.9	10.4	10.2	13.2
Postsecondary teacher, computer science	100.0	21.2	20.5	14.7	11.8	9.7	22.0
Mathematical scientist	100.0	20.0	17.6	14.9	12.0	9.0	26.5
Mathematical scientist	100.0	22.2	20.1	15.6	12.4	8.4	21.3
Postsecondary teacher, mathematics/statistics	100.0	18.6	16.0	14.4	11.8	9.3	29.9
Physical scientist	100.0	19.9	16.5	14.5	13.4	9.9	25.8
Chemist, except biochemist	100.0	22.2	19.3	14.6	13.5	10.0	20.5
Earth/atmospheric/ocean scientist	100.0	22.7	14.5	12.1	14.2	12.6	23.9
Physicist/astronomer	100.0	21.5	13.4	14.6	14.1	9.6	26.9
Postsecondary teacher, chemistry	100.0	15.0	15.8	13.8	13.4	7.5	34.5
Postsecondary teacher, physics	100.0	13.9	15.2	16.2	12.8	8.8	33.1
Postsecondary teacher, other physical sciences	100.0	16.0	18.2	17.0	14.9	11.3	22.6
Other physical scientist	100.0	31.1	16.1	14.0	3.5	12.9	22.4
Psychologist	100.0	18.0	17.1	15.0	14.9	14.1	20.9
Psychologist	100.0	17.7	16.9	16.1	16.2	14.5	18.6
Postsecondary teacher, psychology	100.0	19.0	17.9	11.8	11.3	12.8	27.2
Social scientist	100.0	22.2	17.1	12.9	12.9	11.9	23.0
Economist	100.0	20.5	19.8	14.4	12.5	11.4	21.5
Political scientist	100.0	19.3	19.3	8.9	7.2	8.0	37.3
Postsecondary teacher, economics	100.0	16.1	12.8	14.6	15.1	16.6	24.9
Postsecondary teacher, political science	100.0	21.9	17.1	12.2	10.9	13.0	25.0
Postsecondary teacher, sociology	100.0	22.3	13.7	14.2	11.1	14.1	24.6
Postsecondary teacher, other social sciences	100.0	23.4	18.6	12.5	14.3	8.3	22.9
Sociologist/anthropologist	100.0	24.0	17.7	12.3	18.3	12.1	15.6
Other social scientist	100.0	34.4	21.6	9.3	10.6	6.1	17.8
Engineering occupations	100.0	22.4	21.2	14.8	10.8	8.0	22.8
Aerospace/aeronautical/astronautical engineer	100.0	16.9	17.8	15.7	12.3	6.8	30.5
Chemical engineer	100.0	17.5	24.6	19.1	11.4	6.7	20.8
Civil/architectural/sanitary engineer	100.0	23.1	18.9	16.8	6.9	9.5	24.7

TABLE 36. Employed doctoral scientists and engineers, by occupation and years since doctorate: 2003

Occupation	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
Electrical engineer	100.0	25.4	25.6	13.4	8.8	6.7	20.1
Materials/metallurgical engineer	100.0	12.7	23.3	15.8	17.9	6.3	24.0
Mechanical engineer	100.0	28.6	22.1	12.6	9.0	4.8	22.9
Postsecondary teacher, engineering	100.0	16.6	15.5	16.3	15.3	10.0	26.4
Other engineer	100.0	26.0	22.0	13.3	8.8	9.5	20.3
Science and engineering-related occupations	100.0	15.3	18.2	15.5	14.9	13.4	22.7
Health-related occupation, except postsecondary teacher	100.0	20.2	17.7	14.5	12.6	12.2	22.6
Postsecondary teacher, health and related sciences	100.0	17.6	17.4	17.8	14.2	11.7	21.3
S&E manager	100.0	8.1	18.3	15.2	18.3	16.5	23.7
S&E precollege teacher	100.0	15.4	16.8	15.7	14.8	14.6	22.6
S&E technician/technologist	100.0	27.4	27.0	12.3	6.9	5.6	20.7
Other S&E-related occupation	100.0	18.0	S	S	14.0	13.4	44.5
Non-science and engineering occupations	100.0	11.9	14.6	14.1	13.5	14.8	31.1
Arts/humanities-related occupation	100.0	17.9	15.1	11.6	9.2	11.0	35.2
Management-related occupation	100.0	15.1	17.8	13.8	13.3	16.0	24.1
Non-S&E manager	100.0	5.8	12.4	14.1	15.0	17.4	35.3
Non-S&E postsecondary teacher	100.0	23.1	15.7	12.9	12.5	10.6	25.1
Non-S&E precollege/other teacher	100.0	14.3	19.3	20.8	18.4	8.5	18.7
Sales/marketing occupation	100.0	12.7	14.7	10.5	14.2	14.0	33.8
Social service-related occupation	100.0	22.2	14.2	15.3	14.2	9.8	24.3
Other non-S&E occupation	100.0	12.7	17.1	19.2	8.5	12.0	30.5

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 37. Employed doctoral scientists and engineers, by occupation and sector of employment: 2003

Occupation	Total	Universities and 4-year colleges	Other educational institutions	Private-for-profit	Private not-for-profit	Federal government	State and local government	Self-employed	Other
					Number				
All occupations	593,300	259,380	20,170	187,570	29,650	41,090	15,970	36,130	3,340
Science occupations	352,960	181,190	11,830	82,770	16,220	26,600	9,410	23,000	1,950
Biological, agricultural, and other life scientist	104,650	62,680	2,520	20,840	4,350	10,180	2,160	1,680	220
Agricultural/food scientist	8,200	3,090	S	3,060	230	1,400	160	240	S
Biochemist/biophysicist	13,920	7,030	S	4,930	580	1,130	60	180	S
Biological scientist	18,390	9,000	100	3,380	1,200	3,440	840	370	60
Forestry/conservation scientist	1,390	290	S	S	170	740	70	60	S
Medical scientist	28,860	15,040	S	7,720	1,740	2,880	810	590	70
Postsecondary teacher, agricultural/ other natural sciences	4,410	4,310	100	S	S	S	S	S	S
Postsecondary teacher, biological sciences	24,280	21,950	2,290	S	S	S	S	S	S
Other biological/agricultural/life scientist	5,200	1,970	S	1,730	420	590	190	250	S
Computer and information scientist	34,410	9,820	300	20,850	990	970	430	990	70
Computer/information scientist	26,770	2,430	90	20,850	990	950	430	960	70
Postsecondary teacher, computer science	7,640	7,390	210	S	S	S	S	S	S
Mathematical scientist	22,460	14,920	790	3,700	840	1,520	230	420	S
Mathematical scientist	8,830	2,070	S	3,700	840	1,520	230	400	S
Postsecondary teacher, mathematics/statistics	13,640	12,850	760	S	S	S	S	S	S
Physical scientist	73,730	33,180	2,570	24,190	2,160	8,210	1,580	1,500	350
Chemist, except biochemist	23,700	2,910	S	16,710	690	1,870	600	780	90
Earth/atmospheric/ocean scientist	9,010	2,750	S	2,390	440	2,650	440	300	S
Physicist/astronomer	13,650	4,440	S	4,190	880	3,240	350	260	260
Postsecondary teacher, chemistry	11,400	9,830	1,520	S	S	S	S	S	S
Postsecondary teacher, physics	7,810	7,080	740	S	S	S	S	S	S
Postsecondary teacher, other physical sciences	6,020	5,820	200	S	S	S	S	S	S
Other physical scientist	2,130	340	S	870	150	460	180	130	S
Psychologist	67,110	23,680	4,170	9,700	5,500	2,350	3,880	17,540	300
Psychologist	49,600	7,430	3,060	9,650	5,440	2,350	3,850	17,520	300
Postsecondary teacher, psychology	17,510	16,250	1,110	S	60	S	S	S	S
Social scientist	50,590	36,910	1,480	3,490	2,370	3,370	1,130	860	980
Economist	7,720	1,540	S	1,820	630	2,170	230	400	920
Political scientist	1,450	660	S	200	170	200	100	100	S
Postsecondary teacher, economics	8,410	8,040	310	S	S	S	S	S	S
Postsecondary teacher, political science	8,470	8,080	360	S	S	S	S	S	S
Postsecondary teacher, sociology	7,140	6,800	330	S	S	S	S	S	S
Postsecondary teacher, other social sciences	9,010	8,660	340	S	S	S	S	S	S
Sociologist/anthropologist	4,130	1,850	S	520	700	520	290	200	S
Other social scientist	4,280	1,280	90	920	840	470	490	150	S
Engineering occupations	77,000	22,920	340	41,990	1,910	5,590	1,250	2,670	330
Aerospace/aeronautical/astronautical engineer	4,050	160	S	2,510	330	900	60	110	S
Chemical engineer	7,010	330	S	5,890	220	290	S	180	S
Civil/architectural/sanitary engineer	3,780	450	S	2,130	110	310	460	270	50
Electrical engineer	16,550	1,560	S	12,280	540	1,090	130	900	S
Materials/metallurgical engineer	1,340	180	S	930	S	120	S	110	S
Mechanical engineer	8,570	790	S	6,520	180	500	140	380	S
Postsecondary teacher, engineering	17,380	17,040	290	S	S	S	S	S	S
Other engineer	18,330	2,400	S	11,710	540	2,380	400	730	150
Science and engineering-related occupations	64,650	26,460	3,770	21,810	3,980	3,940	2,000	2,380	300
Health-related occupation, except postsecondary teacher	17,050	5,490	280	5,910	1,620	1,320	540	1,800	100
Postsecondary teacher, health and related sciences	17,330	17,070	160	50	60	S	S	S	S
S&E manager	23,060	3,290	130	13,400	2,060	2,410	1,270	350	150

TABLE 37. Employed doctoral scientists and engineers, by occupation and sector of employment: 2003

Occupation	Total	Universities and 4-year colleges	Other educational institutions	Private-for-profit	Private not-for-profit	Federal government	State and local government	Self-employed	Other
S&E precollege teacher	3,240	S	3,180	S	S	S	S	S	S
S&E technician/technologist	3,560	620	S	2,140	240	180	110	200	50
Other S&E-related occupation	410	S	S	310	S	S	60	S	S
Non-science and engineering occupations	98,700	28,820	4,230	41,000	7,540	4,970	3,310	8,070	770
Arts/humanities-related occupation	5,210	570	S	1,950	600	120	100	1,860	S
Management-related occupation	15,120	1,440	180	8,120	1,270	1,310	860	1,690	260
Non-S&E manager	44,320	13,910	1,640	20,150	3,770	2,700	1,240	560	350
Non-S&E postsecondary teacher	11,860	11,330	500	S	S	S	S	S	S
Non-S&E precollege/other teacher	2,400	220	1,350	210	160	60	60	320	S
Sales/marketing occupation	7,810	80	S	5,910	110	70	60	1,560	S
Social service-related occupation	3,390	750	400	370	1,000	120	260	460	S
Other non-S&E occupation	8,130	510	140	4,260	580	350	560	1,600	120
					Percent				
All occupations	100.0	43.7	3.4	31.6	5.0	6.9	2.7	6.1	0.6
Science occupations	100.0	51.3	3.4	23.4	4.6	7.5	2.7	6.5	0.6
Biological, agricultural, and other life scientist	100.0	59.9	2.4	19.9	4.2	9.7	2.1	1.6	0.2
Agricultural/food scientist	100.0	37.6	S	37.3	2.8	17.0	2.0	2.9	S
Biochemist/biophysicist	100.0	50.5	S	35.4	4.2	8.1	0.4	1.3	S
Biological scientist	100.0	49.0	0.5	18.4	6.5	18.7	4.6	2.0	0.3
Forestry/conservation scientist	100.0	20.6	S	S	12.3	53.2	5.0	4.3	S
Medical scientist	100.0	52.1	S	26.8	6.0	10.0	2.8	2.1	0.2
Postsecondary teacher, agricultural/ other natural sciences	100.0	97.7	2.3	S	S	S	S	S	S
Postsecondary teacher, biological sciences	100.0	90.4	9.4	S	S	S	S	S	S
Other biological/agricultural/life scientist	100.0	37.9	S	33.3	8.2	11.3	3.7	4.7	S
Computer and information scientist	100.0	28.5	0.9	60.6	2.9	2.8	1.2	2.9	0.2
Computer/information scientist	100.0	9.1	0.3	77.9	3.7	3.6	1.6	3.6	0.2
Postsecondary teacher, computer science	100.0	96.7	2.7	S	S	S	S	S	S
Mathematical scientist	100.0	66.4	3.5	16.5	3.8	6.7	1.0	1.9	S
Mathematical scientist	100.0	23.4	S	41.9	9.5	17.2	2.6	4.5	S
Postsecondary teacher, mathematics/statistics	100.0	94.2	5.6	S	S	S	S	S	S
Physical scientist	100.0	45.0	3.5	32.8	2.9	11.1	2.1	2.0	0.5
Chemist, except biochemist	100.0	12.3	S	70.5	2.9	7.9	2.5	3.3	0.4
Earth/atmospheric/ocean scientist	100.0	30.5	S	26.6	4.8	29.4	4.9	3.4	S
Physicist/astronomer	100.0	32.5	S	30.7	6.5	23.7	2.6	1.9	1.9
Postsecondary teacher, chemistry	100.0	86.2	13.3	S	S	S	S	S	S
Postsecondary teacher, physics	100.0	90.6	9.4	S	S	S	S	S	S
Postsecondary teacher, other physical sciences	100.0	96.7	3.3	S	S	S	S	S	S
Other physical scientist	100.0	16.2	S	40.8	6.9	21.4	8.6	6.1	S
Psychologist	100.0	35.3	6.2	14.5	8.2	3.5	5.8	26.1	0.4
Psychologist	100.0	15.0	6.2	19.5	11.0	4.7	7.8	35.3	0.6
Postsecondary teacher, psychology	100.0	92.8	6.3	S	0.4	S	S	S	S
Social scientist	100.0	73.0	2.9	6.9	4.7	6.7	2.2	1.7	1.9
Economist	100.0	19.9	S	23.7	8.2	28.2	2.9	5.2	11.9
Political scientist	100.0	45.7	S	13.8	11.8	13.5	6.6	6.6	S
Postsecondary teacher, economics	100.0	95.5	3.7	S	S	S	S	S	S
Postsecondary teacher, political science	100.0	95.4	4.2	S	S	S	S	S	S
Postsecondary teacher, sociology	100.0	95.3	4.7	S	S	S	S	S	S
Postsecondary teacher, other social sciences	100.0	96.1	3.8	S	S	S	S	S	S
Sociologist/anthropologist	100.0	44.9	S	12.5	16.9	12.7	7.1	4.7	S
Other social scientist	100.0	29.9	2.1	21.6	19.5	11.1	11.3	3.5	S

TABLE 37. Employed doctoral scientists and engineers, by occupation and sector of employment: 2003

Occupation	Total	Universities and 4-year colleges	Other educational institutions	Private-for-profit	Private not-for-profit	Federal government	State and local government	Self-employed	Other
Engineering occupations	100.0	29.8	0.4	54.5	2.5	7.3	1.6	3.5	0.4
Aerospace/aeronautical/astronautical engineer	100.0	4.0	S	61.9	8.0	22.1	1.4	2.7	S
Chemical engineer	100.0	4.7	S	84.1	3.2	4.1	S	2.6	S
Civil/architectural/sanitary engineer	100.0	11.9	S	56.4	2.8	8.2	12.1	7.2	1.4
Electrical engineer	100.0	9.5	S	74.2	3.2	6.6	0.8	5.4	S
Materials/metallurgical engineer	100.0	13.4	S	69.4	S	9.0	S	8.2	S
Mechanical engineer	100.0	9.3	S	76.1	2.1	5.9	1.6	4.4	S
Postsecondary teacher, engineering	100.0	98.0	1.6	S	S	S	S	S	S
Other engineer	100.0	13.1	S	63.9	2.9	13.0	2.2	4.0	0.8
Science and engineering-related occupations	100.0	40.9	5.8	33.7	6.2	6.1	3.1	3.7	0.5
Health-related occupation, except postsecondary teacher	100.0	32.2	1.6	34.7	9.5	7.7	3.2	10.5	0.6
Postsecondary teacher, health and related sciences	100.0	98.5	0.9	0.3	0.4	S	S	S	S
S&E manager	100.0	14.3	0.6	58.1	8.9	10.5	5.5	1.5	0.6
S&E precollege teacher	100.0	S	98.3	S	S	S	S	S	S
S&E technician/technologist	100.0	17.3	S	60.0	6.8	4.9	3.2	5.6	1.4
Other S&E-related occupation	100.0	S	S	76.0	S	S	14.2	S	S
Non-science and engineering occupations	100.0	29.2	4.3	41.5	7.6	5.0	3.3	8.2	0.8
Arts/humanities-related occupation	100.0	11.0	S	37.4	11.6	2.3	1.9	35.8	S
Management-related occupation	100.0	9.5	1.2	53.7	8.4	8.6	5.7	11.2	1.8
Non-S&E manager	100.0	31.4	3.7	45.5	8.5	6.1	2.8	1.3	0.8
Non-S&E postsecondary teacher	100.0	95.5	4.2	S	S	S	S	S	S
Non-S&E precollege/other teacher	100.0	9.3	56.3	8.9	6.8	2.6	2.4	13.3	S
Sales/marketing occupation	100.0	1.0	S	75.7	1.5	0.9	0.8	19.9	S
Social service-related occupation	100.0	22.0	11.8	10.9	29.5	3.6	7.7	13.6	S
Other non-S&E occupation	100.0	6.2	1.8	52.4	7.2	4.3	6.9	19.7	1.4

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 38. Employed doctoral scientists and engineers, by sector of employment, broad occupation, and sex: 2003

Employment sector and occupation	Total	Male	Female	Total	Male	Female
	Number			Percent		
All sectors	593,300	432,150	161,150	100.0	72.8	27.2
Science occupations	352,960	248,120	104,840	100.0	70.3	29.7
Biological, agricultural, and other life scientist	104,650	71,100	33,550	100.0	67.9	32.1
Computer and information scientist	34,410	29,750	4,660	100.0	86.5	13.5
Mathematical scientist	22,460	17,840	4,620	100.0	79.4	20.6
Physical scientist	73,730	62,730	11,010	100.0	85.1	14.9
Psychologist	67,110	32,320	34,790	100.0	48.2	51.8
Social scientist	50,590	34,370	16,220	100.0	67.9	32.1
Engineering occupations	77,000	70,040	6,960	100.0	91.0	9.0
S&E-related occupations	64,650	43,700	20,940	100.0	67.6	32.4
Non-S&E occupations	98,700	70,290	28,410	100.0	71.2	28.8
Universities and 4-year colleges	259,380	182,090	77,290	100.0	70.2	29.8
Science occupations	181,190	126,940	54,240	100.0	70.1	29.9
Biological, agricultural, and other life scientist	62,680	41,940	20,740	100.0	66.9	33.1
Computer and information scientist	9,820	8,470	1,350	100.0	86.3	13.7
Mathematical scientist	14,920	11,700	3,220	100.0	78.4	21.6
Physical scientist	33,180	28,010	5,170	100.0	84.4	15.6
Psychologist	23,680	11,660	12,020	100.0	49.2	50.8
Social scientist	36,910	25,160	11,740	100.0	68.2	31.8
Engineering occupations	22,920	20,720	2,200	100.0	90.4	9.6
S&E-related occupations	26,460	14,970	11,490	100.0	56.6	43.4
Non-S&E occupations	28,820	19,470	9,360	100.0	67.5	32.5
Other educational institutions	20,170	11,780	8,390	100.0	58.4	41.6
Science occupations	11,830	7,270	4,560	100.0	61.5	38.5
Biological, agricultural, and other life scientist	2,520	1,540	980	100.0	61.3	38.7
Computer and information scientist	300	260	S	100.0	86.4	S
Mathematical scientist	790	640	150	100.0	81.1	18.9
Physical scientist	2,570	2,160	410	100.0	84.2	15.8
Psychologist	4,170	1,660	2,510	100.0	39.9	60.1
Social scientist	1,480	1,000	480	100.0	67.6	32.4
Engineering occupations	340	290	50	100.0	85.0	15.0
S&E-related occupations	3,770	2,260	1,520	100.0	59.8	40.2
Non-S&E occupations	4,230	1,960	2,270	100.0	46.4	53.6
Private-for-profit	187,570	153,260	34,310	100.0	81.7	18.3
Science occupations	82,770	64,250	18,520	100.0	77.6	22.4
Biological, agricultural, and other life scientist	20,840	14,810	6,040	100.0	71.0	29.0
Computer and information scientist	20,850	18,090	2,760	100.0	86.8	13.2
Mathematical scientist	3,700	3,050	650	100.0	82.5	17.5
Physical scientist	24,190	20,640	3,550	100.0	85.3	14.7
Psychologist	9,700	5,200	4,500	100.0	53.6	46.4
Social scientist	3,490	2,470	1,020	100.0	70.8	29.2
Engineering occupations	41,990	38,330	3,660	100.0	91.3	8.7
S&E-related occupations	21,810	17,900	3,920	100.0	82.0	18.0
Non-S&E occupations	41,000	32,790	8,210	100.0	80.0	20.0
Private not-for-profit	29,650	18,800	10,850	100.0	63.4	36.6
Science occupations	16,220	10,150	6,070	100.0	62.6	37.4
Biological, agricultural, and other life scientist	4,350	2,990	1,360	100.0	68.7	31.3
Computer and information scientist	990	880	120	100.0	88.3	11.7
Mathematical scientist	840	650	190	100.0	77.1	22.9
Physical scientist	2,160	1,800	350	100.0	83.6	16.4
Psychologist	5,500	2,590	2,910	100.0	47.1	52.9
Social scientist	2,370	1,240	1,130	100.0	52.3	47.7
Engineering occupations	1,910	1,800	110	100.0	94.1	5.9
S&E-related occupations	3,980	2,560	1,420	100.0	64.4	35.6
Non-S&E occupations	7,540	4,290	3,250	100.0	56.9	43.1

TABLE 38. Employed doctoral scientists and engineers, by sector of employment, broad occupation, and sex: 2003

Employment sector and occupation	Total	Male	Female	Total	Male	Female
	Number			Percent		
Federal government	41,090	31,380	9,720	100.0	76.4	23.6
Science occupations	26,600	20,170	6,430	100.0	75.8	24.2
Biological, agricultural, and other life scientist	10,180	6,940	3,240	100.0	68.2	31.8
Computer and information scientist	970	860	100	100.0	89.2	10.8
Mathematical scientist	1,520	1,290	220	100.0	85.3	14.7
Physical scientist	8,210	7,180	1,030	100.0	87.4	12.6
Psychologist	2,350	1,450	900	100.0	61.6	38.4
Social scientist	3,370	2,440	920	100.0	72.6	27.4
Engineering occupations	5,590	4,910	670	100.0	87.9	12.1
S&E-related occupations	3,940	2,780	1,160	100.0	70.6	29.4
Non-S&E occupations	4,970	3,510	1,450	100.0	70.7	29.3
State and local government	15,970	11,090	4,880	100.0	69.5	30.5
Science occupations	9,410	6,400	3,000	100.0	68.1	31.9
Biological, agricultural, and other life scientist	2,160	1,590	570	100.0	73.6	26.4
Computer and information scientist	430	300	120	100.0	71.2	28.8
Mathematical scientist	230	170	60	100.0	74.0	26.0
Physical scientist	1,580	1,310	270	100.0	82.8	17.2
Psychologist	3,880	2,350	1,530	100.0	60.5	39.5
Social scientist	1,130	680	450	100.0	60.4	39.6
Engineering occupations	1,250	1,120	130	100.0	89.5	10.5
S&E-related occupations	2,000	1,430	570	100.0	71.5	28.5
Non-S&E occupations	3,310	2,130	1,170	100.0	64.5	35.5
Self-employed	36,130	21,310	14,820	100.0	59.0	41.0
Science occupations	23,000	11,540	11,460	100.0	50.2	49.8
Biological, agricultural, and other life scientist	1,680	1,150	530	100.0	68.4	31.6
Computer and information scientist	990	830	160	100.0	84.1	15.9
Mathematical scientist	420	300	120	100.0	70.7	29.3
Physical scientist	1,500	1,330	180	100.0	88.3	11.7
Psychologist	17,540	7,310	10,230	100.0	41.7	58.3
Social scientist	860	620	240	100.0	72.0	28.0
Engineering occupations	2,670	2,600	70	100.0	97.2	2.8
S&E-related occupations	2,380	1,590	790	100.0	66.7	33.3
Non-S&E occupations	8,070	5,580	2,490	100.0	69.1	30.9
Other	3,340	2,440	900	100.0	73.0	27.0
Science occupations	1,950	1,390	560	100.0	71.5	28.5
Biological, agricultural, and other life scientist	220	140	80	100.0	62.7	37.3
Computer and information scientist	70	50	S	100.0	84.0	S
Mathematical scientist	S	S	S	S	S	S
Physical scientist	350	310	S	100.0	88.4	S
Psychologist	300	110	190	100.0	36.5	63.5
Social scientist	980	750	230	100.0	76.5	23.5
Engineering occupations	330	280	50	100.0	84.6	15.4
S&E-related occupations	300	220	80	100.0	72.7	27.3
Non-S&E occupations	770	550	210	100.0	72.2	27.8

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 39. Employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
	Number						
All sectors	593,300	3,950	98,170	17,480	15,650	457,040	1,010
Science occupations	352,960	2,640	53,350	9,830	10,360	276,120	650
Biological, agricultural, and other life scientist	104,650	750	18,630	2,370	2,990	79,700	210
Computer and information scientist	34,410	170	11,700	720	650	21,130	S
Mathematical scientist	22,460	S	4,750	600	630	16,460	S
Physical scientist	73,730	460	11,980	1,150	1,840	58,140	160
Psychologist	67,110	750	1,770	2,540	2,530	59,390	140
Social scientist	50,590	490	4,520	2,460	1,720	41,310	90
Engineering occupations	77,000	250	23,980	1,690	1,660	49,280	150
S&E-related occupations	64,650	400	9,440	2,050	1,260	51,340	150
Non-science and engineering occupations	98,700	660	11,400	3,910	2,370	80,300	60
Universities and 4-year colleges	259,380	1,790	34,210	9,640	8,510	204,840	390
Science occupations	181,190	1,360	23,720	5,880	6,240	143,680	310
Biological, agricultural, and other life scientist	62,680	380	10,450	1,560	2,150	48,060	70
Computer and information scientist	9,820	50	2,370	270	220	6,900	S
Mathematical scientist	14,920	S	2,520	430	470	11,470	S
Physical scientist	33,180	250	4,320	540	980	27,010	90
Psychologist	23,680	260	750	1,160	1,160	20,260	80
Social scientist	36,910	390	3,320	1,910	1,260	29,980	S
Engineering occupations	22,920	110	5,220	940	750	15,860	S
S&E-related occupations	26,460	170	3,310	1,030	620	21,300	S
Non-S&E occupations	28,820	150	1,960	1,790	900	24,000	S
Other educational institutions	20,170	130	1,600	1,140	680	16,600	S
Science occupations	11,830	50	980	590	400	9,800	S
Biological, agricultural, and other life scientist	2,520	S	270	120	S	2,080	S
Computer and information scientist	300	S	70	S	S	180	S
Mathematical scientist	790	S	300	S	S	470	S
Physical scientist	2,570	S	140	60	70	2,300	S
Psychologist	4,170	S	120	270	230	3,530	S
Social scientist	1,480	S	90	120	S	1,240	S
Engineering occupations	340	S	120	S	S	220	S
S&E-related occupations	3,770	50	260	250	70	3,140	S
Non-S&E occupations	4,230	S	230	290	210	3,450	S
Private-for-profit	187,570	950	49,700	3,270	3,570	129,810	270
Science occupations	82,770	450	21,130	1,450	1,720	57,840	180
Biological, agricultural, and other life scientist	20,840	110	5,110	330	470	14,760	70
Computer and information scientist	20,850	70	8,470	330	360	11,580	S
Mathematical scientist	3,700	S	1,250	60	100	2,290	S
Physical scientist	24,190	110	5,750	350	430	17,520	S
Psychologist	9,700	90	220	290	300	8,770	S
Social scientist	3,490	50	350	90	60	2,910	S
Engineering occupations	41,990	100	16,640	540	650	24,030	S
S&E-related occupations	21,810	110	4,490	420	430	16,300	60
Non-S&E occupations	41,000	300	7,430	860	770	31,640	S
Private not-for-profit	29,650	230	3,540	870	600	24,330	80
Science occupations	16,220	100	2,280	400	360	13,020	50
Biological, agricultural, and other life scientist	4,350	S	910	S	S	3,340	S
Computer and information scientist	990	S	210	70	S	680	S
Mathematical scientist	840	S	120	S	S	710	S
Physical scientist	2,160	S	490	S	S	1,630	S
Psychologist	5,500	S	300	200	170	4,780	S
Social scientist	2,370	S	250	80	120	1,880	S

TABLE 39. Employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Engineering occupations	1,910	S	480	S	60	1,340	S
S&E-related occupations	3,980	50	320	120	S	3,450	S
Non-S&E occupations	7,540	70	460	340	150	6,520	S
Federal government	41,090	320	4,900	1,300	900	33,570	110
Science occupations	26,600	300	3,460	800	680	21,290	80
Biological, agricultural, and other life scientist	10,180	140	1,600	240	200	7,980	S
Computer and information scientist	970	S	230	S	S	690	S
Mathematical scientist	1,520	S	390	80	S	1,030	S
Physical scientist	8,210	70	960	130	250	6,760	S
Psychologist	2,350	90	S	140	100	1,980	S
Social scientist	3,370	S	240	160	110	2,840	S
Engineering occupations	5,590	S	960	110	110	4,360	S
S&E-related occupations	3,940	S	230	120	60	3,540	S
Non-S&E occupations	4,970	S	250	280	S	4,390	S
State and local government	15,970	140	1,870	680	420	12,770	90
Science occupations	9,410	80	920	390	290	7,700	S
Biological, agricultural, and other life scientist	2,160	S	190	S	60	1,830	S
Computer and information scientist	430	S	160	S	S	260	S
Mathematical scientist	230	S	90	S	S	140	S
Physical scientist	1,580	S	190	S	70	1,250	S
Psychologist	3,880	S	190	230	120	3,300	S
Social scientist	1,130	S	100	70	S	920	S
Engineering occupations	1,250	S	340	S	S	860	S
S&E-related occupations	2,000	S	400	90	S	1,430	S
Non-S&E occupations	3,310	S	220	150	90	2,780	S
Self-employed	36,130	380	1,750	530	820	32,600	S
Science occupations	23,000	300	550	290	570	21,290	S
Biological, agricultural, and other life scientist	1,680	S	80	S	S	1,510	S
Computer and information scientist	990	S	150	S	S	810	S
Mathematical scientist	420	S	S	S	S	350	S
Physical scientist	1,500	S	130	S	S	1,330	S
Psychologist	17,540	220	150	250	450	16,470	S
Social scientist	860	S	S	S	S	820	S
Engineering occupations	2,670	S	190	S	70	2,320	S
S&E-related occupations	2,380	S	370	S	S	1,950	S
Non-S&E occupations	8,070	50	640	170	160	7,040	S
Other	3,340	S	600	60	150	2,520	S
Science occupations	1,950	S	300	S	100	1,510	S
Biological, agricultural, and other life scientist	220	S	S	S	S	150	S
Computer and information scientist	70	S	S	S	S	S	S
Mathematical scientist	S	S	S	S	S	S	S
Physical scientist	350	S	S	S	S	340	S
Psychologist	300	S	S	S	S	290	S
Social scientist	980	S	180	S	80	720	S
Engineering occupations	330	S	S	S	S	290	S
S&E-related occupations	300	S	60	S	S	230	S
Non-S&E occupations	770	S	200	S	50	480	S
				Percent			
All sectors	100.0	0.7	16.5	2.9	2.6	77.0	0.2
Science occupations	100.0	0.7	15.1	2.8	2.9	78.2	0.2
Biological, agricultural, and other life scientist	100.0	0.7	17.8	2.3	2.9	76.2	0.2
Computer and information scientist	100.0	0.5	34.0	2.1	1.9	61.4	S

TABLE 39. Employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Mathematical scientist	100.0	S	21.1	2.7	2.8	73.3	S
Physical scientist	100.0	0.6	16.3	1.6	2.5	78.9	0.2
Psychologist	100.0	1.1	2.6	3.8	3.8	88.5	0.2
Social scientist	100.0	1.0	8.9	4.9	3.4	81.7	0.2
Engineering occupations	100.0	0.3	31.1	2.2	2.2	64.0	0.2
S&E-related occupations	100.0	0.6	14.6	3.2	2.0	79.4	0.2
Non-S&E occupations	100.0	0.7	11.6	4.0	2.4	81.4	0.1
Universities and 4-year colleges	100.0	0.7	13.2	3.7	3.3	79.0	0.2
Science occupations	100.0	0.7	13.1	3.2	3.4	79.3	0.2
Biological, agricultural, and other life scientist	100.0	0.6	16.7	2.5	3.4	76.7	0.1
Computer and information scientist	100.0	0.5	24.1	2.8	2.3	70.2	S
Mathematical scientist	100.0	S	16.9	2.9	3.1	76.9	S
Physical scientist	100.0	0.8	13.0	1.6	2.9	81.4	0.3
Psychologist	100.0	1.1	3.2	4.9	4.9	85.6	0.3
Social scientist	100.0	1.1	9.0	5.2	3.4	81.2	S
Engineering occupations	100.0	0.5	22.8	4.1	3.3	69.2	S
S&E-related occupations	100.0	0.6	12.5	3.9	2.3	80.5	S
Non-S&E occupations	100.0	0.5	6.8	6.2	3.1	83.3	S
Other educational institutions	100.0	0.7	7.9	5.6	3.4	82.3	S
Science occupations	100.0	0.5	8.3	5.0	3.3	82.8	S
Biological, agricultural, and other life scientist	100.0	S	10.6	4.8	S	82.4	S
Computer and information scientist	100.0	S	23.3	S	S	60.8	S
Mathematical scientist	100.0	S	38.4	S	S	58.6	S
Physical scientist	100.0	S	5.3	2.3	2.7	89.7	S
Psychologist	100.0	S	2.8	6.4	5.4	84.7	S
Social scientist	100.0	S	5.9	8.2	S	84.0	S
Engineering occupations	100.0	S	33.9	S	S	64.0	S
S&E-related occupations	100.0	1.3	7.0	6.7	1.7	83.2	S
Non-S&E occupations	100.0	S	5.5	6.9	5.0	81.5	S
Private-for-profit	100.0	0.5	26.5	1.7	1.9	69.2	0.1
Science occupations	100.0	0.5	25.5	1.7	2.1	69.9	0.2
Biological, agricultural, and other life scientist	100.0	0.5	24.5	1.6	2.2	70.8	0.3
Computer and information scientist	100.0	0.4	40.6	1.6	1.7	55.6	S
Mathematical scientist	100.0	S	33.7	1.6	2.7	62.0	S
Physical scientist	100.0	0.5	23.8	1.4	1.8	72.4	S
Psychologist	100.0	1.0	2.2	3.0	3.1	90.5	S
Social scientist	100.0	1.5	9.9	2.6	1.7	83.5	S
Engineering occupations	100.0	0.2	39.6	1.3	1.6	57.2	S
S&E-related occupations	100.0	0.5	20.6	1.9	2.0	74.7	0.3
Non-S&E occupations	100.0	0.7	18.1	2.1	1.9	77.2	S
Private not-for-profit	100.0	0.8	11.9	2.9	2.0	82.1	0.3
Science occupations	100.0	0.6	14.1	2.5	2.2	80.3	0.3
Biological, agricultural, and other life scientist	100.0	S	20.8	S	S	76.7	S
Computer and information scientist	100.0	S	21.3	7.0	S	68.5	S
Mathematical scientist	100.0	S	14.0	S	S	84.2	S
Physical scientist	100.0	S	22.9	S	S	75.3	S
Psychologist	100.0	S	5.5	3.6	3.1	87.0	S
Social scientist	100.0	S	10.7	3.2	5.2	79.3	S
Engineering occupations	100.0	S	25.3	S	3.0	70.1	S
S&E-related occupations	100.0	1.4	7.9	3.0	S	86.7	S
Non-S&E occupations	100.0	0.9	6.1	4.5	1.9	86.5	S
Federal government	100.0	0.8	11.9	3.2	2.2	81.7	0.3

TABLE 39. Employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Science occupations	100.0	1.1	13.0	3.0	2.6	80.0	0.3
Biological, agricultural, and other life scientist	100.0	1.4	15.7	2.3	1.9	78.3	S
Computer and information scientist	100.0	S	23.7	S	S	71.4	S
Mathematical scientist	100.0	S	25.8	5.6	S	68.0	S
Physical scientist	100.0	0.8	11.7	1.6	3.0	82.4	S
Psychologist	100.0	3.6	S	6.0	4.3	84.3	S
Social scientist	100.0	S	7.0	4.8	3.3	84.4	S
Engineering occupations	100.0	S	17.2	1.9	2.0	78.0	S
S&E-related occupations	100.0	S	5.7	3.1	1.4	89.7	S
Non-S&E occupations	100.0	S	5.1	5.6	S	88.4	S
State and local government	100.0	0.9	11.7	4.2	2.6	79.9	0.6
Science occupations	100.0	0.8	9.8	4.2	3.1	81.8	S
Biological, agricultural, and other life scientist	100.0	S	8.8	S	2.7	84.6	S
Computer and information scientist	100.0	S	38.5	S	S	61.5	S
Mathematical scientist	100.0	S	40.0	S	S	60.0	S
Physical scientist	100.0	S	12.2	S	4.4	79.1	S
Psychologist	100.0	S	4.8	6.0	3.1	85.1	S
Social scientist	100.0	S	8.5	6.3	S	81.2	S
Engineering occupations	100.0	S	27.0	S	S	68.5	S
S&E-related occupations	100.0	S	19.7	4.3	S	71.4	S
Non-S&E occupations	100.0	S	6.6	4.5	2.9	84.0	S
Self-employed	100.0	1.1	4.8	1.5	2.3	90.2	S
Science occupations	100.0	1.3	2.4	1.3	2.5	92.5	S
Biological, agricultural, and other life scientist	100.0	S	4.8	S	S	89.7	S
Computer and information scientist	100.0	S	14.7	S	S	82.0	S
Mathematical scientist	100.0	S	S	S	S	82.5	S
Physical scientist	100.0	S	8.4	S	S	88.5	S
Psychologist	100.0	1.3	0.9	1.4	2.6	93.9	S
Social scientist	100.0	S	S	S	S	95.1	S
Engineering occupations	100.0	S	7.1	S	2.6	86.7	S
S&E-related occupations	100.0	S	15.7	S	S	81.9	S
Non-S&E occupations	100.0	0.7	7.9	2.1	1.9	87.3	S
Other	100.0	S	17.9	1.9	4.5	75.4	S
Science occupations	100.0	S	15.4	S	5.1	77.6	S
Biological, agricultural, and other life scientist	100.0	S	S	S	S	64.7	S
Computer and information scientist	100.0	S	S	S	S	S	S
Mathematical scientist	100.0	S	S	S	S	S	S
Physical scientist	100.0	S	S	S	S	97.6	S
Psychologist	100.0	S	S	S	S	97.9	S
Social scientist	100.0	S	18.2	S	8.4	73.1	S
Engineering occupations	100.0	S	S	S	S	89.5	S
S&E-related occupations	100.0	S	19.8	S	S	77.7	S
Non-S&E occupations	100.0	S	26.7	S	6.7	62.8	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 40. Employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2003

Occupation	Total	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
	Number										
All occupations	593,300	371,830	194,380	141,240	38,060	86,330	56,280	241,190	95,630	183,650	35,700
Science occupations	352,960	242,370	125,710	118,440	15,460	40,770	36,950	112,750	55,730	128,330	18,390
Biological, agricultural, and other life scientist	104,650	87,700	45,510	51,940	2,420	12,270	4,250	40,250	6,050	28,670	5,370
Agricultural/food scientist	8,200	7,000	5,510	1,910	260	2,240	540	3,510	520	370	800
Biochemist/biophysicist	13,920	13,380	6,500	8,500	460	2,810	750	6,200	240	240	550
Biological scientist	18,390	16,780	9,390	10,590	490	1,770	960	8,340	940	580	910
Forestry/conservation scientist	1,390	1,220	1,040	280	150	230	90	580	110	S	180
Medical scientist	28,860	26,270	15,940	14,190	830	4,180	1,340	12,800	2,830	1,040	1,630
Postsecondary teacher, agricultural/other natural sciences	4,410	3,230	2,540	740	S	60	S	920	210	3,980	120
Postsecondary teacher, biological sciences	24,280	15,390	2,240	13,000	100	260	190	5,690	560	22,380	900
Other biological/agricultural/life scientist	5,200	4,440	2,340	2,720	130	720	330	2,220	650	90	290
Computer and information scientist	34,410	21,250	9,080	4,110	4,920	7,090	20,010	8,730	580	7,450	1,530
Computer/information scientist	26,770	16,680	6,930	1,610	4,910	6,990	18,650	7,550	530	500	1,170
Postsecondary teacher, computer science	7,640	4,570	2,150	2,500	S	100	1,360	1,180	60	6,950	350
Mathematical scientist	22,460	16,090	7,600	8,040	1,260	1,630	3,500	4,640	800	13,520	840
Mathematical scientist	8,830	7,570	5,660	1,550	1,210	1,450	3,190	2,450	480	470	260
Postsecondary teacher, mathematics/statistics	13,640	8,520	1,940	6,490	S	180	310	2,190	320	13,040	580
Physical scientist	73,730	59,040	31,050	27,690	5,410	15,120	6,920	20,630	1,920	25,090	5,550
Chemist, except biochemist	23,700	20,860	15,310	4,810	1,530	9,930	1,120	9,080	520	410	2,440
Earth/atmospheric/ocean scientist	9,010	8,090	4,970	4,210	750	1,200	2,150	2,530	360	250	630
Physicist/astronomer	13,650	12,450	6,600	5,190	2,730	3,230	2,810	3,460	400	420	860
Postsecondary teacher, chemistry	11,400	6,390	1,060	5,250	90	90	200	2,630	190	10,930	690
Postsecondary teacher, physics	7,810	5,100	540	4,420	110	120	390	1,060	190	7,410	490
Postsecondary teacher, other physical sciences	6,020	4,520	1,320	3,180	S	S	210	1,070	S	5,620	130
Other physical scientist	2,130	1,630	1,250	640	190	500	S	810	210	70	320
Psychologist	67,110	21,690	12,560	8,970	630	2,120	910	25,100	42,820	20,970	2,190
Psychologist	49,600	11,300	8,390	2,760	610	1,820	770	22,120	40,740	4,440	1,630
Postsecondary teacher, psychology	17,510	10,390	4,170	6,200	S	290	140	2,980	2,070	16,530	550
Social scientist	50,590	36,600	19,920	17,690	820	2,540	1,370	13,390	3,560	32,630	2,910
Economist	7,720	6,210	5,210	1,650	490	880	640	3,140	1,350	360	430
Political scientist	1,450	980	800	290	S	60	S	700	290	180	160
Postsecondary teacher, economics	8,410	6,130	3,520	2,700	S	80	S	1,160	210	7,920	350
Postsecondary teacher, political science	8,470	5,510	1,370	3,990	S	200	90	1,470	180	8,090	540
Postsecondary teacher, sociology	7,140	4,920	1,380	3,500	S	150	S	1,200	140	6,910	300
Postsecondary teacher, other social sciences	9,010	5,950	2,100	3,690	S	200	70	1,530	250	8,700	530
Sociologist/anthropologist	4,130	3,480	2,600	1,400	90	250	180	1,990	530	360	240
Other social scientist	4,280	3,410	2,940	470	180	730	300	2,200	610	120	360
Engineering occupations	77,000	65,250	35,740	8,330	16,830	28,770	10,770	22,480	2,890	16,960	4,720

TABLE 40. Employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2003

Occupation	Total	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
Aerospace/aeronautical/astronautical engineer	4,050	3,650	1,980	350	1,190	1,770	1,140	1,070	110	60	200
Chemical engineer	7,010	6,460	3,580	470	1,900	3,880	780	2,040	260	50	600
Civil/architectural/sanitary engineer	3,780	2,790	1,250	150	1,260	760	720	1,870	540	100	200
Electrical engineer	16,550	15,280	6,870	980	5,240	9,360	3,460	4,600	200	100	1,090
Materials/metallurgical engineer	1,340	930	550	S	390	300	210	660	80	S	300
Mechanical engineer	8,570	7,920	3,600	810	2,750	4,580	1,420	2,440	330	220	290
Postsecondary teacher, engineering	17,380	12,640	8,570	3,730	370	460	740	3,140	140	16,190	420
Other engineer	18,330	15,570	9,340	1,850	3,740	7,650	2,290	6,670	1,230	240	1,630
Science and engineering-related occupations	64,650	31,780	16,630	8,460	2,460	6,620	3,630	34,190	19,060	21,380	3,030
Health-related occupation, except postsecondary teacher	17,050	5,370	3,450	1,500	350	890	230	6,180	13,290	2,780	830
Postsecondary teacher, health and related sciences	17,330	10,620	5,820	5,000	70	230	300	3,660	2,930	15,140	540
S&E manager	23,060	12,850	6,280	1,380	1,270	4,240	1,040	22,480	2,580	140	1,070
S&E precollege teacher	3,240	340	100	150	S	60	90	800	50	3,200	180
S&E technician/technologist	3,560	2,370	890	400	620	1,120	1,930	880	100	120	310
Other S&E-related occupation	410	240	110	S	110	80	50	190	110	S	100
Non-science and engineering occupations	98,700	32,430	16,290	6,000	3,300	10,160	4,920	71,760	17,950	16,970	9,570
Arts/humanities-related occupation	5,210	1,710	900	380	230	640	320	1,940	2,830	250	660
Management-related occupation	15,120	4,940	1,870	400	1,340	1,980	1,720	11,620	3,530	670	1,540
Non-S&E manager	44,320	14,610	7,410	1,970	1,270	5,340	1,540	41,330	3,100	1,630	3,320
Non-S&E postsecondary teacher	11,860	7,040	4,010	2,890	S	600	200	2,750	480	10,780	680
Non-S&E precollege/other teacher	2,400	450	140	70	100	150	60	690	460	2,040	160
Sales/marketing occupation	7,810	1,840	1,070	70	110	810	620	6,870	1,060	270	490
Social service-related occupation	3,390	490	270	70	S	190	S	1,720	2,300	840	430
Other non-S&E occupation	8,130	1,220	520	110	220	440	370	4,610	4,050	440	2,120
						Percent					
All occupations	100.0	62.7	32.8	23.8	6.4	14.6	9.5	40.7	16.1	31.0	6.0
Science occupations	100.0	68.7	35.6	33.6	4.4	11.6	10.5	31.9	15.8	36.4	5.2
Biological, agricultural, and other life scientist	100.0	83.8	43.5	49.6	2.3	11.7	4.1	38.5	5.8	27.4	5.1
Agricultural/food scientist	100.0	85.3	67.1	23.3	3.2	27.3	6.6	42.8	6.4	4.5	9.7
Biochemist/biophysicist	100.0	96.1	46.7	61.1	3.3	20.2	5.4	44.5	1.7	1.7	4.0
Biological scientist	100.0	91.2	51.0	57.6	2.7	9.6	5.2	45.3	5.1	3.1	5.0
Forestry/conservation scientist	100.0	88.0	75.3	20.1	10.6	16.2	6.3	41.6	7.9	S	12.7
Medical scientist	100.0	91.0	55.2	49.2	2.9	14.5	4.7	44.4	9.8	3.6	5.6
Postsecondary teacher, agricultural/other natural sciences	100.0	73.2	57.7	16.9	S	1.4	S	20.8	4.7	90.1	2.7
Postsecondary teacher, biological sciences	100.0	63.4	9.2	53.5	0.4	1.1	0.8	23.4	2.3	92.2	3.7
Other biological/agricultural/life scientist	100.0	85.3	45.1	52.3	2.5	13.9	6.4	42.6	12.5	1.8	5.5
Computer and information scientist	100.0	61.8	26.4	11.9	14.3	20.6	58.1	25.4	1.7	21.7	4.4
Computer/information scientist	100.0	62.3	25.9	6.0	18.4	26.1	69.7	28.2	2.0	1.9	4.4
Postsecondary teacher, computer science	100.0	59.8	28.2	32.8	S	1.3	17.8	15.4	0.8	91.0	4.6

TABLE 40. Employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2003

Occupation	Total	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
Mathematical scientist	100.0	71.6	33.8	35.8	5.6	7.3	15.6	20.7	3.6	60.2	3.7
Mathematical scientist	100.0	85.7	64.1	17.6	13.7	16.4	36.1	27.8	5.4	5.4	2.9
Postsecondary teacher, mathematics/statistics	100.0	62.5	14.2	47.6	S	1.3	2.3	16.1	2.4	95.7	4.3
Physical scientist	100.0	80.1	42.1	37.6	7.3	20.5	9.4	28.0	2.6	34.0	7.5
Chemist, except biochemist	100.0	88.0	64.6	20.3	6.5	41.9	4.7	38.3	2.2	1.7	10.3
Earth/atmospheric/ocean scientist	100.0	89.8	55.2	46.7	8.3	13.4	23.9	28.1	4.0	2.7	7.0
Physicist/astronomer	100.0	91.2	48.3	38.0	20.0	23.7	20.6	25.3	2.9	3.1	6.3
Postsecondary teacher, chemistry	100.0	56.1	9.3	46.0	0.8	0.8	1.7	23.0	1.6	95.8	6.0
Postsecondary teacher, physics	100.0	65.2	6.9	56.6	1.3	1.5	5.1	13.6	2.5	94.8	6.3
Postsecondary teacher, other physical sciences	100.0	75.1	21.9	52.8	S	S	3.5	17.7	S	93.3	2.1
Other physical scientist	100.0	76.5	58.6	29.8	9.0	23.4	S	37.8	9.9	3.1	14.9
Psychologist	100.0	32.3	18.7	13.4	0.9	3.2	1.4	37.4	63.8	31.2	3.3
Psychologist	100.0	22.8	16.9	5.6	1.2	3.7	1.6	44.6	82.1	8.9	3.3
Postsecondary teacher, psychology	100.0	59.3	23.8	35.4	0.0	1.7	0.8	17.0	11.8	94.4	3.2
Social scientist	100.0	72.3	39.4	35.0	1.6	5.0	2.7	26.5	7.0	64.5	5.7
Economist	100.0	80.5	67.6	21.4	6.4	11.3	8.3	40.8	17.5	4.6	5.6
Political scientist	100.0	67.3	55.1	19.8	S	3.9	S	48.4	20.2	12.7	11.0
Postsecondary teacher, economics	100.0	72.9	41.8	32.1	S	1.0	S	13.7	2.4	94.1	4.1
Postsecondary teacher, political science	100.0	65.1	16.1	47.2	S	2.4	1.1	17.3	2.1	95.6	6.4
Postsecondary teacher, sociology	100.0	68.9	19.3	49.0	S	2.2	S	16.8	2.0	96.8	4.2
Postsecondary teacher, other social sciences	100.0	66.1	23.3	41.0	S	2.2	0.8	16.9	2.7	96.6	5.9
Sociologist/anthropologist	100.0	84.3	63.1	34.0	2.2	6.1	4.4	48.2	12.9	8.7	5.8
Other social scientist	100.0	79.8	68.7	10.9	4.3	17.0	7.0	51.5	14.3	2.7	8.4
Engineering occupations	100.0	84.7	46.4	10.8	21.9	37.4	14.0	29.2	3.8	22.0	6.1
Aerospace/aeronautical/astronautical engineer	100.0	90.1	48.9	8.7	29.3	43.7	28.1	26.4	2.6	1.4	4.8
Chemical engineer	100.0	92.2	51.1	6.7	27.1	55.4	11.2	29.1	3.7	0.7	8.6
Civil/architectural/sanitary engineer	100.0	74.0	33.0	4.0	33.3	20.3	19.0	49.6	14.4	2.8	5.2
Electrical engineer	100.0	92.3	41.5	5.9	31.7	56.6	20.9	27.8	1.2	0.6	6.6
Materials/metallurgical engineer	100.0	69.3	40.7	S	29.2	22.6	15.9	49.0	6.3	S	22.4
Mechanical engineer	100.0	92.5	42.0	9.4	32.1	53.5	16.6	28.4	3.8	2.5	3.4
Postsecondary teacher, engineering	100.0	72.7	49.3	21.4	2.1	2.6	4.3	18.1	0.8	93.1	2.4
Other engineer	100.0	84.9	50.9	10.1	20.4	41.7	12.5	36.4	6.7	1.3	8.9
Science and engineering-related occupations	100.0	49.2	25.7	13.1	3.8	10.2	5.6	52.9	29.5	33.1	4.7
Health-related occupation, except postsecondary teacher	100.0	31.5	20.2	8.8	2.0	5.2	1.3	36.3	77.9	16.3	4.8
Postsecondary teacher, health and related sciences	100.0	61.2	33.6	28.9	0.4	1.4	1.7	21.1	16.9	87.4	3.1
S&E manager	100.0	55.7	27.2	6.0	5.5	18.4	4.5	97.5	11.2	0.6	4.7
S&E precollege teacher	100.0	10.5	2.9	4.6	S	1.9	2.9	24.7	1.7	99.0	5.4
S&E technician/technologist	100.0	66.5	24.9	11.3	17.5	31.5	54.1	24.6	2.7	3.4	8.8
Other S&E-related occupation	100.0	58.4	26.6	S	26.8	20.1	12.3	47.4	26.1	S	23.4

TABLE 40. Employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2003

Occupation	Total	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
Non-science and engineering occupations	100.0	32.9	16.5	6.1	3.3	10.3	5.0	72.7	18.2	17.2	9.7
Arts/humanities-related occupation	100.0	32.8	17.3	7.3	4.3	12.2	6.2	37.3	54.4	4.8	12.6
Management-related occupation	100.0	32.6	12.4	2.7	8.9	13.1	11.4	76.8	23.3	4.4	10.2
Non-S&E manager	100.0	33.0	16.7	4.4	2.9	12.1	3.5	93.3	7.0	3.7	7.5
Non-S&E postsecondary teacher	100.0	59.4	33.8	24.4	S	5.0	1.7	23.2	4.1	90.9	5.7
Non-S&E precollege/other teacher	100.0	18.7	5.9	2.8	4.3	6.1	2.4	28.9	19.3	85.0	6.8
Sales/marketing occupation	100.0	23.6	13.7	1.0	1.4	10.4	7.9	87.9	13.5	3.4	6.3
Social service-related occupation	100.0	14.4	7.9	2.2	S	5.7	S	50.8	67.8	24.7	12.8
Other non-S&E occupation	100.0	15.0	6.4	1.4	2.8	5.5	4.6	56.7	49.9	5.4	26.0

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

NOTES: Numbers are rounded to nearest 10. Detail may exceed total due to multiple responses.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 41. Employed doctoral scientists and engineers, by employer location and broad occupation: 2003

Employer location	Total	Science occupations							Engineering occupations	Science and engineering-related occupations	Non-science and engineering occupations
		Total	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist			
	Number										
All locations	593,300	352,960	104,650	34,410	22,460	73,730	67,110	50,590	77,000	64,650	98,700
New England	49,800	31,000	9,680	3,230	1,630	5,870	6,130	4,440	5,660	5,220	7,920
Connecticut	9,800	6,210	1,980	390	150	1,370	1,420	900	910	1,260	1,420
Maine	2,150	1,510	450	60	100	260	420	230	190	90	360
Massachusetts	30,210	18,820	6,340	2,160	1,160	3,410	3,320	2,430	3,370	3,160	4,860
New Hampshire	2,640	1,520	360	370	S	320	280	150	530	140	450
Rhode Island	3,190	1,880	290	180	190	320	450	440	350	400	570
Vermont	1,820	1,060	250	80	S	180	240	290	310	180	270
Middle Atlantic	93,540	58,140	14,710	6,580	4,150	12,020	12,600	8,090	9,390	10,110	15,900
New Jersey	20,950	12,380	3,010	2,300	920	3,080	1,870	1,200	2,280	2,480	3,810
New York	44,700	28,020	6,810	2,890	2,020	4,680	7,300	4,320	3,870	4,900	7,910
Pennsylvania	27,880	17,740	4,890	1,400	1,210	4,250	3,420	2,570	3,240	2,730	4,170
East North Central	78,340	46,540	12,840	3,910	3,230	9,680	9,370	7,520	11,260	8,470	12,070
Illinois	22,420	13,090	3,620	1,420	980	2,660	2,130	2,280	2,450	2,530	4,350
Indiana	9,560	5,750	1,550	320	470	1,060	1,200	1,150	1,260	1,040	1,510
Michigan	17,140	9,690	2,410	810	770	2,010	2,160	1,540	3,540	1,960	1,950
Ohio	20,850	12,760	3,760	970	720	2,920	2,590	1,800	3,030	2,070	2,990
Wisconsin	8,370	5,240	1,490	390	290	1,030	1,280	760	980	870	1,280
West North Central	33,640	19,830	7,520	750	1,210	3,440	3,860	3,040	3,780	4,620	5,410
Iowa	4,660	2,900	1,030	120	340	400	430	600	390	580	780
Kansas	3,990	2,480	890	190	120	230	570	470	530	360	610
Minnesota	11,090	6,090	2,070	220	240	1,320	1,390	850	1,330	1,730	1,940
Missouri	9,010	5,060	2,030	120	360	980	880	680	1,080	1,450	1,430
Nebraska	1,070	720	390	S	50	120	90	S	160	110	80
North Dakota	2,800	1,920	890	50	50	340	340	240	220	240	420
South Dakota	1,020	660	210	S	50	60	150	150	80	140	140
South Atlantic	113,580	69,520	21,240	6,010	5,110	13,550	11,520	12,090	11,480	12,260	20,330
Delaware	2,980	1,640	570	170	S	590	180	100	490	310	540
District of Columbia	13,770	8,170	990	350	390	1,290	890	4,260	780	1,050	3,770
Florida	15,990	9,230	2,630	890	600	1,490	2,330	1,290	2,290	1,790	2,680
Georgia	12,190	7,850	2,740	590	410	1,370	1,360	1,380	890	1,340	2,100
Maryland	25,310	16,250	6,710	1,310	1,270	3,430	2,100	1,420	2,370	2,980	3,710
North Carolina	17,360	10,710	4,110	910	920	1,980	1,770	1,020	1,070	2,330	3,250
South Carolina	5,200	3,130	940	90	280	690	600	530	710	660	700
Virginia	18,800	11,270	2,190	1,700	1,170	2,350	2,080	1,800	2,560	1,580	3,390
West Virginia	1,980	1,270	360	S	60	340	210	290	310	210	190

TABLE 41. Employed doctoral scientists and engineers, by employer location and broad occupation: 2003

Employer location	Total	Science occupations							Engineering occupations	Science and engineering-related occupations	Non-science and engineering occupations
		Total	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist			
East South Central	22,550	13,280	4,710	790	880	2,550	2,440	1,910	3,120	2,510	3,630
Alabama	5,800	3,290	1,120	260	200	620	620	470	890	650	960
Kentucky	4,730	3,030	1,020	170	370	270	610	590	230	680	780
Mississippi	3,160	1,810	740	60	S	490	190	280	480	380	490
Tennessee	8,870	5,150	1,830	290	270	1,170	1,020	570	1,520	800	1,400
West South Central	46,070	26,170	8,170	2,590	1,610	5,780	4,660	3,370	7,480	5,290	7,130
Arkansas	2,810	1,790	810	60	70	300	160	390	220	320	490
Louisiana	5,400	3,340	1,300	120	260	550	760	340	560	720	770
Oklahoma	4,690	3,040	770	250	80	700	760	480	590	380	680
Texas	33,180	18,000	5,280	2,150	1,190	4,220	2,980	2,160	6,110	3,880	5,190
Mountain	39,200	22,720	5,890	1,670	1,580	6,750	3,970	2,860	6,240	3,830	6,420
Arizona	7,620	4,180	990	320	250	1,010	980	630	1,500	610	1,330
Colorado	12,200	7,590	1,820	650	550	2,240	1,430	900	1,620	1,010	1,980
Idaho	2,450	1,320	510	110	130	270	240	70	440	290	410
Montana	1,850	1,380	490	S	190	210	300	160	150	210	110
New Mexico	8,140	4,220	930	310	170	2,100	350	370	1,750	970	1,200
Nevada	2,100	1,350	270	50	130	460	260	180	210	200	350
Utah	4,190	2,180	710	170	110	360	380	440	550	520	940
Wyoming	650	500	180	S	60	100	S	110	S	S	100
Pacific	113,800	64,170	19,230	8,870	2,960	13,820	12,150	7,140	18,370	12,050	19,210
Alaska	1,050	680	300	90	S	170	S	80	100	120	150
California	86,490	47,990	13,330	6,830	2,160	11,050	9,640	4,980	14,920	8,850	14,730
Hawaii	3,010	1,990	670	150	S	410	260	470	220	380	430
Oregon	7,760	4,290	1,720	540	250	630	620	530	1,310	770	1,400
Washington	15,480	9,220	3,220	1,270	510	1,560	1,580	1,080	1,820	1,940	2,500
Puerto Rico	1,800	1,170	430	S	70	230	340	90	140	150	330
Other U.S. territories and other areas	980	420	230	S	S	S	70	S	80	130	350
						Percent					
All locations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New England	8.4	8.8	9.3	9.4	7.3	8.0	9.1	8.8	7.4	8.1	8.0
Connecticut	1.7	1.8	1.9	1.1	0.7	1.9	2.1	1.8	1.2	1.9	1.4
Maine	0.4	0.4	0.4	0.2	0.4	0.4	0.6	0.5	0.2	0.1	0.4
Massachusetts	5.1	5.3	6.1	6.3	5.2	4.6	4.9	4.8	4.4	4.9	4.9
New Hampshire	0.4	0.4	0.3	1.1	S	0.4	0.4	0.3	0.7	0.2	0.5
Rhode Island	0.5	0.5	0.3	0.5	0.9	0.4	0.7	0.9	0.5	0.6	0.6

TABLE 41. Employed doctoral scientists and engineers, by employer location and broad occupation: 2003

Employer location	Total	Science occupations									
		Total	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist	Engineering occupations	Science and engineering-related occupations	Non-science and engineering occupations
Vermont	0.3	0.3	0.2	0.2	S	0.2	0.4	0.6	0.4	0.3	0.3
Middle Atlantic	15.8	16.5	14.1	19.1	18.5	16.3	18.8	16.0	12.2	15.6	16.1
New Jersey	3.5	3.5	2.9	6.7	4.1	4.2	2.8	2.4	3.0	3.8	3.9
New York	7.5	7.9	6.5	8.4	9.0	6.3	10.9	8.5	5.0	7.6	8.0
Pennsylvania	4.7	5.0	4.7	4.1	5.4	5.8	5.1	5.1	4.2	4.2	4.2
East North Central	13.2	13.2	12.3	11.4	14.4	13.1	14.0	14.9	14.6	13.1	12.2
Illinois	3.8	3.7	3.5	4.1	4.3	3.6	3.2	4.5	3.2	3.9	4.4
Indiana	1.6	1.6	1.5	0.9	2.1	1.4	1.8	2.3	1.6	1.6	1.5
Michigan	2.9	2.7	2.3	2.3	3.4	2.7	3.2	3.0	4.6	3.0	2.0
Ohio	3.5	3.6	3.6	2.8	3.2	4.0	3.9	3.5	3.9	3.2	3.0
Wisconsin	1.4	1.5	1.4	1.1	1.3	1.4	1.9	1.5	1.3	1.3	1.3
West North Central	5.7	5.6	7.2	2.2	5.4	4.7	5.7	6.0	4.9	7.1	5.5
Iowa	0.8	0.8	1.0	0.3	1.5	0.5	0.6	1.2	0.5	0.9	0.8
Kansas	0.7	0.7	0.8	0.6	0.6	0.3	0.9	0.9	0.7	0.6	0.6
Minnesota	1.9	1.7	2.0	0.6	1.1	1.8	2.1	1.7	1.7	2.7	2.0
Missouri	1.5	1.4	1.9	0.4	1.6	1.3	1.3	1.3	1.4	2.2	1.4
Nebraska	0.2	0.2	0.4	S	0.2	0.2	0.1	S	0.2	0.2	0.1
North Dakota	0.5	0.5	0.9	0.2	0.2	0.5	0.5	0.5	0.3	0.4	0.4
South Dakota	0.2	0.2	0.2	S	0.2	0.1	0.2	0.3	0.1	0.2	0.1
South Atlantic	19.1	19.7	20.3	17.5	22.8	18.4	17.2	23.9	14.9	19.0	20.6
Delaware	0.5	0.5	0.5	0.5	S	0.8	0.3	0.2	0.6	0.5	0.6
District of Columbia	2.3	2.3	0.9	1.0	1.7	1.8	1.3	8.4	1.0	1.6	3.8
Florida	2.7	2.6	2.5	2.6	2.7	2.0	3.5	2.5	3.0	2.8	2.7
Georgia	2.1	2.2	2.6	1.7	1.8	1.9	2.0	2.7	1.2	2.1	2.1
Maryland	4.3	4.6	6.4	3.8	5.7	4.7	3.1	2.8	3.1	4.6	3.8
North Carolina	2.9	3.0	3.9	2.7	4.1	2.7	2.6	2.0	1.4	3.6	3.3
South Carolina	0.9	0.9	0.9	0.3	1.2	0.9	0.9	1.1	0.9	1.0	0.7
Virginia	3.2	3.2	2.1	4.9	5.2	3.2	3.1	3.6	3.3	2.4	3.4
West Virginia	0.3	0.4	0.3	S	0.3	0.5	0.3	0.6	0.4	0.3	0.2
East South Central	3.8	3.8	4.5	2.3	3.9	3.5	3.6	3.8	4.1	3.9	3.7
Alabama	1.0	0.9	1.1	0.8	0.9	0.8	0.9	0.9	1.2	1.0	1.0
Kentucky	0.8	0.9	1.0	0.5	1.6	0.4	0.9	1.2	0.3	1.1	0.8
Mississippi	0.5	0.5	0.7	0.2	S	0.7	0.3	0.5	0.6	0.6	0.5
Tennessee	1.5	1.5	1.7	0.9	1.2	1.6	1.5	1.1	2.0	1.2	1.4
West South Central	7.8	7.4	7.8	7.5	7.1	7.8	7.0	6.7	9.7	8.2	7.2
Arkansas	0.5	0.5	0.8	0.2	0.3	0.4	0.2	0.8	0.3	0.5	0.5
Louisiana	0.9	0.9	1.2	0.4	1.1	0.8	1.1	0.7	0.7	1.1	0.8

TABLE 41. Employed doctoral scientists and engineers, by employer location and broad occupation: 2003

Employer location	Total	Science occupations							Engineering occupations	Science and engineering-related occupations	Non-science and engineering occupations
		Total	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist			
Oklahoma	0.8	0.9	0.7	0.7	0.4	0.9	1.1	0.9	0.8	0.6	0.7
Texas	5.6	5.1	5.1	6.3	5.3	5.7	4.4	4.3	7.9	6.0	5.3
Mountain	6.6	6.4	5.6	4.8	7.1	9.2	5.9	5.7	8.1	5.9	6.5
Arizona	1.3	1.2	0.9	0.9	1.1	1.4	1.5	1.2	1.9	0.9	1.4
Colorado	2.1	2.2	1.7	1.9	2.5	3.0	2.1	1.8	2.1	1.6	2.0
Idaho	0.4	0.4	0.5	0.3	0.6	0.4	0.4	0.1	0.6	0.4	0.4
Montana	0.3	0.4	0.5	S	0.8	0.3	0.5	0.3	0.2	0.3	0.1
New Mexico	1.4	1.2	0.9	0.9	0.8	2.8	0.5	0.7	2.3	1.5	1.2
Nevada	0.4	0.4	0.3	0.2	0.6	0.6	0.4	0.4	0.3	0.3	0.4
Utah	0.7	0.6	0.7	0.5	0.5	0.5	0.6	0.9	0.7	0.8	1.0
Wyoming	0.1	0.1	0.2	S	0.3	0.1	S	0.2	S	S	0.1
Pacific	19.2	18.2	18.4	25.8	13.2	18.7	18.1	14.1	23.9	18.6	19.5
Alaska	0.2	0.2	0.3	0.3	S	0.2	S	0.2	0.1	0.2	0.2
California	14.6	13.6	12.7	19.9	9.6	15.0	14.4	9.9	19.4	13.7	14.9
Hawaii	0.5	0.6	0.6	0.4	S	0.6	0.4	0.9	0.3	0.6	0.4
Oregon	1.3	1.2	1.6	1.6	1.1	0.9	0.9	1.0	1.7	1.2	1.4
Washington	2.6	2.6	3.1	3.7	2.3	2.1	2.4	2.1	2.4	3.0	2.5
Puerto Rico	0.3	0.3	0.4	S	0.3	0.3	0.5	0.2	0.2	0.2	0.3
Other U.S. territories and other areas	0.2	0.1	0.2	S	S	S	0.1	S	0.1	0.2	0.4

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Because survey sample design does not include geography, reliability of estimates in some states may be poor due to small sample size. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 42. Employed doctoral scientists and engineers, by selected demographic characteristics and broad field of doctorate: 2003

Characteristic	Total	Science (%)								
		Total	Biological, agricultural, and environmental life sciences	Computer and information sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Health
Number employed	593,300	468,570	145,760	11,960	28,330	112,670	91,410	78,450	101,500	23,230
All characteristics	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex										
Male	72.8	70.4	69.4	84.6	83.9	85.0	50.4	67.5	91.3	41.6
Female	27.2	29.6	30.6	15.4	16.1	15.0	49.6	32.5	8.7	58.4
Race/ethnicity										
American Indian/Alaska Native	0.7	0.7	0.7	S	0.6	0.5	0.9	1.0	0.4	0.8
Asian	16.5	13.2	15.5	32.6	20.3	18.0	2.7	8.9	33.0	11.8
Black	2.9	3.0	2.4	3.1	2.1	1.5	4.1	5.0	2.3	5.1
Hispanic	2.6	2.8	2.6	2.1	2.3	2.2	3.6	3.2	2.0	2.7
White	77.0	80.2	78.6	61.9	74.5	77.6	88.5	81.8	62.1	79.4
Other/unknown race/ethnicity [a]	0.2	0.2	0.2	S	S	0.2	0.1	0.1	0.2	S
Age										
Under 35	10.1	9.7	10.4	16.7	10.5	11.3	8.4	6.5	12.4	7.8
35–39	13.4	12.8	14.5	19.7	14.1	13.3	10.2	10.3	16.8	10.5
40–44	15.0	14.3	15.4	24.5	11.6	16.0	12.2	11.6	18.7	12.3
45–49	15.6	15.9	17.8	18.5	12.6	15.2	15.3	14.8	14.3	15.6
50–54	15.2	15.8	15.7	12.9	13.5	12.4	19.3	17.9	10.9	23.0
55–59	14.3	14.9	12.5	6.2	15.9	13.5	18.6	17.9	10.8	17.0
60–64	10.5	10.8	9.0	1.3	14.9	11.6	9.5	14.4	9.5	9.5
65–75	5.9	5.9	4.7	S	7.0	6.7	6.4	6.7	6.5	4.3
Citizenship status										
U.S. citizen	90.0	91.7	91.2	75.6	86.2	90.3	98.0	91.8	81.7	91.9
Native born	75.2	79.5	78.4	54.4	67.8	74.3	93.0	81.3	53.8	81.1
Naturalized	14.8	12.2	12.8	21.2	18.4	16.0	5.0	10.4	27.9	10.8
Non-U.S. citizen	10.0	8.3	8.8	24.4	13.8	9.7	2.0	8.2	18.3	8.1
Permanent resident	6.7	5.6	5.9	17.3	9.0	6.2	1.5	5.6	12.2	5.4
Temporary resident	3.3	2.7	2.9	7.1	4.8	3.5	0.5	2.6	6.1	2.7
Years since doctorate										
5 or less	19.5	18.5	19.5	31.3	16.1	16.3	18.3	19.2	21.6	29.0
6–10	18.1	17.1	18.2	30.6	16.0	16.2	16.3	15.8	21.6	23.0
11–15	14.7	14.4	14.8	20.7	12.8	14.4	14.6	13.1	15.7	15.9
16–20	12.9	13.5	13.4	11.5	10.8	13.0	15.5	13.3	10.6	11.8
21–25	11.5	12.3	12.4	6.0	10.6	10.9	13.8	13.8	8.1	9.9
More than 25	23.3	24.1	21.6	S	33.6	29.2	21.5	24.8	22.3	10.4
Place of birth										
United States	74.6	78.8	77.8	52.8	66.4	73.7	92.3	80.7	53.6	80.8
Europe	4.3	4.3	3.5	7.2	8.5	5.6	2.5	4.3	4.6	3.0
Asia	16.8	12.8	14.5	33.2	21.1	17.2	2.5	9.3	36.3	11.6
North America	1.0	1.0	1.0	1.7	0.6	0.9	1.1	1.1	0.9	0.8
Central America	0.4	0.4	0.6	S	S	0.4	0.3	0.3	0.4	S
Caribbean	0.4	0.4	0.2	S	0.2	0.3	0.6	0.7	0.5	0.5
South America	0.8	0.7	0.8	1.7	1.0	0.6	0.4	1.1	0.9	0.6
Africa	1.2	1.0	1.1	1.3	1.4	0.9	0.2	1.8	2.1	1.6
Oceania	0.6	0.5	0.5	1.8	0.7	0.5	0.2	0.7	0.8	0.9

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 43. Employed doctoral scientists and engineers, by selected demographic characteristics and broad occupation: 2003
(Percent)

Characteristic	Total	Science occupations							Engineering occupations	Science and engineering -related occupations	Non-science and engineering occupations
		Total	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist			
Number employed	593,300	352,960	104,650	34,410	22,460	73,730	67,110	50,590	77,000	64,650	98,700
All characteristics											
Sex											
Male	72.8	70.3	67.9	86.5	79.4	85.1	48.2	67.9	91.0	67.6	71.2
Female	27.2	29.7	32.1	13.5	20.6	14.9	51.8	32.1	9.0	32.4	28.8
Race/ethnicity											
American Indian/Alaska Native	0.7	0.7	0.7	0.5	S	0.6	1.1	1.0	0.3	0.6	0.7
Asian	16.5	15.1	17.8	34.0	21.1	16.3	2.6	8.9	31.1	14.6	11.6
Black	2.9	2.8	2.3	2.1	2.7	1.6	3.8	4.9	2.2	3.2	4.0
Hispanic	2.6	2.9	2.9	1.9	2.8	2.5	3.8	3.4	2.2	2.0	2.4
White	77.0	78.2	76.2	61.4	73.3	78.9	88.5	81.7	64.0	79.4	81.4
Other/unknown race/ethnicity [a]	0.2	0.2	0.2	S	S	0.2	0.2	0.2	0.2	0.2	0.1
Age											
Under 35	10.1	11.5	13.3	13.2	11.8	12.9	8.5	8.7	13.4	6.0	5.2
35–39	13.4	14.5	16.6	17.3	15.2	14.6	10.6	13.1	16.6	10.7	8.6
40–44	15.0	15.2	16.4	19.0	14.9	15.8	12.6	12.6	17.9	14.5	12.2
45–49	15.6	15.9	17.1	16.1	13.2	15.6	15.2	15.8	13.7	18.1	14.4
50–54	15.2	14.6	13.4	13.2	15.0	12.4	18.5	15.5	10.9	18.3	19.0
55–59	14.3	13.3	11.3	11.5	11.8	11.4	18.1	15.5	11.2	16.6	18.7
60–64	10.5	9.6	7.9	7.5	12.0	10.1	9.8	12.7	9.4	10.8	14.4
65–75	5.9	5.4	4.0	2.2	6.1	7.1	6.7	6.2	7.0	5.0	7.5
Citizenship status											
U.S. citizen	90.0	89.5	88.5	78.4	84.5	89.4	97.9	90.7	82.3	94.3	94.9
Native born	75.2	76.9	75.6	55.6	67.2	75.0	92.7	80.1	56.2	78.8	81.5
Naturalized	14.8	12.7	12.9	22.8	17.3	14.4	5.2	10.6	26.1	15.5	13.4
Non-U.S. citizen	10.0	10.5	11.5	21.6	15.5	10.6	2.1	9.3	17.7	5.7	5.1
Permanent resident	6.7	6.9	7.2	15.8	10.0	6.3	1.7	6.3	11.2	4.6	3.8
Temporary resident	3.3	3.6	4.3	5.8	5.6	4.2	0.4	3.0	6.5	1.2	1.3
Years since doctorate											
5 or less	19.5	21.7	24.7	24.4	20.0	19.9	18.0	22.2	22.4	15.3	11.9
6–10	18.1	18.4	19.3	24.7	17.6	16.5	17.1	17.1	21.2	18.2	14.6
11–15	14.7	14.7	15.5	14.9	14.9	14.5	15.0	12.9	14.8	15.5	14.1
16–20	12.9	12.8	11.9	10.7	12.0	13.4	14.9	12.9	10.8	14.9	13.5
21–25	11.5	11.0	10.1	10.1	9.0	9.9	14.1	11.9	8.0	13.4	14.8
More than 25	23.3	21.3	18.5	15.2	26.5	25.8	20.9	23.0	22.8	22.7	31.1

TABLE 43. Employed doctoral scientists and engineers, by selected demographic characteristics and broad occupation: 2003
(Percent)

Characteristic	Total	Science occupations									
		Total	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist	Engineering occupations	Science and engineering -related occupations	Non-science and engineering occupations
Place of birth											
United States	74.6	76.2	75.0	54.9	65.9	74.4	92.0	79.3	55.9	78.3	81.0
Europe	4.3	4.7	4.0	5.8	7.6	6.0	2.7	4.6	4.7	3.2	3.6
Asia	16.8	14.9	17.0	34.3	21.7	15.9	2.4	9.6	34.2	14.1	11.7
North America	1.0	1.1	1.0	1.1	1.0	0.9	1.1	1.5	0.8	1.1	0.7
Central America	0.4	0.4	0.5	0.3	S	0.4	0.3	0.4	0.4	0.4	0.2
Caribbean	0.4	0.4	0.3	0.3	S	0.3	0.6	0.6	0.3	0.4	0.5
South America	0.8	0.8	0.7	1.1	1.3	0.8	0.6	1.3	0.8	0.7	0.5
Africa	1.2	1.0	1.0	1.0	1.7	1.0	0.2	2.0	1.8	1.2	1.4
Oceania	0.6	0.5	0.5	1.2	0.7	0.4	0.2	0.7	0.9	0.7	0.4

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 44. Employed doctoral scientists and engineers, by selected demographic characteristics and citizenship status: 2003
(Percent)

Characteristic	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
Number employed	593,300	533,960	445,960	88,000	59,340	39,620	19,720
All characteristics	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex							
Male	72.8	72.4	71.3	77.8	77.2	77.3	76.9
Female	27.2	27.6	28.7	22.2	22.8	22.7	23.1
Race/ethnicity							
American Indian/Alaska Native	0.7	0.7	0.9	S	0.1	0.2	S
Asian	16.5	11.7	1.9	61.5	60.1	59.9	60.5
Black	2.9	2.9	2.7	4.1	3.4	3.1	4.1
Hispanic	2.6	2.4	2.1	4.1	4.4	4.4	4.6
White	77.0	82.1	92.3	30.0	31.8	32.4	30.6
Other/unknown race/ethnicity [a]	0.2	0.2	0.2	0.3	0.1	S	0.3
Age							
Under 35	10.1	8.0	8.8	4.2	28.7	18.0	50.2
35–39	13.4	11.4	11.5	10.8	31.4	32.1	30.1
40–44	15.0	14.4	13.2	20.3	20.2	24.0	12.5
45–49	15.6	16.2	15.5	19.8	10.0	12.8	4.2
50–54	15.2	16.4	16.6	15.6	4.7	6.0	2.2
55–59	14.3	15.6	16.2	12.3	2.4	3.5	0.4
60–64	10.5	11.5	11.8	9.8	1.9	2.6	0.4
65–75	5.9	6.5	6.4	7.3	0.7	1.0	S
Years since doctorate							
5 or less	19.5	15.7	16.8	10.1	53.3	36.7	86.8
6–10	18.1	17.0	16.0	22.2	28.2	37.2	10.2
11–15	14.7	15.3	14.1	21.2	9.7	13.8	1.4
16–20	12.9	14.0	13.9	14.4	3.4	4.9	0.3
21–25	11.5	12.5	12.9	10.6	2.5	3.1	1.3
More than 25	23.3	25.5	26.3	21.5	2.9	4.4	S
Place of birth							
United States	74.6	82.6	98.7	0.8	2.8	2.9	2.7
Europe	4.3	2.8	0.5	14.6	18.1	18.0	18.2
Asia	16.8	11.8	0.4	69.4	61.8	61.7	62.0
North America	1.0	0.6	0.2	2.9	4.0	4.6	2.9
Central America	0.4	0.3	0.1	1.2	1.5	1.4	1.8
Caribbean	0.4	0.4	S	2.1	0.8	0.8	0.7
South America	0.8	0.5	0.1	2.6	3.1	3.0	3.4
Africa	1.2	0.9	0.1	5.2	4.0	3.8	4.5
Oceania	0.6	0.2	S	1.0	3.9	3.8	4.0

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 45. Employed doctoral scientists and engineers, by selected demographic and employment-related characteristics and sector of employment: 2003
(Percent)

Characteristic	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit	Private not-for-profit	Federal government	State and local government	Self-employed	Other
Number employed	593,300	259,380	20,170	187,570	29,650	41,090	15,970	36,130	3,340
All characteristics	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex									
Male	72.8	70.2	58.4	81.7	63.4	76.4	69.5	59.0	73.0
Female	27.2	29.8	41.6	18.3	36.6	23.6	30.5	41.0	27.0
Race/ethnicity									
American Indian/Alaska Native	0.7	0.7	0.7	0.5	0.8	0.8	0.9	1.1	S
Asian	16.5	13.2	7.9	26.5	11.9	11.9	11.7	4.8	17.9
Black	2.9	3.7	5.6	1.7	2.9	3.2	4.2	1.5	1.9
Hispanic	2.6	3.3	3.4	1.9	2.0	2.2	2.6	2.3	4.5
White	77.0	79.0	82.3	69.2	82.1	81.7	79.9	90.2	75.4
Other/unknown race/ethnicity [a]	0.2	0.2	S	0.1	0.3	0.3	0.6	S	S
Age									
Under 35	10.1	11.2	5.9	11.8	9.3	7.7	4.1	2.2	10.0
35–39	13.4	13.8	7.7	15.8	12.5	12.1	8.7	5.1	13.4
40–44	15.0	14.1	12.7	18.4	13.4	12.3	11.1	10.2	15.0
45–49	15.6	15.3	16.6	15.8	16.7	16.2	19.5	13.0	15.5
50–54	15.2	14.5	20.2	13.7	16.7	17.4	24.0	18.4	10.8
55–59	14.3	13.6	18.3	12.1	15.3	17.2	18.3	21.4	23.7
60–64	10.5	11.3	10.2	8.2	11.8	11.9	9.6	15.0	9.1
65–75	5.9	6.2	8.5	4.1	4.4	5.3	4.7	14.7	2.5
Citizenship status									
U.S. citizen	90.0	89.9	96.2	85.8	93.3	96.9	95.3	98.1	74.2
Native born	75.2	77.3	85.3	65.5	82.9	82.8	79.9	88.7	61.4
Naturalized	14.8	12.5	10.9	20.3	10.5	14.1	15.4	9.3	12.8
Non-U.S. citizen	10.0	10.1	3.8	14.2	6.7	3.1	4.7	1.9	25.8
Permanent resident	6.7	6.4	2.9	10.1	4.1	2.0	3.4	1.7	7.1
Temporary resident	3.3	3.7	0.9	4.1	2.6	1.2	1.3	0.2	18.7
Years since doctorate									
5 or less	19.5	22.2	15.8	19.0	21.1	17.5	17.1	6.9	18.1
6–10	18.1	16.9	19.7	21.4	17.0	16.7	15.2	12.8	20.1
11–15	14.7	14.0	15.2	16.0	14.8	14.1	14.1	13.9	15.2
16–20	12.9	12.4	14.7	12.2	14.3	13.7	19.4	14.7	9.9
21–25	11.5	10.5	13.4	11.6	11.1	12.6	13.8	15.2	12.4
More than 25	23.3	24.1	21.2	19.9	21.7	25.4	20.4	36.5	24.4
Primary or secondary work activity [b]									
Any R&D	62.7	69.8	18.1	65.2	52.6	72.7	43.4	28.6	58.6
Applied research	32.8	31.1	7.1	35.9	35.4	55.2	29.5	15.6	42.0
Basic research	23.8	43.0	5.6	5.2	17.2	26.1	8.2	3.5	10.2
Design	6.4	1.7	1.9	13.8	5.0	6.0	5.6	6.1	7.0
Development	14.6	3.3	4.0	33.6	9.0	13.5	8.1	10.6	16.1
Computer applications	9.5	4.6	4.8	16.8	8.3	10.8	13.4	7.3	8.7
Management, sales, administration	40.7	30.0	32.3	50.9	55.5	46.6	55.9	41.4	52.3
Professional services	16.1	8.0	21.8	14.6	31.1	10.3	35.9	64.7	15.9
Teaching	31.0	61.1	71.0	1.8	8.4	2.8	5.0	7.9	3.5
Other activities	6.0	4.3	7.0	6.5	6.7	9.2	10.3	8.4	13.8

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

[b] Detail exceeds total due to multiple responses.

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 46. Employed doctoral scientists and engineers, by selected demographic and employment-related characteristics, race/ethnicity, and sex: 2003

(Percent)

Characteristic	Total			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity[a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Number employed	593,300	432,150	161,150	3,950	2,790	1,170	98,170	75,340	22,830	17,480	10,560	6,930	15,650	10,130	5,520	457,040	332,650	124,390	1,010	700	310
All characteristics	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Age																					
Under 35	10.1	8.8	13.6	7.5	7.2	8.3	15.6	13.7	21.9	13.0	11.3	15.7	11.8	9.6	15.7	8.8	7.6	11.9	14.4	15.1	S
35–39	13.4	12.4	16.1	8.8	4.8	18.3	20.8	19.5	24.8	13.6	11.4	17.1	16.4	14.8	19.3	11.7	10.8	14.2	25.2	14.4	49.7
40–44	15.0	14.6	16.0	12.2	13.9	8.0	21.6	21.4	22.2	12.9	13.5	12.0	20.5	20.5	20.4	13.4	12.9	15.0	16.0	17.6	S
45–49	15.6	15.2	16.8	15.4	14.8	16.9	15.7	16.4	13.3	16.7	16.4	17.1	17.0	16.1	18.8	15.5	14.8	17.4	5.3	S	S
50–54	15.2	15.1	15.7	17.1	16.2	19.2	10.4	11.2	8.0	16.1	17.2	14.5	12.5	11.7	14.0	16.3	16.0	17.2	19.4	19.9	18.2
55–59	14.3	14.9	12.7	17.2	15.8	20.5	7.3	7.7	5.9	14.7	14.4	15.3	9.3	10.7	6.7	15.9	16.6	14.0	6.1	8.2	S
60–64	10.5	12.1	6.2	13.4	16.8	5.5	5.4	6.3	2.5	7.8	9.8	4.8	8.6	11.5	3.2	11.7	13.5	7.1	5.6	7.4	S
65–75	5.9	7.0	3.1	8.3	10.4	S	3.2	3.7	1.4	5.0	6.1	3.4	4.0	5.2	1.9	6.6	7.8	3.4	8.1	11.7	S
Years since doctorate																					
5 or less	19.5	16.4	27.7	16.8	11.3	29.9	28.0	25.4	36.4	29.8	25.3	36.7	28.6	24.3	36.5	16.9	13.9	25.1	32.6	29.2	40.3
6–10	18.1	16.5	22.4	18.9	15.5	26.8	27.8	26.8	31.3	19.9	20.2	19.4	20.7	18.0	25.6	15.9	14.1	20.7	29.4	19.1	52.8
11–15	14.7	14.0	16.6	14.5	16.8	8.8	16.7	17.2	14.9	15.6	14.8	16.8	18.4	18.0	19.1	14.1	13.1	16.9	8.7	11.7	S
16–20	12.9	12.7	13.6	12.9	12.8	13.3	9.4	10.1	6.9	11.5	11.9	10.8	11.7	12.0	11.2	13.8	13.3	15.1	S	S	S
21–25	11.5	12.1	9.8	11.1	10.7	11.9	6.6	7.2	4.4	10.0	10.6	9.1	6.5	7.6	4.4	12.8	13.4	11.0	13.6	18.1	S
More than 25	23.3	28.2	10.0	25.9	32.8	9.4	11.5	13.2	6.0	13.2	17.2	7.3	14.2	20.2	3.3	26.5	32.2	11.3	12.8	18.4	S
Citizenship status																					
U.S. citizen	90.0	89.4	91.6	98.5	98.3	98.8	63.7	63.2	65.1	88.3	84.7	93.8	83.1	80.0	88.9	95.9	95.7	96.4	94.3	93.3	96.4
Native born	75.2	73.6	79.5	98.0	97.6	98.8	8.6	7.1	13.3	67.9	56.4	85.4	60.0	57.2	65.1	90.1	89.5	91.8	67.7	63.2	77.9
Naturalized	14.8	15.8	12.1	S	S	S	55.1	56.1	51.8	20.5	28.3	8.5	23.1	22.8	23.8	5.8	6.2	4.6	26.5	30.1	18.5
Non-U.S. citizen	10.0	10.6	8.4	1.5	S	S	36.3	36.8	34.9	11.7	15.3	6.2	16.9	20.0	11.1	4.1	4.3	3.6	5.7	S	S
Permanent resident	6.7	7.1	5.6	1.5	S	S	24.2	24.5	23.0	7.1	9.2	3.9	11.1	13.6	6.5	2.8	2.9	2.5	S	S	S
Temporary resident	3.3	3.5	2.8	S	S	S	12.2	12.2	11.9	4.6	6.1	2.2	5.8	6.4	4.6	1.3	1.4	1.1	5.7	S	S
Employer location																					
New England	8.4	8.1	9.1	5.3	5.2	5.5	8.0	7.6	9.4	5.0	4.5	5.7	7.0	7.7	5.8	8.7	8.4	9.5	8.9	12.8	S
Middle Atlantic	15.8	15.4	16.9	8.4	8.0	9.3	16.9	16.6	17.9	14.7	14.1	15.7	13.2	12.8	13.9	15.7	15.3	17.0	15.8	15.1	17.3
East North Central	13.2	13.1	13.5	12.1	10.4	16.3	13.1	13.5	11.8	12.4	12.4	12.4	10.5	10.8	9.8	13.4	13.1	14.0	10.9	13.3	S
West North Central	5.7	5.7	5.5	5.8	5.4	6.8	4.5	4.5	4.7	4.5	6.2	2.0	4.8	5.4	3.6	6.0	6.0	5.9	S	S	S
South Atlantic	19.1	18.9	19.7	17.1	15.6	20.7	14.9	14.6	16.1	34.1	33.8	34.5	19.6	18.6	21.4	19.5	19.5	19.4	16.5	14.6	20.6
East South Central	3.8	4.0	3.3	5.4	5.5	5.1	2.9	3.1	2.2	6.2	6.7	5.5	2.2	2.7	1.3	4.0	4.1	3.5	S	S	S
West South Central	7.8	8.2	6.7	15.8	15.5	16.3	8.7	9.1	7.5	8.4	8.3	8.5	10.1	11.1	8.3	7.4	7.8	6.3	7.9	S	S
Mountain	6.6	6.9	5.8	11.2	12.5	8.1	3.7	3.8	3.4	2.4	2.7	1.8	6.8	6.9	6.8	7.3	7.7	6.4	10.0	9.3	S
Pacific	19.2	19.3	19.0	18.9	21.9	12.0	27.0	27.1	26.8	11.8	10.6	13.6	17.2	16.3	18.7	17.8	17.8	17.9	27.9	26.2	31.9
U.S. territories and other areas	0.5	0.4	0.5	S	S	S	0.3	0.3	S	0.6	0.7	S	8.6	7.7	10.3	0.2	0.3	0.2	S	S	S
Sector of employment																					
Universities and 4-year college	43.7	42.1	48.0	45.2	47.3	40.3	34.9	32.7	41.9	55.1	53.6	57.5	54.4	54.1	54.9	44.8	43.5	48.3	39.1	39.9	37.4

TABLE 46. Employed doctoral scientists and engineers, by selected demographic and employment-related characteristics, race/ethnicity, and sex: 2003

(Percent)

Characteristic	Total			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity[a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Other educational institutions	3.4	2.7	5.2	3.4	1.9	6.9	1.6	1.3	2.6	6.5	4.9	9.0	4.4	2.5	7.8	3.6	3.0	5.4	S	S	S
Private-for-profit	31.6	35.5	21.3	24.0	26.4	18.2	50.6	53.8	40.0	18.7	22.9	12.3	22.8	26.8	15.4	28.4	32.0	18.7	27.0	30.5	19.0
Private not-for-profit	5.0	4.4	6.7	5.8	3.5	11.2	3.6	3.2	5.1	5.0	4.8	5.2	3.9	3.5	4.5	5.3	4.6	7.2	7.8	S	S
Federal government	6.9	7.3	6.0	8.1	6.9	10.8	5.0	5.1	4.7	7.4	7.2	7.8	5.7	6.4	4.5	7.3	7.8	6.2	11.0	11.1	S
State and local government	2.7	2.6	3.0	3.6	4.5	S	1.9	1.7	2.7	3.9	3.3	4.8	2.7	2.0	4.0	2.8	2.7	2.9	9.1	S	16.7
Self-employed	6.1	4.9	9.2	9.7	9.4	10.5	1.8	1.6	2.4	3.0	3.1	2.9	5.2	3.6	8.2	7.1	5.8	10.8	S	S	S
Other sector	0.6	0.6	0.6	S	S	S	0.6	0.6	0.5	0.4	S	S	1.0	1.2	S	0.6	0.5	0.6	S	S	S
Primary or secondary work activity[b]																					
Any R&D	62.7	65.7	54.7	56.7	60.9	46.7	74.4	75.3	71.5	56.4	60.8	49.7	63.5	68.9	53.7	60.4	63.6	52.0	55.6	58.4	49.2
Applied research	32.8	33.8	29.9	28.7	29.3	27.4	38.0	38.1	37.7	31.0	32.3	28.9	33.9	36.9	28.5	31.7	32.9	28.5	34.2	31.9	39.2
Basic research	23.8	24.2	22.7	23.3	23.2	23.6	26.1	24.5	31.3	22.3	25.2	18.0	30.0	32.5	25.4	23.2	23.8	21.3	27.7	35.4	S
Design	6.4	7.5	3.4	4.4	6.0	S	9.9	11.0	6.2	3.6	4.8	1.9	5.4	6.9	2.7	5.8	6.9	3.0	S	S	S
Development	14.6	16.6	9.1	10.9	14.5	S	25.7	27.7	19.2	9.2	10.6	7.0	9.6	9.7	9.5	12.6	14.5	7.4	10.7	7.7	17.5
Computer applications	9.5	11.2	5.0	8.7	11.2	S	16.6	18.2	11.6	5.7	7.1	3.6	6.5	8.4	3.0	8.2	9.8	4.0	11.5	15.1	S
Management, sales, administration	40.7	40.0	42.3	40.1	39.7	41.1	32.4	31.9	34.1	39.2	38.0	41.1	37.9	36.3	40.8	42.6	42.1	44.0	34.3	36.5	29.1
Professional services	16.1	13.0	24.6	20.0	19.3	21.8	7.5	6.0	12.7	19.8	14.8	27.3	17.5	13.6	24.9	17.7	14.4	26.7	23.6	22.3	26.6
Teaching	31.0	29.8	34.1	37.4	36.8	38.8	19.6	19.3	20.3	42.8	41.3	45.0	37.9	37.4	38.8	32.7	31.5	35.8	26.7	27.0	25.9
Other activities	6.0	6.0	6.1	10.1	7.3	16.6	5.7	5.9	4.8	6.7	6.6	7.0	5.5	5.5	5.6	6.0	6.0	6.2	9.0	S	S
Federal support																					
Receiving support	30.6	31.0	29.6	32.5	33.0	31.2	26.7	26.3	28.0	29.0	28.5	29.6	35.5	36.9	32.8	31.3	31.9	29.8	30.4	31.9	27.0
Not receiving support	69.4	69.0	70.4	67.5	67.0	68.8	73.3	73.7	72.0	71.0	71.5	70.4	64.5	63.1	67.2	68.7	68.1	70.2	69.6	68.1	73.0
Degree – job relationship																					
Closely related	66.2	65.1	69.4	76.4	76.5	76.1	60.1	60.0	60.5	70.3	69.5	71.5	73.9	72.9	75.7	67.1	65.7	70.5	68.3	70.7	62.8
Somewhat related	25.0	25.8	23.0	15.2	13.7	18.7	29.8	29.9	29.7	21.7	20.9	22.9	18.7	18.7	18.6	24.4	25.3	22.0	22.5	21.3	25.2
Not related	8.7	9.2	7.6	8.4	9.8	5.2	10.0	10.1	9.8	8.0	9.6	5.6	7.4	8.4	5.6	8.5	8.9	7.4	9.2	8.0	S

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

[b] Detail exceeds total due to multiple responses.

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 47. Employed doctoral scientists and engineers, by selected demographic and employment-related characteristics and primary or secondary work activity: 2003
(Percent)

Characteristic	All employed	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
Number employed	593,300	371,830	194,380	141,240	38,060	86,330	56,280	241,190	95,630	183,650	35,700
All characteristics	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex											
Male	72.8	76.3	75.2	74.1	85.6	83.1	85.7	71.8	58.5	70.0	72.5
Female	27.2	23.7	24.8	25.9	14.4	16.9	14.3	28.2	41.5	30.0	27.5
Race/ethnicity											
American Indian/Alaska Native	0.7	0.6	0.6	0.7	0.5	0.5	0.6	0.7	0.8	0.8	1.1
Asian	16.5	19.6	19.2	18.1	25.5	29.2	29.0	13.2	7.8	10.5	15.6
Black	2.9	2.7	2.8	2.8	1.7	1.9	1.8	2.8	3.6	4.1	3.3
Hispanic	2.6	2.7	2.7	3.3	2.2	1.7	1.8	2.5	2.9	3.2	2.4
White	77.0	74.3	74.5	75.0	70.1	66.6	66.6	80.7	84.7	81.3	77.3
Other/unknown race/ethnicity [a]	0.2	0.2	0.2	0.2	S	0.1	0.2	0.1	0.2	0.1	0.3
Age											
Under 35	10.1	12.7	12.5	15.2	12.4	12.7	12.9	7.5	6.6	8.3	8.1
35–39	13.4	15.7	15.7	17.3	15.7	15.9	16.6	11.6	9.7	11.9	11.8
40–44	15.0	16.3	16.1	16.0	17.4	17.2	17.7	15.2	11.5	13.5	13.9
45–49	15.6	15.9	15.8	15.6	14.5	15.4	14.3	16.5	15.8	15.8	14.6
50–54	15.2	13.8	14.2	12.6	12.4	13.4	12.7	16.9	18.6	15.7	15.3
55–59	14.3	11.9	12.4	10.2	14.0	11.1	12.2	16.1	19.4	14.7	15.9
60–64	10.5	8.6	8.4	7.7	8.8	8.7	9.2	11.2	11.1	12.7	12.8
65–75	5.9	5.1	4.8	5.4	4.8	5.5	4.4	5.0	7.3	7.3	7.6
Years since doctorate											
5 or less	19.5	23.2	24.9	25.6	22.7	21.7	23.5	14.2	15.3	18.1	17.2
6–10	18.1	19.2	18.8	18.7	21.3	21.3	22.1	17.6	16.1	16.6	18.5
11–15	14.7	14.7	14.7	14.2	13.7	14.1	14.5	15.8	15.4	14.8	14.0
16–20	12.9	12.2	12.1	12.1	10.9	11.7	10.7	14.7	14.8	13.1	11.8
21–25	11.5	10.1	10.2	9.5	9.0	9.7	9.7	13.3	14.1	11.1	13.6
More than 25	23.3	20.6	19.3	19.9	22.4	21.5	19.6	24.3	24.4	26.4	24.9
Citizenship status											
U.S. citizen	90.0	87.3	87.1	86.6	84.8	83.8	82.6	93.5	96.6	92.3	91.4
Native born	75.2	71.1	71.2	71.9	65.2	62.6	61.6	80.0	86.6	79.9	76.2
Naturalized	14.8	16.2	15.9	14.7	19.6	21.2	21.0	13.5	10.0	12.3	15.2
Non-U.S. citizen	10.0	12.7	12.9	13.4	15.2	16.2	17.4	6.5	3.4	7.7	8.6
Permanent resident	6.7	8.2	8.0	8.2	10.2	10.5	11.7	4.8	2.7	5.6	5.7
Temporary resident	3.3	4.5	4.9	5.2	5.0	5.7	5.6	1.6	0.7	2.2	2.8
Sector of employment											
Universities and 4-year colleges	43.7	48.7	41.5	79.0	11.7	9.8	21.2	32.3	21.7	86.3	31.5

TABLE 47. Employed doctoral scientists and engineers, by selected demographic and employment-related characteristics and primary or secondary work activity: 2003
(Percent)

Characteristic	All employed	Research and development					Computer applications	Management, sales, administration	Professional services	Teaching	Other
		Any R&D	Applied research	Basic research	Design	Development					
Other educational institutions	3.4	1.0	0.7	0.8	1.0	0.9	1.7	2.7	4.6	7.8	4.0
Private-for-profit	31.6	32.9	34.7	6.9	68.1	73.1	55.9	39.6	28.6	1.9	34.0
Private not-for-profit	5.0	4.2	5.4	3.6	3.9	3.1	4.3	6.8	9.6	1.4	5.6
Federal government	6.9	8.0	11.7	7.6	6.5	6.4	7.9	7.9	4.4	0.6	10.6
State and local government	2.7	1.9	2.4	0.9	2.3	1.5	3.8	3.7	6.0	0.4	4.6
Self-employed	6.1	2.8	2.9	0.9	5.8	4.5	4.7	6.2	24.5	1.6	8.5
Other sector	0.6	0.5	0.7	0.2	0.6	0.6	0.5	0.7	0.6	0.1	1.3
Employer location											
New England	8.4	8.9	8.3	9.8	7.9	8.6	8.4	8.2	7.9	8.5	7.2
Middle Atlantic	15.8	15.5	15.1	16.0	14.5	16.0	15.4	15.6	17.5	16.1	14.6
East North Central	13.2	13.3	12.5	14.3	11.4	14.3	12.0	12.6	12.1	15.8	10.9
West North Central	5.7	5.5	5.5	6.1	4.2	4.6	3.3	5.3	6.1	7.4	6.0
South Atlantic	19.1	18.8	20.9	19.4	16.8	15.4	17.0	19.9	19.2	17.5	22.5
East South Central	3.8	3.7	4.0	4.1	3.0	2.3	3.1	3.6	3.3	5.2	3.5
West South Central	7.8	7.6	7.6	6.9	8.0	7.9	7.7	7.8	7.5	8.6	8.2
Mountain	6.6	6.6	7.4	6.2	6.2	5.4	6.7	6.7	6.4	6.8	7.1
Pacific	19.2	19.6	18.3	16.8	27.8	25.2	26.3	19.7	19.4	13.5	19.4
U.S. territories and other areas	0.5	0.4	0.5	0.4	0.3	0.3	0.2	0.5	0.5	0.6	0.6

S = suppressed due to too few cases (fewer than 50 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Percentages may not sum to 100 due to rounding. Numbers are rounded to nearest 10. Numbers for work activities sum to more than the total because of multiple responses.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 48. Employed doctoral scientists and engineers, by field of doctorate and broad occupation: 2003

(Percent)

Field	Number employed	Science occupations [a]			Engineering occupations			Science and engineering-related occupations				Non-science and engineering occupations			
		Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Health-related occupation	S&E manager	Other	Total	Non-S&E manager	Teacher, except S&E postsecondary	Other
All fields	593,300	59.5	21.2	38.3	13.0	2.9	10.0	10.9	5.8	3.9	1.2	16.6	7.5	2.4	6.8
Science	468,570	70.6	26.1	44.5	2.6	0.4	2.2	9.5	4.7	3.6	1.3	17.2	7.3	2.6	7.3
Biological, agricultural, and environmental life sciences	145,760	67.3	20.6	46.7	1.2	0.2	1.0	17.5	11.4	4.8	1.4	13.9	6.6	0.6	6.8
Agricultural/food sciences	16,890	70.6	21.1	49.5	1.4	0.2	1.2	8.2	2.6	3.8	1.8	19.8	10.0	0.8	8.9
Biochemistry/biophysics	22,850	67.4	17.2	50.2	1.2	0.3	0.9	16.8	9.5	6.0	1.2	14.6	6.7	0.3	7.6
Cell/molecular biology	15,180	71.0	16.9	54.1	0.7	S	0.7	15.8	10.5	3.6	1.7	12.5	5.2	0.5	6.7
Environmental life sciences	5,620	66.1	22.6	43.5	8.0	1.2	6.8	11.0	0.8	8.4	1.8	14.9	7.6	0.5	6.8
Microbiology	10,970	61.5	17.7	43.8	0.8	S	0.8	19.0	12.7	6.2	0.1	18.7	9.1	0.7	8.9
Zoology	12,070	68.8	30.6	38.1	1.0	0.3	0.7	15.1	8.7	4.7	1.7	15.2	7.4	0.5	7.3
Other biological sciences	62,190	66.3	21.0	45.3	0.8	0.1	0.6	21.6	15.9	4.3	1.4	11.3	5.3	0.6	5.4
Computer and information sciences	11,960	78.6	31.8	46.8	2.9	1.0	2.0	7.2	0.5	5.2	1.5	11.3	6.7	1.8	2.9
Mathematics and statistics	28,330	79.5	48.5	31.0	3.9	1.2	2.7	3.9	0.6	1.3	2.1	12.7	5.8	2.2	4.7
Physical sciences	112,670	69.5	21.3	48.2	7.4	0.7	6.7	9.1	1.5	5.2	2.4	14.0	7.2	0.5	6.3
Astronomy/astrophysics	3,820	85.6	27.3	58.3	5.2	S	5.2	4.1	S	3.9	0.2	5.1	1.3	0.7	3.1
Chemistry, except biochemistry	57,040	67.6	18.9	48.7	4.9	0.3	4.6	10.1	2.3	5.6	2.2	17.5	8.9	0.5	8.1
Earth/atmospheric/ocean sciences	17,050	76.7	29.2	47.5	3.8	0.7	3.1	7.7	0.6	4.9	2.2	11.8	5.8	0.9	5.2
Physics	34,760	67.4	20.8	46.6	13.6	1.7	12.0	8.6	0.6	4.8	3.1	10.4	5.7	0.5	4.2
Psychology	91,410	78.7	19.7	59.0	0.3	0.1	0.2	4.7	2.0	2.6	0.1	16.3	5.9	3.2	7.1
Social sciences	78,450	64.7	41.9	22.8	0.4	S	0.4	3.3	2.0	0.7	0.6	31.6	11.1	9.0	11.5
Economics	22,060	71.9	36.9	35.0	0.2	0.1	0.1	1.5	0.6	0.6	0.3	26.4	10.7	7.0	8.7
Political sciences	17,730	65.7	50.2	15.5	0.2	S	0.2	2.1	1.3	0.5	0.3	32.1	15.1	4.6	12.4
Sociology	14,250	68.0	48.0	20.0	0.2	S	0.2	4.2	3.3	0.7	0.2	27.6	11.1	7.1	9.4
Other social sciences	24,410	55.5	36.7	18.8	1.0	S	1.0	5.2	2.9	0.9	1.3	38.3	8.7	15.1	14.5
Engineering	101,500	15.4	2.6	12.8	63.8	15.5	48.3	7.5	1.2	5.3	1.0	13.3	7.4	1.1	4.8
Aerospace/aeronautical/astronautical engineering	4,150	10.8	1.0	9.8	70.5	19.1	51.4	6.4	0.5	5.3	0.7	12.2	7.5	0.5	4.3
Chemical engineering	13,460	11.1	1.7	9.4	64.0	10.7	53.3	7.6	1.9	4.6	1.1	17.3	7.9	0.6	8.7
Civil engineering	9,170	7.8	1.3	6.4	76.5	28.9	47.7	5.2	S	5.2	S	10.5	6.3	1.5	2.7

TABLE 48. Employed doctoral scientists and engineers, by field of doctorate and broad occupation: 2003

(Percent)

Field	Number employed	Science occupations [a]			Engineering occupations			Science and engineering-related occupations				Non-science and engineering occupations			
		Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Health-related occupation	S&E manager	Other	Total	Non-S&E manager	Teacher, except S&E postsecondary	Other
Electrical/computer engineering	28,480	20.2	3.6	16.6	59.9	15.4	44.6	6.8	0.7	4.8	1.3	13.0	8.6	0.7	3.8
Materials/metallurgical engineering	10,820	14.7	2.1	12.6	63.3	7.6	55.7	8.8	0.6	6.6	1.6	13.1	7.2	0.2	5.7
Mechanical engineering	13,920	10.0	0.7	9.3	71.6	16.1	55.4	7.3	0.6	5.7	1.1	11.1	6.4	0.2	4.6
Other engineering	21,480	19.6	3.9	15.7	57.1	15.6	41.4	9.2	2.8	5.5	0.9	14.1	6.8	2.9	4.4
Health	23,230	27.1	2.9	24.2	0.5	0.1	0.4	53.4	48.8	4.3	0.3	19.0	10.4	3.8	4.8

S = suppressed due to too few cases (fewer than 50 weighted cases).

S&E = science and engineering.

[a] Further detail for science occupations can be found in Table 49.

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 49. Employed doctoral scientists and engineers working in science occupations, by field of doctorate and broad occupation: 2003
(Percent)

Field	Number employed	Biological, agricultural, and other life scientist			Computer and information scientist			Mathematical scientist			Physical scientist			Psychologist			Social scientist		
		Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other
All fields	352,956	17.6	4.8	12.8	5.8	1.3	4.5	3.8	2.3	1.5	12.4	4.3	8.2	11.3	3.0	8.4	8.5	5.6	3.0
Science	331,029	21.0	6.0	15.0	5.4	1.4	4.0	4.5	2.8	1.7	14.9	5.3	9.6	14.3	3.7	10.6	10.6	7.0	3.6
Biological, agricultural, and environmental life sciences	98,123	60.9	18.2	42.7	1.4	0.1	1.2	1.1	0.3	0.8	3.1	1.4	1.7	0.3	0.2	0.1	0.6	0.3	0.3
Agricultural/food sciences	11,931	63.4	18.9	44.5	1.3	0.2	1.2	0.6	0.1	0.5	4.4	1.4	2.9	S	S	S	0.9	0.5	0.4
Biochemistry/biophysics	15,397	58.2	13.2	45.0	1.5	0.1	1.4	0.3	S	0.3	7.0	3.7	3.3	0.2	0.1	0.1	0.1	0.1	S
Cell/molecular biology	10,773	68.1	16.1	52.0	1.1	S	1.1	0.4	0.2	0.2	1.1	0.6	0.5	S	S	S	0.2	S	0.2
Environmental life sciences	3,715	47.0	14.3	32.7	0.9	0.3	0.6	1.3	0.9	0.4	10.8	3.0	7.8	0.2	0.2	S	6.0	3.9	2.1
Microbiology	6,748	59.8	16.9	42.9	0.9	0.2	0.7	S	S	S	0.5	0.3	0.2	S	S	S	0.3	0.3	S
Zoology	8,296	63.6	27.9	35.7	1.5	0.4	1.1	0.4	S	0.4	2.6	2.0	0.6	0.2	S	0.2	0.5	0.3	0.2
Other biological sciences	41,263	60.3	19.1	41.2	1.5	0.1	1.4	2.0	0.6	1.4	1.6	0.8	0.9	0.6	0.5	0.1	0.3	S	0.3
Computer and information sciences	9,402	0.2	S	0.2	76.9	31.0	45.9	1.1	0.6	0.5	S	S	S	0.2	0.2	S	0.3	0.1	0.2
Mathematics and statistics	22,523	0.7	S	0.6	16.9	4.6	12.3	60.5	43.3	17.2	0.8	0.2	0.6	0.2	0.1	0.1	0.4	0.2	0.2
Physical sciences	78,311	5.9	0.8	5.0	5.6	0.5	5.1	0.7	0.3	0.4	57.0	19.6	37.4	S	S	S	0.2	0.1	0.2
Astronomy/astrophysics	3,267	1.4	1.3	0.1	8.5	0.7	7.8	S	S	S	75.6	25.4	50.2	S	S	S	0.2	S	0.2
Chemistry, except biochemistry	38,539	7.9	0.9	7.0	2.8	0.2	2.5	0.1	S	0.1	56.7	17.7	39.0	S	S	S	S	S	S
Earth/atmospheric/ocean sciences	13,076	4.9	0.9	3.9	3.2	0.7	2.4	0.3	0.1	0.2	67.8	27.0	40.8	S	S	S	0.5	0.3	0.1
Physics	23,430	3.6	0.6	2.9	11.1	0.7	10.3	2.1	0.9	1.2	50.1	18.3	31.8	0.1	0.1	S	0.5	0.1	0.4
Psychology	71,905	2.1	0.3	1.8	1.5	0.3	1.3	0.8	0.1	0.7	S	S	S	71.9	18.4	53.5	2.3	0.6	1.6
Social sciences	50,766	1.2	0.4	0.8	2.0	0.4	1.6	0.9	0.1	0.8	0.9	0.5	0.4	0.7	0.2	0.5	59.1	40.3	18.8
Economics	15,871	1.0	0.6	0.4	1.2	0.4	0.8	1.5	S	1.5	0.4	0.2	0.2	0.1	S	0.1	67.8	35.8	32.0
Political sciences	11,651	0.2	S	0.2	2.1	0.2	2.0	0.3	S	0.3	0.4	0.1	0.3	0.4	0.2	0.2	62.3	49.8	12.6
Sociology	9,694	1.0	S	1.0	1.1	0.3	0.8	1.9	0.4	1.5	S	S	S	0.8	0.3	0.5	63.3	47.1	16.2
Other social sciences	13,550	2.3	0.7	1.6	3.0	0.7	2.4	0.3	0.1	0.2	2.2	1.4	0.7	1.3	0.3	1.0	46.4	33.5	12.8
Engineering	15,628	1.5	0.3	1.2	8.9	1.3	7.7	1.1	0.3	0.8	3.6	0.6	3.0	S	S	S	0.2	0.1	0.1
Aerospace/aeronautical/ astronautical engineering	450	0.6	S	0.6	5.4	S	5.4	S	S	S	4.1	0.3	3.8	0.7	0.7	S	S	S	S
Chemical engineering	1,489	1.9	0.2	1.8	3.9	0.2	3.7	0.9	0.4	0.5	4.3	1.0	3.4	S	S	S	S	S	S
Civil engineering	713	0.2	S	0.2	3.7	0.5	3.2	0.7	0.3	0.3	3.2	0.5	2.7	S	S	S	S	S	S

TABLE 49. Employed doctoral scientists and engineers working in science occupations, by field of doctorate and broad occupation: 2003
(Percent)

Field	Number employed	Biological, agricultural, and other life scientist			Computer and information scientist			Mathematical scientist			Physical scientist			Psychologist			Social scientist		
		Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other	Total	Post-secondary teacher	Other
Electrical/computer engineering	5,768	0.3	0.1	0.2	17.1	3.0	14.1	0.8	0.2	0.6	1.8	0.1	1.6	S	S	S	0.2	0.2	S
Materials/metallurgical engineering	1,594	0.8	0.8	S	4.5	0.2	4.3	0.3	S	0.3	8.9	1.1	7.8	S	S	S	0.2	S	0.2
Mechanical engineering	1,397	0.3	S	0.3	7.6	0.4	7.1	0.4	0.1	0.2	1.6	0.2	1.4	S	S	S	0.2	S	0.2
Other engineering	4,217	4.6	0.7	3.9	7.3	1.3	6.0	2.9	0.7	2.2	4.4	1.0	3.4	S	S	S	0.4	0.2	0.2
Health	6,299	20.1	1.2	19.0	0.6	0.1	0.5	0.7	0.2	0.5	1.6	0.1	1.5	1.0	0.6	0.4	3.1	0.6	2.4

S = suppressed due to too few cases (fewer than 50 weighted cases).

NOTES: Numbers are rounded to nearest 10. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 50. Median annual salaries of full-time employed doctoral scientists and engineers, by field of doctorate, race/ethnicity, and sex: 2003

(Thousands of dollars)

Field	Total			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity[a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
All fields	82.0	86.5	70.0	75.0	80.0	72.4	84.5	87.1	73.0	70.0	73.0	68.0	73.0	80.0	62.0	82.5	87.3	70.0	65.0	70.0	62.5
Science	80.0	83.7	68.0	72.5	72.6	68.0	79.0	82.0	70.0	68.0	69.7	66.0	70.0	75.4	61.0	80.0	85.0	68.0	65.0	70.0	60.0
Biological, agricultural, and environmental life sciences	76.0	80.0	68.0	80.0	75.0	S	70.0	73.0	65.0	62.0	69.0	57.5	65.0	71.0	58.0	80.0	82.6	70.0	70.0	S	S
Agricultural/food sciences	75.0	76.0	61.0	S	S	S	65.0	72.0	56.0	50.0	45.0	S	71.0	80.0	S	75.9	79.0	65.0	S	S	S
Biochemistry/biophysics	85.0	93.0	72.0	S	S	S	75.0	80.0	68.0	60.0	75.0	55.0	75.0	77.0	S	90.0	100.0	76.6	S	S	S
Cell/molecular biology	70.0	75.0	63.0	S	S	S	65.0	70.0	60.0	50.0	S	S	96.0	S	S	72.0	75.6	63.0	S	S	S
Environmental life sciences	72.0	74.0	60.0	S	S	S	67.0	69.0	S	S	S	S	S	S	S	73.0	76.0	60.0	S	S	S
Microbiology	80.0	85.0	73.0	S	S	S	80.0	87.0	75.0	76.5	S	S	66.0	75.0	S	82.0	85.0	76.0	S	S	S
Zoology	77.0	79.0	70.0	S	S	S	78.0	75.0	82.0	73.0	S	S	70.0	S	S	77.0	79.0	70.0	S	S	S
Other biological sciences	75.0	80.0	69.0	85.0	87.0	S	70.0	71.6	67.0	70.0	74.8	57.5	61.0	60.0	61.0	79.1	82.6	70.0	S	S	S
Computer and information sciences	98.0	100.0	85.0	S	S	S	100.0	100.0	95.0	100.0	S	S	80.0	75.0	S	93.0	97.3	83.0	S	S	S
Mathematics and statistics	80.0	82.2	67.0	S	S	S	76.0	76.0	85.0	71.0	73.5	S	72.0	76.0	S	81.0	85.0	64.5	S	S	S
Physical sciences	87.0	90.0	75.0	67.0	67.0	S	85.0	86.0	80.0	75.0	80.0	59.0	80.4	83.0	68.3	89.0	90.6	74.0	68.0	S	S
Astronomy/astrophysics	84.0	89.0	62.0	S	S	S	87.0	93.0	S	S	S	S	S	S	S	85.5	89.4	62.5	S	S	S
Chemistry, except biochemistry	87.0	90.0	77.0	80.0	64.0	S	85.0	85.0	80.0	73.6	80.0	54.0	83.0	85.0	70.0	90.0	92.0	76.0	S	S	S
Earth/atmospheric/ocean sciences	75.0	80.0	62.0	S	S	S	72.3	79.0	63.0	S	S	S	78.8	80.0	S	75.0	80.0	62.0	S	S	S
Physics	94.0	95.0	85.0	S	S	S	89.0	90.0	87.5	100.0	100.0	S	83.9	85.0	S	95.0	96.0	81.0	S	S	S
Psychology	72.5	80.0	65.0	65.0	75.0	60.0	64.5	65.0	63.0	68.0	65.0	68.8	65.0	75.5	62.0	75.0	80.0	65.0	S	S	S
Social sciences	73.0	78.0	65.2	60.0	56.6	67.0	72.0	76.0	67.7	66.0	65.0	70.0	69.5	74.0	59.0	75.0	80.0	65.0	S	S	S
Economics	93.0	96.0	83.5	S	S	S	83.0	84.0	78.0	67.5	65.0	S	92.0	95.0	S	99.0	100.0	84.6	S	S	S
Political sciences	70.0	73.0	65.0	S	S	S	55.0	60.0	51.0	71.0	70.0	72.0	69.5	70.0	S	72.4	75.0	65.0	S	S	S
Sociology	66.0	69.0	63.7	S	S	S	67.0	70.0	65.5	63.4	63.4	62.3	61.1	70.0	S	66.0	69.0	64.0	S	S	S
Other social sciences	65.0	68.0	60.0	56.6	S	S	60.8	61.0	60.0	66.0	60.0	68.0	59.0	60.0	59.0	65.0	70.0	60.0	S	S	S
Engineering	97.3	100.0	84.0	104.1	105.0	S	95.0	96.0	83.4	87.0	91.8	81.4	87.0	89.0	70.0	100.0	100.0	84.0	S	S	S
Aerospace/aeronautical/ astronautical engineering	95.0	96.6	72.0	S	S	S	86.0	91.0	S	S	S	S	S	S	S	98.6	100.0	S	S	S	S
Chemical engineering	100.0	100.0	85.0	S	S	S	100.0	100.0	83.4	96.0	98.0	S	85.5	85.5	S	100.3	102.0	87.0	S	S	S
Civil engineering	85.0	85.4	70.0	S	S	S	88.8	90.0	S	68.0	68.0	S	76.0	80.0	S	85.4	88.0	70.0	S	S	S
Electrical/computer engineering	104.0	105.0	93.7	S	S	S	100.0	100.5	96.5	96.0	99.0	S	100.0	100.0	S	105.0	107.0	93.0	S	S	S
Materials/metallurgical engineering	94.5	95.0	86.1	S	S	S	93.0	92.0	93.1	S	S	S	S	S	S	95.0	97.3	85.0	S	S	S
Mechanical engineering	93.5	95.0	71.0	S	S	S	90.0	90.0	70.0	91.0	91.0	S	87.0	S	S	96.0	97.4	71.0	S	S	S
Other engineering	90.0	92.0	81.0	S	S	S	84.5	85.0	75.0	85.0	112.0	S	80.0	81.0	S	95.0	100.0	84.0	S	S	S
Health	75.9	85.0	71.0	S	S	S	79.0	82.0	73.0	75.0	82.5	70.0	74.0	S	74.0	75.0	85.4	70.5	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 51. Median annual salaries of full-time employed doctoral scientists and engineers, by field of doctorate and citizenship status: 2003
(Dollars)

Field	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
All fields	82,000	84,000	81,500	90,000	73,000	80,000	62,000
Science	80,000	80,000	80,000	84,500	67,500	72,300	53,100
Biological, agricultural, and environmental life sciences	76,000	79,000	79,000	78,000	58,000	67,000	43,000
Agricultural/food sciences	75,000	75,000	76,000	75,000	59,000	65,000	50,400
Biochemistry/biophysics	85,000	89,000	90,000	80,000	65,000	75,000	42,000
Cell/molecular biology	70,000	72,200	72,200	72,000	57,000	64,500	42,600
Environmental life sciences	72,000	72,500	72,000	74,000	55,000	67,000	S
Microbiology	80,000	84,000	80,000	94,000	52,000	80,000	48,000
Zoology	77,000	78,000	77,000	82,000	54,000	54,000	S
Other biological sciences	75,000	78,000	78,000	76,000	56,000	65,000	44,300
Computer and information sciences	98,000	100,000	97,300	105,000	88,500	103,000	80,000
Mathematics and statistics	80,000	84,000	82,000	85,000	68,900	71,000	62,000
Physical sciences	87,000	90,000	90,000	90,000	71,000	76,000	56,000
Astronomy/astrophysics	84,000	84,000	82,000	100,000	86,500	93,000	S
Chemistry, except biochemistry	87,000	90,000	90,000	90,000	72,000	78,000	50,000
Earth/atmospheric/ocean sciences	75,000	75,000	75,000	79,000	60,600	63,000	55,400
Physics	94,000	97,000	96,000	100,000	72,000	82,900	64,000
Psychology	72,500	73,000	73,000	75,000	58,000	65,000	45,000
Social sciences	73,000	74,000	73,000	79,300	70,000	70,000	67,500
Economics	93,000	95,000	98,000	84,500	88,000	84,000	90,000
Political sciences	70,000	72,000	72,000	69,000	60,000	60,000	S
Sociology	66,000	67,000	66,000	74,000	60,000	66,500	S
Other social sciences	65,000	65,000	65,000	77,000	57,000	60,000	53,000
Engineering	97,300	100,000	100,000	100,000	83,000	87,000	73,500
Aerospace/aeronautical/astronautical engineering	95,000	98,000	98,000	98,000	75,000	96,600	45,400
Chemical engineering	100,000	103,000	100,000	106,500	83,400	90,000	75,000
Civil engineering	85,000	88,800	85,000	91,500	72,000	80,000	63,000
Electrical/computer engineering	104,000	109,000	107,000	110,000	95,000	100,000	82,000
Materials/metallurgical engineering	94,500	100,000	96,000	100,000	80,000	83,000	72,000
Mechanical engineering	93,500	98,000	96,000	100,000	80,000	83,000	72,000
Other engineering	90,000	95,000	98,500	90,000	75,000	80,000	70,000
Health	75,900	76,000	75,000	85,000	70,000	75,000	54,000

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 52. Median annual salaries of full-time employed doctoral scientists and engineers, by field of doctorate and age: 2003
(Dollars)

Field	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
All fields	82,000	60,200	72,000	80,000	84,000	88,400	93,500	95,400	95,000
Science	80,000	55,000	66,000	75,900	80,000	85,100	90,100	90,000	91,000
Biological, agricultural, and environmental life sciences	76,000	45,000	62,000	74,300	80,000	88,000	95,000	95,000	95,300
Agricultural/food sciences	75,000	56,000	61,800	75,000	80,000	75,000	85,000	80,000	85,000
Biochemistry/biophysics	85,000	43,000	75,000	80,000	80,000	102,000	104,000	100,000	150,000
Cell/molecular biology	70,000	43,000	57,000	75,000	85,400	90,000	110,000	105,000	S
Environmental life sciences	72,000	53,500	60,000	71,000	74,000	80,000	75,000	80,000	S
Microbiology	80,000	40,000	68,000	70,000	85,700	100,000	105,000	100,000	90,000
Zoology	77,000	44,700	60,000	65,000	74,000	76,100	90,000	86,000	94,000
Other biological sciences	75,000	44,300	60,000	72,000	82,000	90,000	94,000	98,500	80,000
Computer and information sciences	98,000	89,000	92,000	105,000	100,000	98,000	97,000	S	S
Mathematics and statistics	80,000	58,000	68,500	76,000	80,000	86,000	99,000	95,000	85,000
Physical sciences	87,000	65,000	76,000	85,000	90,900	100,000	105,000	103,000	96,000
Astronomy/astrophysics	84,000	48,500	70,000	90,000	86,000	100,000	91,000	106,000	S
Chemistry, except biochemistry	87,000	70,000	77,000	88,600	95,000	102,000	105,000	100,000	90,000
Earth/atmospheric/ocean sciences	75,000	53,000	58,500	67,000	74,000	86,000	100,000	86,000	100,000
Physics	94,000	70,000	80,000	92,000	93,000	103,000	110,000	110,000	100,000
Psychology	72,500	53,500	60,000	67,000	75,000	80,000	82,000	80,000	90,000
Social sciences	73,000	55,000	60,000	66,000	68,000	78,000	84,000	84,000	89,000
Economics	93,000	80,000	84,000	96,000	90,000	94,000	104,000	102,000	100,000
Political sciences	70,000	48,000	53,000	60,000	65,000	80,000	82,500	92,000	95,000
Sociology	66,000	47,500	55,000	60,000	65,000	75,000	71,000	70,000	75,000
Other social sciences	65,000	48,000	50,200	58,000	60,000	72,000	73,400	80,000	66,000
Engineering	97,300	80,000	87,000	96,000	100,000	102,000	106,000	120,000	108,000
Aerospace/aeronautical/astronautical engineering	95,000	75,000	86,000	86,000	101,300	106,000	110,000	150,000	95,000
Chemical engineering	100,000	83,000	87,100	100,000	106,000	110,000	112,500	120,000	100,000
Civil engineering	85,000	61,100	76,000	80,000	95,000	82,000	98,500	107,000	132,000
Electrical/computer engineering	104,000	85,000	100,000	108,000	111,600	110,000	113,200	120,000	108,000
Materials/metallurgical engineering	94,500	82,000	82,000	96,000	100,000	100,000	110,000	100,000	106,500
Mechanical engineering	93,500	80,000	85,000	90,000	95,000	100,000	117,100	124,000	126,000
Other engineering	90,000	75,000	81,000	88,500	90,000	100,000	100,000	115,000	95,000
Health	75,900	66,000	68,000	72,000	73,800	79,000	82,000	81,500	94,000

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 53. Median annual salaries of full-time employed doctoral scientists and engineers, by field of doctorate and years since doctorate: 2003

(Dollars)

Field	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
All fields	82,000	60,000	75,000	83,000	90,000	99,000	101,000
Science	80,000	55,000	70,000	79,600	86,000	95,000	100,000
Biological, agricultural, and environmental life sciences	76,000	48,000	69,800	80,000	89,000	100,000	100,000
Agricultural/food sciences	75,000	57,100	62,000	79,000	83,500	85,000	90,000
Biochemistry/biophysics	85,000	42,900	75,000	80,000	95,000	104,000	113,000
Cell/molecular biology	70,000	43,000	70,000	80,000	101,300	120,000	110,000
Environmental life sciences	72,000	55,000	71,000	72,000	91,400	89,000	82,800
Microbiology	80,000	47,000	70,000	88,000	90,000	108,600	100,000
Zoology	77,000	50,000	65,000	75,000	83,000	75,000	92,400
Other biological sciences	75,000	46,000	69,000	80,000	89,000	103,000	100,000
Computer and information sciences	98,000	82,000	103,000	105,000	125,000	102,000	S
Mathematics and statistics	80,000	60,000	72,000	75,000	81,000	90,000	100,000
Physical sciences	87,000	64,200	79,000	86,000	95,000	106,000	106,000
Astronomy/astrophysics	84,000	50,000	70,000	90,000	88,400	100,000	91,000
Chemistry, except biochemistry	87,000	70,000	80,000	90,000	99,000	106,000	102,000
Earth/atmospheric/ocean sciences	75,000	54,600	67,000	66,000	83,100	101,000	105,000
Physics	94,000	67,400	83,000	91,000	99,000	110,000	110,000
Psychology	72,500	55,000	62,000	72,000	82,000	85,000	90,000
Social sciences	73,000	55,000	63,000	70,000	75,000	85,500	98,000
Economics	93,000	75,000	84,000	83,000	96,500	100,000	116,000
Political sciences	70,000	52,000	60,000	66,100	64,400	97,000	103,000
Sociology	66,000	50,200	60,000	64,000	70,000	80,000	80,000
Other social sciences	65,000	49,500	57,000	67,800	68,500	78,000	85,000
Engineering	97,300	80,000	93,000	100,000	105,000	110,000	115,000
Aerospace/aeronautical/astronautical engineering	95,000	75,000	92,300	100,000	103,000	S	108,000
Chemical engineering	100,000	80,000	90,500	104,000	105,000	111,700	118,000
Civil engineering	85,000	63,000	80,000	92,000	95,000	95,000	104,200
Electrical/computer engineering	104,000	87,000	105,000	109,000	120,000	120,000	120,000
Materials/metallurgical engineering	94,500	80,000	85,000	100,000	110,000	102,000	110,000
Mechanical engineering	93,500	76,000	90,000	97,000	100,000	123,000	123,300
Other engineering	90,000	70,200	85,000	90,000	100,000	110,000	110,000
Health	75,900	63,000	73,000	78,000	88,700	91,600	110,000

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 54. Median annual salaries of full-time employed doctoral scientists and engineers, by field of doctorate and sector of employment: 2003
(Dollars)

Field	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit	Private not-for-profit	Federal government	State, local government	Self-employed	Other
All fields	82,000	70,000	58,000	100,000	80,000	91,000	68,000	90,000	112,000
Science	80,000	67,000	58,000	100,000	78,000	90,000	67,000	90,000	117,000
Biological, agricultural, and environmental life sciences	76,000	66,800	50,000	100,000	75,500	84,000	63,000	85,000	72,000
Agricultural/food sciences	75,000	69,000	51,000	86,000	74,000	80,000	52,000	74,500	S
Biochemistry/biophysics	85,000	71,500	48,000	103,000	85,000	97,600	90,000	95,000	S
Cell/molecular biology	70,000	53,000	50,000	90,000	72,000	80,000	S	S	S
Environmental life sciences	72,000	65,000	S	89,000	91,400	76,000	67,000	S	S
Microbiology	80,000	67,000	45,500	105,000	70,000	88,800	S	S	S
Zoology	77,000	70,000	50,000	98,500	74,000	90,000	62,400	60,000	S
Other biological sciences	75,000	67,000	50,000	103,200	76,700	87,000	63,000	80,000	S
Computer and information sciences	98,000	78,600	S	120,000	120,000	101,000	S	S	S
Mathematics and statistics	80,000	68,000	61,000	103,000	98,000	102,000	85,000	95,000	S
Physical sciences	87,000	68,000	52,500	100,000	94,000	100,000	65,000	75,000	100,000
Astronomy/astrophysics	84,000	69,000	S	100,000	109,900	100,000	S	S	S
Chemistry, except biochemistry	87,000	64,400	54,000	100,000	85,100	90,000	62,000	75,000	S
Earth/atmospheric/ocean sciences	75,000	63,700	52,000	95,000	66,800	93,000	60,000	60,000	S
Physics	94,000	75,000	49,000	103,000	100,000	106,000	98,000	80,000	104,000
Psychology	72,500	64,000	66,000	90,000	70,000	87,000	68,000	95,000	S
Social sciences	73,000	67,000	58,000	110,000	85,000	95,000	70,000	80,000	150,000
Economics	93,000	81,000	65,000	125,000	100,700	100,600	79,000	100,000	160,000
Political sciences	70,000	63,000	52,000	110,000	87,000	104,000	73,000	110,000	S
Sociology	66,000	64,000	61,100	83,000	86,100	98,900	64,000	53,000	S
Other social sciences	65,000	60,000	57,000	100,000	66,000	80,000	63,500	70,000	S
Engineering	97,300	82,200	50,300	100,000	100,000	98,000	74,500	100,000	115,000
Aerospace/aeronautical/astronautical engineering	95,000	90,000	S	98,000	72,000	92,000	S	S	S
Chemical engineering	100,000	90,500	S	100,000	113,000	103,000	S	120,000	S
Civil engineering	85,000	78,000	S	95,000	S	92,000	67,500	150,000	S
Electrical/computer engineering	104,000	85,000	S	110,000	106,500	106,000	S	120,000	S
Materials/metallurgical engineering	94,500	76,000	S	98,000	84,000	93,000	S	83,000	S
Mechanical engineering	93,500	84,000	S	97,000	115,000	95,000	S	S	S
Other engineering	90,000	82,000	S	100,000	83,000	100,000	74,500	40,000	S
Health	75,900	70,000	68,000	100,000	82,000	86,000	70,000	100,000	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 55. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and sex: 2003
(Dollars)

Employment sector and field	Total	Male	Female
All sectors	82,000	86,500	70,000
Science	80,000	83,700	68,000
Biological, agricultural, and environmental life sciences	76,000	80,000	68,000
Computer and information sciences	98,000	100,000	85,000
Mathematics and statistics	80,000	82,200	67,000
Physical sciences	87,000	90,000	75,000
Psychology	72,500	80,000	65,000
Social sciences	73,000	78,000	65,200
Engineering	97,300	100,000	84,000
Health	75,900	85,000	71,000
Universities and 4-year colleges	70,000	73,000	60,000
Science	67,000	71,000	60,000
Biological, agricultural, and environmental life sciences	66,800	70,300	57,000
Computer and information sciences	78,600	80,000	76,000
Mathematics and statistics	68,000	71,200	59,000
Physical sciences	68,000	70,500	57,000
Psychology	64,000	70,000	60,000
Social sciences	67,000	70,300	60,200
Engineering	82,200	85,000	71,000
Health	70,000	75,000	67,000
Other educational institutions	58,000	59,000	56,000
Science	58,000	60,000	56,000
Biological, agricultural, and environmental life sciences	50,000	50,800	49,000
Computer and information sciences	S	S	S
Mathematics and statistics	61,000	61,000	S
Physical sciences	52,500	54,000	51,000
Psychology	66,000	70,000	62,000
Social sciences	58,000	58,000	58,000
Engineering	50,300	53,000	S
Health	68,000	S	67,000
Private-for-profit	100,000	102,000	90,000
Science	100,000	103,000	89,000
Biological, agricultural, and environmental life sciences	100,000	104,000	88,000
Computer and information sciences	120,000	120,000	106,000
Mathematics and statistics	103,000	103,000	105,000
Physical sciences	100,000	100,000	89,000
Psychology	90,000	100,000	79,000
Social sciences	110,000	114,000	100,000
Engineering	100,000	100,000	92,000
Health	100,000	106,000	85,000
Private not-for-profit	80,000	85,000	70,000
Science	78,000	84,000	68,100
Biological, agricultural, and environmental life sciences	75,500	82,700	63,000
Computer and information sciences	120,000	S	S
Mathematics and statistics	98,000	100,800	S
Physical sciences	94,000	95,000	80,000
Psychology	70,000	75,000	64,000
Social sciences	85,000	87,000	80,000
Engineering	100,000	100,000	S
Health	82,000	82,000	82,400
Federal government	91,000	95,000	83,000
Science	90,000	92,900	83,500
Biological, agricultural, and environmental life sciences	84,000	87,000	80,000
Computer and information sciences	101,000	103,000	S

TABLE 55. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and sex: 2003
(Dollars)

Employment sector and field	Total	Male	Female
Mathematics and statistics	102,000	106,000	S
Physical sciences	100,000	100,000	83,000
Psychology	87,000	88,000	85,000
Social sciences	95,000	95,000	96,000
Engineering	98,000	100,000	80,000
Health	86,000	93,000	80,000
State and local government	68,000	70,000	65,000
Science	67,000	70,000	65,000
Biological, agricultural, and environmental life sciences	63,000	67,700	58,000
Computer and information sciences	S	S	S
Mathematics and statistics	85,000	103,400	S
Physical sciences	65,000	65,700	65,000
Psychology	68,000	70,000	65,000
Social sciences	70,000	70,000	70,000
Engineering	74,500	76,000	60,100
Health	70,000	S	74,400
Self-employed	90,000	100,000	80,000
Science	90,000	100,000	80,000
Biological, agricultural, and environmental life sciences	85,000	85,000	78,000
Computer and information sciences	S	S	S
Mathematics and statistics	95,000	80,000	S
Physical sciences	75,000	80,000	65,000
Psychology	95,000	105,000	84,000
Social sciences	80,000	100,000	40,000
Engineering	100,000	100,000	S
Health	100,000	100,000	65,000
Other	112,000	124,700	85,000
Science	117,000	140,000	85,000
Biological, agricultural, and environmental life sciences	72,000	S	S
Computer and information sciences	S	S	S
Mathematics and statistics	S	S	S
Physical sciences	100,000	102,000	S
Psychology	S	S	S
Social sciences	150,000	160,000	106,000
Engineering	115,000	105,000	S
Health	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 56. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and race/ethnicity: 2003

(Dollars)

Employment sector and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
All sectors	82,000	75,000	84,500	70,000	73,000	82,500	65,000
Science	80,000	72,500	79,000	68,000	70,000	80,000	65,000
Biological, agricultural, and environmental life sciences	76,000	80,000	70,000	62,000	65,000	80,000	70,000
Computer and information sciences	98,000	S	100,000	100,000	80,000	93,000	S
Mathematics and statistics	80,000	S	76,000	71,000	72,000	81,000	S
Physical sciences	87,000	67,000	85,000	75,000	80,400	89,000	68,000
Psychology	72,500	65,000	64,500	68,000	65,000	75,000	S
Social sciences	73,000	60,000	72,000	66,000	69,500	75,000	S
Engineering	97,300	104,100	95,000	87,000	87,000	100,000	S
Health	75,900	S	79,000	75,000	74,000	75,000	S
Universities and 4-year colleges	70,000	68,000	65,000	65,000	63,000	70,000	60,000
Science	67,000	64,000	60,000	62,300	61,000	69,500	60,000
Biological, agricultural, and environmental life sciences	66,800	72,000	55,000	62,000	61,000	70,000	S
Computer and information sciences	78,600	S	82,000	S	S	75,000	S
Mathematics and statistics	68,000	S	61,000	62,000	63,000	70,000	S
Physical sciences	68,000	60,000	60,000	56,000	69,500	70,000	S
Psychology	64,000	72,500	58,000	60,000	60,000	65,000	S
Social sciences	67,000	56,600	65,000	65,000	61,000	68,400	S
Engineering	82,200	S	76,200	75,300	80,000	85,000	S
Health	70,000	S	63,000	73,000	69,000	70,000	S
Other educational institutions	58,000	S	56,000	56,000	61,000	57,000	S
Science	58,000	S	60,000	56,000	61,000	58,000	S
Biological, agricultural, and environmental life sciences	50,000	S	48,000	S	S	50,000	S
Computer and information sciences	S	S	S	S	S	S	S
Mathematics and statistics	61,000	S	S	S	S	65,000	S
Physical sciences	52,500	S	S	S	S	51,200	S
Psychology	66,000	S	S	60,000	67,600	66,000	S
Social sciences	58,000	S	S	S	S	58,000	S
Engineering	50,300	S	S	S	S	50,000	S
Health	68,000	S	S	S	S	68,000	S
Private-for-profit	100,000	90,000	96,000	95,000	100,000	104,000	76,000
Science	100,000	90,000	90,200	88,000	100,000	104,000	S
Biological, agricultural, and environmental life sciences	100,000	100,000	85,000	76,500	93,000	103,000	S
Computer and information sciences	120,000	S	117,200	S	S	120,000	S
Mathematics and statistics	103,000	S	93,000	S	S	110,000	S
Physical sciences	100,000	S	90,000	86,000	95,000	103,000	S
Psychology	90,000	S	75,000	100,000	87,100	91,000	S
Social sciences	110,000	S	100,000	S	S	114,000	S
Engineering	100,000	S	100,000	105,000	100,000	105,000	S
Health	100,000	S	108,000	S	S	100,000	S
Private not-for-profit	80,000	S	74,000	70,000	78,000	80,000	S
Science	78,000	S	70,000	70,000	73,000	80,000	S
Biological, agricultural, and environmental life sciences	75,500	S	69,000	S	S	80,000	S
Computer and information sciences	120,000	S	S	S	S	S	S
Mathematics and statistics	98,000	S	S	S	S	98,000	S
Physical sciences	94,000	S	72,300	S	S	96,000	S
Psychology	70,000	S	60,000	58,000	S	70,000	S
Social sciences	85,000	S	69,000	S	S	85,000	S
Engineering	100,000	S	100,000	S	S	101,000	S
Health	82,000	S	S	S	S	87,000	S

TABLE 56. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad field of doctorate, and race/ethnicity: 2003

(Dollars)

Employment sector and field	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Federal government	91,000	75,000	86,000	80,000	80,000	94,100	S
Science	90,000	75,000	85,000	80,000	81,000	92,300	S
Biological, agricultural, and environmental life sciences	84,000	S	80,000	82,000	62,000	87,000	S
Computer and information sciences	101,000	S	S	S	S	101,000	S
Mathematics and statistics	102,000	S	86,000	S	S	106,200	S
Physical sciences	100,000	S	98,000	S	87,300	100,000	S
Psychology	87,000	S	S	S	S	87,000	S
Social sciences	95,000	S	83,000	80,000	S	98,500	S
Engineering	98,000	S	90,000	S	S	102,000	S
Health	86,000	S	S	S	S	85,000	S
State and local government	68,000	S	65,000	68,800	75,000	68,000	S
Science	67,000	S	64,600	68,800	72,000	68,000	S
Biological, agricultural, and environmental life sciences	63,000	S	60,000	S	S	65,000	S
Computer and information sciences	S	S	S	S	S	S	S
Mathematics and statistics	85,000	S	S	S	S	S	S
Physical sciences	65,000	S	60,500	S	S	66,000	S
Psychology	68,000	S	S	70,000	S	68,000	S
Social sciences	70,000	S	70,000	S	S	70,000	S
Engineering	74,500	S	74,500	S	S	75,000	S
Health	70,000	S	S	S	S	67,000	S
Self-employed	90,000	S	87,000	80,000	84,000	95,000	S
Science	90,000	S	100,000	80,000	84,000	90,000	S
Biological, agricultural, and environmental life sciences	85,000	S	100,000	S	S	85,000	S
Computer and information sciences	S	S	S	S	S	S	S
Mathematics and statistics	95,000	S	S	S	S	95,000	S
Physical sciences	75,000	S	75,000	S	S	75,000	S
Psychology	95,000	S	S	S	S	97,000	S
Social sciences	80,000	S	S	S	S	80,000	S
Engineering	100,000	S	83,000	S	S	100,000	S
Health	100,000	S	S	S	S	100,000	S
Other	112,000	S	140,000	S	S	112,000	S
Science	117,000	S	130,000	S	S	117,000	S
Biological, agricultural, and environmental life sciences	72,000	S	S	S	S	S	S
Computer and information sciences	S	S	S	S	S	S	S
Mathematics and statistics	100,000	S	S	S	S	100,000	S
Physical sciences	S	S	S	S	S	S	S
Psychology	150,000	S	140,000	S	S	160,000	S
Social sciences	115,000	S	S	S	S	105,000	S
Engineering	S	S	S	S	S	S	S
Health							

S = suppressed due to too few cases (fewer than 200 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 57. Median annual salaries of full-time employed doctoral scientists and engineers, by field of doctorate and primary or secondary work activity: 2003
(Dollars)

Field	Total	Computer applications	Management, sales, administration	Professional services	R&D [a]	Teaching	Other
All fields	82,000	86,500	101,000	81,000	85,000	61,000	76,500
Science	80,000	85,000	100,000	80,000	82,700	60,000	72,200
Biological, agricultural, and environmental life sciences	76,000	75,000	98,000	99,400	75,000	57,000	70,000
Agricultural/food sciences	75,000	75,000	87,500	61,000	75,000	60,000	65,000
Biochemistry/biophysics	85,000	70,000	103,000	105,000	83,000	60,000	77,000
Cell/molecular biology	70,000	74,000	88,000	97,500	66,000	50,500	58,000
Environmental life sciences	72,000	S	88,000	70,000	72,000	55,000	67,000
Microbiology	80,000	S	108,000	105,000	75,000	55,000	65,000
Zoology	77,000	77,000	90,000	88,300	77,400	62,000	76,100
Other biological sciences	75,000	80,000	99,000	100,000	74,400	56,000	64,500
Computer and information sciences	98,000	105,000	120,000	S	110,000	72,000	S
Mathematics and statistics	80,000	85,000	110,000	97,000	90,000	61,000	67,000
Physical sciences	87,000	84,500	109,000	100,000	90,200	60,000	82,000
Astronomy/astrophysics	84,000	90,000	110,000	S	87,000	60,000	S
Chemistry, except biochemistry	87,000	80,000	105,000	105,000	90,000	55,400	80,000
Earth/atmospheric/ocean sciences	75,000	72,000	100,000	80,000	80,000	60,000	75,900
Physics	94,000	85,000	116,000	110,400	100,000	65,000	86,000
Psychology	72,500	90,000	82,000	75,000	78,200	60,000	71,900
Social sciences	73,000	79,000	95,000	84,000	80,000	60,000	66,000
Economics	93,000	90,000	125,000	135,000	100,000	72,000	83,400
Political sciences	70,000	82,000	105,000	100,000	74,000	55,000	69,500
Sociology	66,000	S	85,000	60,000	74,000	60,000	60,000
Other social sciences	65,000	60,000	80,000	69,500	68,400	55,000	55,000
Engineering	97,300	91,800	113,500	101,500	95,000	76,000	94,000
Aerospace/aeronautical/astronautical engineering	95,000	120,000	110,000	S	86,000	90,000	106,000
Chemical engineering	100,000	98,000	115,000	87,000	97,000	70,000	99,000
Civil engineering	85,000	102,000	104,000	104,000	81,500	72,100	85,000
Electrical/computer engineering	104,000	100,000	120,000	125,000	107,000	79,000	100,000
Materials/metallurgical engineering	94,500	82,000	112,000	85,000	90,000	72,000	83,000
Mechanical engineering	93,500	84,000	111,000	105,000	91,000	72,000	116,000
Other engineering	90,000	85,000	113,000	100,000	90,000	75,000	83,000
Health	75,900	80,000	90,000	77,000	79,000	62,000	74,000

S = suppressed due to too few cases (fewer than 200 weighted cases).

[a] R&D includes applied or basic research, design, and development.

NOTES: Salaries are rounded to nearest 100. If respondent reported more than one category of activity as the primary and secondary work activity, respondent's salary appears in both categories.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 58. Median annual salaries of full-time employed doctoral scientists and engineers, by employer location and broad field of doctorate: 2003
(Dollars)

Employer location	Total	Science						Engineering	Health
		Biological, agricultural, and environmental life sciences	Computer and information sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences		
All locations	80,000	76,000	98,000	80,000	87,000	72,500	73,000	97,300	75,900
New England	82,000	81,000	105,000	82,000	90,000	75,000	78,000	97,400	80,000
Connecticut	90,000	100,000	S	72,000	100,000	80,000	82,000	93,000	75,000
Maine	68,000	75,500	S	S	51,100	75,000	60,000	S	S
Massachusetts	84,500	80,000	102,000	85,000	92,000	79,000	84,000	99,800	83,000
New Hampshire	63,000	50,000	S	86,000	63,000	60,000	65,000	100,000	S
Rhode Island	74,000	90,000	S	S	75,900	73,000	65,000	90,000	S
Vermont	65,000	63,000	S	S	S	60,000	60,000	110,000	S
Middle Atlantic	85,000	80,000	105,000	92,000	90,000	80,000	78,000	100,000	81,200
New Jersey	97,000	98,000	120,000	105,000	100,000	89,000	83,000	105,000	93,000
New York	84,000	78,000	105,000	95,000	90,000	80,000	80,000	100,000	82,000
Pennsylvania	75,000	74,500	72,000	78,000	83,000	75,000	72,700	100,000	76,000
East North Central	75,000	75,000	80,000	73,000	84,000	70,000	68,400	89,000	70,000
Illinois	75,000	75,000	102,000	84,800	84,000	70,000	75,000	95,000	65,000
Indiana	73,000	75,000	S	68,000	92,000	75,000	67,300	81,700	56,500
Michigan	76,000	80,000	62,000	71,000	84,000	72,000	70,000	94,000	82,000
Ohio	73,000	72,000	83,000	84,000	81,000	70,000	63,400	86,000	72,000
Wisconsin	67,000	65,000	S	60,000	75,600	62,400	69,500	83,800	64,000
West North Central	69,700	72,000	88,000	70,000	75,000	65,000	60,000	82,000	72,000
Iowa	73,000	82,000	S	68,000	59,400	60,000	72,000	70,000	54,000
Kansas	62,900	60,000	S	S	55,000	74,000	52,000	79,900	S
Minnesota	70,000	72,000	S	91,700	86,000	63,000	55,000	96,000	75,000
Missouri	65,000	70,000	S	67,500	75,000	56,000	63,000	85,500	65,000
Nebraska	66,800	69,000	S	S	S	S	S	S	S
North Dakota	66,000	75,000	S	S	55,000	75,000	65,000	83,000	S
South Dakota	61,000	69,000	S	S	S	S	S	S	S
South Atlantic	80,000	80,000	90,000	85,000	85,500	72,500	80,000	96,000	80,000
Delaware	97,800	94,800	S	S	100,000	S	S	111,700	S
District of Columbia	104,000	92,000	S	75,000	106,000	80,000	110,000	106,000	89,500
Florida	69,000	70,000	80,000	56,000	70,000	70,000	56,500	84,000	69,000
Georgia	70,000	70,000	S	70,000	80,000	68,100	60,000	87,000	79,900
Maryland	86,000	89,000	90,000	98,000	96,000	76,000	71,000	100,000	85,700
North Carolina	75,000	80,000	S	70,000	79,000	72,000	60,000	100,000	80,000
South Carolina	70,000	75,000	S	72,000	70,000	61,000	60,000	81,300	70,000
Virginia	83,000	76,600	115,000	103,000	86,200	75,000	80,000	98,500	88,700
West Virginia	74,000	74,000	S	S	90,000	S	43,800	78,000	S
East South Central	71,000	71,000	80,000	64,000	75,000	75,000	67,000	85,000	66,000
Alabama	72,500	75,000	S	86,500	75,000	65,000	60,000	86,000	77,200
Kentucky	70,000	72,000	S	64,000	65,700	80,000	56,000	85,000	S
Mississippi	70,000	68,000	S	S	72,000	73,000	70,000	78,000	S
Tennessee	74,000	70,000	S	61,300	80,000	75,000	87,300	87,300	77,000
West South Central	75,000	73,000	85,000	75,700	85,500	68,000	68,000	95,000	70,800
Arkansas	65,000	65,000	S	S	87,000	61,000	65,500	80,000	S
Louisiana	70,000	70,000	S	64,000	80,000	60,000	79,000	103,000	54,000
Oklahoma	65,000	70,000	S	S	73,000	63,000	50,000	75,000	S
Texas	78,000	75,000	86,100	81,000	87,000	70,000	70,000	98,000	70,800
Mountain	72,000	70,000	81,000	65,000	89,000	65,000	64,000	100,000	72,000
Arizona	68,000	65,000	S	S	70,000	62,300	70,000	90,000	S
Colorado	74,000	70,000	86,000	53,000	94,000	72,000	62,000	85,000	72,000

TABLE 58. Median annual salaries of full-time employed doctoral scientists and engineers, by employer location and broad field of doctorate: 2003
(Dollars)

Employer location	Total	Science							
		Biological, agricultural, and environmental life sciences	Computer and information sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Health
Idaho	65,000	70,000	S	S	77,800	56,000	S	93,000	S
Montana	60,000	60,000	S	50,000	67,500	70,000	S	S	S
New Mexico	83,000	74,500	S	85,000	104,000	67,900	56,000	108,400	86,000
Nevada	80,000	78,000	S	S	93,000	110,000	S	108,000	S
Utah	70,300	72,000	S	S	72,500	62,000	70,000	100,000	S
Wyoming	71,000	70,000	S	S	S	S	S	S	S
Pacific	85,000	80,000	115,000	85,000	95,000	76,800	80,000	105,000	80,000
Alaska	65,000	60,000	S	S	60,000	S	S	S	S
California	90,000	85,000	120,000	85,000	100,000	80,000	88,000	110,000	82,000
Hawaii	72,000	70,000	S	S	86,000	70,600	68,000	S	S
Oregon	72,000	74,000	71,000	63,000	85,000	57,000	72,000	88,000	80,000
Washington	75,000	67,000	105,000	83,000	82,000	70,000	70,300	93,000	80,000
Puerto Rico	58,500	58,000	S	S	60,000	60,000	S	S	S
Other U.S. territories and other areas	80,000	60,000	S	S	S	S	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTES: Because survey sample design does not include geography, reliability of estimates in some states may be poor due to small sample size. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 59. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, and faculty rank: 2003
(Dollars)

Field and sex	Total	Full professor	Associate professor	Assistant professor	Instructor/ lecturer	All other faculty	Rank not applicable
All fields	70,000	93,000	66,000	56,800	49,000	49,000	49,000
Male	73,000	95,000	68,000	60,000	50,000	44,000	50,000
Female	60,000	87,500	63,000	54,000	49,000	S	45,000
Science	67,000	90,000	65,000	55,000	48,000	44,000	48,000
Male	71,000	90,200	65,200	56,000	48,000	44,000	50,000
Female	60,000	87,000	62,000	52,300	47,600	S	45,000
Biological, agricultural, and environmental life sciences	66,800	98,000	70,000	60,000	48,000	S	42,000
Male	70,300	98,000	70,400	62,400	48,000	S	42,000
Female	57,000	95,000	70,000	57,000	45,000	S	41,000
Computer and information sciences	78,600	88,000	80,000	72,000	S	S	80,000
Male	80,000	88,000	80,000	72,000	S	S	80,000
Female	76,000	S	80,000	72,300	S	S	S
Mathematics and statistics	68,000	88,100	60,000	50,200	49,000	S	50,000
Male	71,200	88,100	60,000	50,000	52,000	S	57,800
Female	59,000	88,000	59,700	52,300	49,000	S	43,000
Physical sciences	68,000	93,000	61,000	52,000	45,000	44,000	60,000
Male	70,500	94,000	63,500	53,000	45,000	44,000	60,000
Female	57,000	85,700	57,000	51,000	39,000	S	51,000
Psychology	64,000	85,000	60,100	52,500	50,000	S	57,000
Male	70,000	85,000	61,000	55,000	60,000	S	57,000
Female	60,000	84,000	60,000	51,000	46,300	S	56,000
Social sciences	67,000	87,000	62,000	50,000	47,000	S	63,000
Male	70,300	88,000	62,000	51,000	45,500	S	67,000
Female	60,200	80,000	61,400	50,000	49,000	S	60,000
Engineering	82,200	104,800	75,000	70,000	57,000	S	60,000
Male	85,000	105,000	75,000	70,000	55,000	S	62,000
Female	71,000	100,000	75,000	70,000	S	S	42,000
Health	70,000	97,000	69,600	60,000	65,000	S	55,000
Male	75,000	114,000	70,000	65,000	S	S	60,000
Female	67,000	90,000	69,000	58,000	65,000	S	51,000

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients

TABLE 60. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, faculty rank, and years since doctorate: 2003

(Dollars)

Field and sex	Total		Full professor		Associate professor		Assistant professor		Instructor/ lecturer		All other faculty		Rank not applicable	
	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more
All fields	52,000	80,000	70,000	94,000	60,000	69,500	55,000	62,000	48,000	51,000	S	65,000	42,000	75,000
Male	53,000	84,300	70,000	95,000	62,000	70,000	57,400	63,000	47,000	55,000	S	65,000	42,900	80,000
Female	51,000	73,000	65,000	88,000	58,800	66,400	53,000	60,000	49,000	48,000	S	S	42,000	66,000
Science	50,000	80,000	62,000	90,000	59,000	67,900	53,200	60,000	45,000	50,000	S	65,000	42,000	73,000
Male	51,000	81,000	70,000	91,000	60,000	69,000	55,000	62,000	45,000	55,000	S	65,000	42,000	77,600
Female	50,000	72,000	58,000	87,500	56,000	65,000	51,000	59,900	46,000	48,000	S	S	42,000	65,000
Biological, agricultural, and environmental life sciences	46,000	80,000	53,000	98,000	56,000	73,000	58,000	65,000	45,000	48,400	S	S	40,000	60,000
Male	48,000	83,000	S	98,000	55,000	72,000	60,000	65,000	45,000	65,000	S	S	40,400	60,200
Female	44,000	76,000	S	96,000	57,000	73,000	53,000	63,000	45,000	48,000	S	S	40,000	53,000
Computer and information sciences	73,000	84,000	S	90,000	80,000	80,000	72,000	S	S	S	S	S	80,000	S
Male	74,300	83,100	S	90,000	81,000	75,000	72,000	S	S	S	S	S	80,000	S
Female	72,300	87,000	S	S	S	S	72,500	S	S	S	S	S	S	S
Mathematics and statistics	50,400	78,000	S	89,000	54,000	60,000	51,000	47,600	49,000	48,000	S	S	46,000	76,000
Male	50,000	79,800	S	90,000	53,000	62,000	50,000	S	S	74,000	S	S	46,000	80,000
Female	52,300	67,600	S	88,000	56,000	60,000	53,000	S	S	S	S	S	S	S
Physical sciences	50,000	82,100	60,000	94,000	58,000	63,000	53,000	51,000	40,500	51,000	S	S	45,000	90,000
Male	51,000	85,000	60,000	94,600	58,700	65,000	53,300	51,000	45,000	50,000	S	S	46,000	90,600
Female	50,000	63,000	S	85,700	52,200	58,400	51,000	51,000	S	S	S	S	42,000	81,000
Psychology	51,300	75,500	S	85,000	56,000	64,000	51,000	65,000	50,000	50,000	S	S	50,000	72,000
Male	52,000	80,000	S	85,000	59,000	68,000	50,000	65,000	S	S	S	S	45,000	72,000
Female	51,200	70,000	S	84,000	53,000	62,000	51,000	60,000	46,300	50,000	S	S	51,000	72,000
Social sciences	52,500	77,000	75,000	88,000	60,000	65,000	50,000	54,400	40,000	51,000	S	S	53,800	74,000
Male	54,000	80,000	75,000	88,300	61,000	65,000	50,000	54,400	42,000	47,000	S	S	54,500	74,000
Female	52,000	71,000	62,000	81,200	57,000	65,000	50,000	51,200	40,000	60,000	S	S	53,000	71,000
Engineering	68,000	96,000	80,000	105,000	75,000	76,200	70,000	73,000	60,000	S	S	S	48,000	105,000
Male	68,000	98,600	80,000	105,000	75,000	76,200	69,200	73,000	S	S	S	S	50,000	105,000
Female	62,500	84,000	S	100,000	72,000	80,000	70,000	S	S	S	S	S	40,000	S
Health	60,000	80,000	79,000	98,000	62,000	72,000	59,000	62,000	66,000	S	S	S	45,000	77,000
Male	62,000	96,000	S	114,000	62,000	73,000	62,000	S	S	S	S	S	50,000	S
Female	60,000	76,700	79,000	90,000	62,000	72,000	57,000	60,000	66,000	S	S	S	44,000	76,500

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 61. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and faculty rank: 2003
(Dollars)

Field and race/ethnicity	Total	Full professor	Associate professor	Assistant professor	Instructor/ lecturer	All other faculty	Rank not applicable
All fields	70,000	93,000	66,000	56,800	49,000	49,000	49,000
American Indian/Alaska Native	68,000	85,000	60,000	50,000	S	S	S
Asian	65,000	100,000	70,000	62,000	45,000	S	40,500
Black	65,000	88,000	65,000	58,000	53,000	S	50,000
Hispanic	63,000	83,000	67,300	56,000	40,000	S	50,000
White	70,000	93,000	65,000	55,000	49,000	49,000	52,000
Other/unknown race/ethnicity [a]	60,000	S	S	S	S	S	S
Science	67,000	90,000	65,000	55,000	48,000	44,000	48,000
American Indian/Alaska Native	64,000	84,000	59,000	50,000	S	S	S
Asian	60,000	95,000	70,000	60,000	45,000	S	41,000
Black	62,300	83,000	60,000	55,000	53,000	S	48,400
Hispanic	61,000	82,000	65,000	54,000	34,000	S	48,000
White	69,500	90,000	64,000	54,000	48,400	49,000	50,300
Other/unknown race/ethnicity [a]	60,000	S	S	S	S	S	S
Biological, agricultural, and environmental life sciences	66,800	98,000	70,000	60,000	48,000	S	42,000
American Indian/Alaska Native	72,000	S	S	S	S	S	S
Asian	55,000	108,000	76,000	64,000	45,000	S	40,000
Black	62,000	80,000	73,000	55,000	S	S	44,000
Hispanic	61,000	88,000	71,000	57,000	S	S	42,000
White	70,000	97,400	70,000	60,000	48,000	S	42,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Computer and information sciences	78,600	88,000	80,000	72,000	S	S	80,000
American Indian/Alaska Native	S	S	S	S	S	S	S
Asian	82,000	88,000	80,000	72,000	S	S	S
Black	S	S	S	S	S	S	S
Hispanic	S	S	S	S	S	S	S
White	75,000	90,000	80,000	72,300	S	S	80,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Mathematics and statistics	68,000	88,100	60,000	50,200	49,000	S	50,000
American Indian/Alaska Native	S	S	S	S	S	S	S
Asian	61,000	80,000	55,700	50,000	S	S	S
Black	62,000	S	S	S	S	S	S
Hispanic	63,000	S	S	S	S	S	S
White	70,000	90,000	60,000	51,000	52,000	S	50,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Physical sciences	68,000	93,000	61,000	52,000	45,000	44,000	60,000
American Indian/Alaska Native	60,000	S	S	S	S	S	S
Asian	60,000	100,000	63,000	57,000	S	S	43,000
Black	56,000	101,500	S	S	S	S	S
Hispanic	69,500	85,000	S	S	S	S	S
White	70,000	91,000	61,000	51,900	45,000	44,000	67,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Psychology	64,000	85,000	60,100	52,500	50,000	S	57,000
American Indian/Alaska Native	72,500	S	S	S	S	S	S
Asian	58,000	S	65,000	50,000	S	S	46,000
Black	60,000	S	58,000	52,000	S	S	58,000
Hispanic	60,000	80,000	60,000	50,000	S	S	50,000
White	65,000	85,000	60,100	52,500	46,300	S	58,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Social sciences	67,000	87,000	62,000	50,000	47,000	S	63,000
American Indian/Alaska Native	56,600	S	S	S	S	S	S

TABLE 61. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and faculty rank: 2003
(Dollars)

Field and race/ethnicity	Total	Full professor	Associate professor	Assistant professor	Instructor/ lecturer	All other faculty	Rank not applicable
Asian	65,000	79,700	64,000	57,000	S	S	55,000
Black	65,000	85,000	60,000	56,000	S	S	66,000
Hispanic	61,000	80,000	64,000	48,000	S	S	65,000
White	68,400	88,000	62,000	50,000	47,000	S	63,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Engineering	82,200	104,800	75,000	70,000	57,000	S	60,000
American Indian/Alaska Native	S	S	S	S	S	S	S
Asian	76,200	104,000	72,500	68,000	S	S	40,000
Black	75,300	106,000	72,000	62,500	S	S	S
Hispanic	80,000	85,500	82,200	S	S	S	S
White	85,000	105,000	76,000	70,000	62,000	S	74,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S
Health	70,000	97,000	69,600	60,000	65,000	S	55,000
American Indian/Alaska Native	S	S	S	S	S	S	S
Asian	63,000	S	S	66,500	S	S	36,500
Black	73,000	S	S	65,000	S	S	S
Hispanic	69,000	S	S	S	S	S	S
White	70,000	95,000	69,300	58,000	60,000	S	60,000
Other/unknown race/ethnicity [a]	S	S	S	S	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 62. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, and tenure status: 2003

(Dollars)

Field and sex	Total	Tenured	Not tenured		Tenure not applicable
			On tenure track	Not on tenure track	
All fields	70,000	80,000	58,000	60,000	53,000
Male	73,000	84,000	60,000	63,000	55,000
Female	60,000	72,400	54,700	56,000	50,000
Science	67,000	80,000	55,000	58,300	51,000
Male	71,000	80,500	58,000	61,000	54,000
Female	60,000	72,000	52,300	55,000	48,200
Biological, agricultural, and environmental life sciences	66,800	84,000	63,000	60,000	45,000
Male	70,300	85,000	65,000	63,000	45,000
Female	57,000	80,000	58,300	56,000	42,600
Computer and information sciences	78,600	84,000	72,000	72,000	80,000
Male	80,000	83,100	71,000	78,600	80,000
Female	76,000	84,000	74,200	S	S
Mathematics and statistics	68,000	76,000	52,300	49,500	50,000
Male	71,200	78,000	52,400	50,000	57,800
Female	59,000	73,000	52,300	49,000	47,000
Physical sciences	68,000	80,000	53,400	59,000	60,000
Male	70,500	83,000	54,100	61,000	62,000
Female	57,000	63,000	51,300	55,000	45,000
Psychology	64,000	74,800	51,000	58,000	60,000
Male	70,000	80,000	50,200	60,000	62,000
Female	60,000	67,000	51,000	55,000	57,000
Social sciences	67,000	75,000	51,400	55,000	60,000
Male	70,300	78,800	52,000	55,000	62,500
Female	60,200	69,500	50,000	54,000	59,000
Engineering	82,200	94,400	70,000	62,000	70,000
Male	85,000	95,000	70,000	70,000	71,000
Female	71,000	80,000	70,000	52,000	50,000
Health	70,000	78,000	60,000	68,500	69,000
Male	75,000	81,300	63,500	77,200	69,000
Female	67,000	75,300	58,000	60,000	68,500

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 63. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, sex, tenure status, and years since doctorate: 2003

(Dollars)

Field and sex	Total		Tenured		Not tenured				Tenure not applicable	
					On tenure track		Not on tenure track			
	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more	Less than 10	10 or more
All fields	52,000	80,000	60,000	84,000	56,000	66,600	52,000	72,000	44,000	76,500
Male	53,000	84,300	62,000	85,000	58,000	70,000	52,000	79,200	44,000	80,000
Female	51,000	73,000	57,000	77,000	53,000	63,000	52,000	65,000	43,500	67,000
Science	50,000	80,000	58,000	82,000	54,000	66,000	50,300	70,000	43,000	75,000
Male	51,000	81,000	60,000	84,000	55,000	66,600	50,000	78,000	43,000	79,000
Female	50,000	72,000	55,000	75,000	51,000	64,000	50,300	65,000	43,000	63,200
Biological, agricultural, and environmental life sciences	46,000	80,000	53,000	86,100	59,000	74,000	51,000	70,000	40,600	70,000
Male	48,000	83,000	55,000	87,000	61,000	74,000	51,600	77,000	40,500	73,000
Female	44,000	76,000	52,000	85,000	53,000	72,500	50,300	65,000	40,700	62,000
Computer and information sciences	73,000	84,000	80,000	85,000	72,000	S	73,000	S	80,000	S
Male	74,300	83,100	80,000	85,000	71,000	S	S	S	80,000	S
Female	72,300	87,000	S	87,000	74,200	S	S	S	S	S
Mathematics and statistics	50,400	78,000	55,000	80,000	51,300	55,000	49,000	67,600	46,500	75,000
Male	50,000	79,800	55,000	80,000	51,300	63,000	43,400	75,000	47,000	80,000
Female	52,300	67,600	S	76,000	52,300	S	53,000	S	S	S
Physical sciences	50,000	82,100	58,000	83,100	53,000	55,000	47,000	84,000	44,000	87,000
Male	51,000	85,000	60,000	85,000	54,000	55,000	47,000	86,200	44,900	90,000
Female	50,000	63,000	50,700	70,000	51,300	51,000	48,000	56,000	42,000	66,500
Psychology	51,300	75,500	55,000	80,000	50,000	57,000	54,000	66,000	50,000	73,000
Male	52,000	80,000	59,700	81,000	47,800	87,000	57,000	72,000	50,000	82,800
Female	51,200	70,000	52,000	70,000	51,000	51,000	52,000	63,000	50,000	72,000
Social sciences	52,500	77,000	60,000	79,000	50,000	63,000	50,000	66,000	53,000	66,000
Male	54,000	80,000	60,000	81,000	51,900	61,000	50,000	67,000	55,000	67,000
Female	52,000	71,000	59,000	72,000	50,000	70,000	46,800	66,000	53,000	62,500
Engineering	68,000	96,000	75,000	98,600	70,000	74,400	57,000	95,000	50,000	103,000
Male	68,000	98,600	75,000	100,000	70,000	74,400	68,000	75,000	50,000	104,000
Female	62,500	84,000	72,000	84,000	70,000	S	50,000	S	47,000	S
Health	60,000	80,000	62,000	84,500	58,600	62,000	60,000	80,000	55,000	82,000
Male	62,000	96,000	62,000	96,000	63,500	S	70,000	130,000	50,000	110,000
Female	60,000	76,700	62,000	80,000	57,800	61,200	60,000	73,000	60,000	76,500

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 64. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and tenure status: 2003

(Dollars)

Field and race/ethnicity	Total	Tenured	Not tenured		Tenure not applicable
			On tenure track	Not on tenure track	
All fields	70,000	80,000	58,000	60,000	53,000
American Indian/Alaska Native	68,000	82,900	53,000	S	60,000
Asian	65,000	83,700	65,000	58,000	42,000
Black	65,000	74,000	58,000	60,000	58,000
Hispanic	63,000	76,000	57,000	60,000	50,000
White	70,000	80,300	57,000	60,000	56,000
Other/unknown race/ethnicity [a]	60,000	S	S	S	S
Science	67,000	80,000	55,000	58,300	51,000
American Indian/Alaska Native	64,000	81,000	50,000	S	60,000
Asian	60,000	80,000	64,000	58,000	42,000
Black	62,300	72,000	55,000	58,000	55,100
Hispanic	61,000	72,000	55,900	60,000	49,000
White	69,500	80,000	55,000	59,000	54,000
Other/unknown race/ethnicity [a]	60,000	S	S	S	S
Biological, agricultural, and environmental life sciences	66,800	84,000	63,000	60,000	45,000
American Indian/Alaska Native	72,000	84,000	S	S	S
Asian	55,000	87,000	69,000	60,000	40,000
Black	62,000	73,000	55,000	59,000	45,000
Hispanic	61,000	71,000	62,000	63,000	48,000
White	70,000	85,000	62,000	60,000	46,000
Other/unknown race/ethnicity [a]	S	S	S	S	S
Computer and information sciences	78,600	84,000	72,000	72,000	80,000
American Indian/Alaska Native	S	S	S	S	S
Asian	82,000	85,000	74,300	S	S
Black	S	S	S	S	S
Hispanic	S	S	S	S	S
White	75,000	84,000	72,000	73,000	72,500
Other/unknown race/ethnicity [a]	S	S	S	S	S
Mathematical sciences	68,000	76,000	52,300	49,500	50,000
American Indian/Alaska Native	S	S	S	S	S
Asian	61,000	68,500	52,300	S	48,000
Black	62,000	66,600	S	S	S
Hispanic	63,000	65,000	S	S	S
White	70,000	80,000	52,000	51,000	52,000
Other/unknown race/ethnicity [a]	S	S	S	S	S
Physical sciences	68,000	80,000	53,400	59,000	60,000
American Indian/Alaska Native	60,000	S	S	S	S
Asian	60,000	85,000	62,500	52,000	43,400
Black	56,000	90,000	S	S	S
Hispanic	69,500	82,500	S	S	S
White	70,000	80,000	53,000	60,000	66,000
Other/unknown race/ethnicity [a]	S	S	S	S	S
Psychology	64,000	74,800	51,000	58,000	60,000
American Indian/Alaska Native	72,500	S	S	S	S
Asian	58,000	73,400	55,000	S	50,000
Black	60,000	65,000	52,000	S	60,000
Hispanic	60,000	68,000	50,000	60,000	50,000
White	65,000	75,000	51,000	58,000	60,000
Other/unknown race/ethnicity [a]	S	S	S	S	S
Social sciences	67,000	75,000	51,400	55,000	60,000

TABLE 64. Median annual salaries of full-time employed doctoral scientists and engineers in universities and 4-year colleges, by broad field of doctorate, race/ethnicity, and tenure status: 2003

(Dollars)

Field and race/ethnicity	Total	Tenured	Not tenured		Tenure not applicable
			On tenure track	Not on tenure track	
American Indian/Alaska Native	56,600	67,600	S	S	S
Asian	65,000	72,000	57,000	52,000	58,000
Black	65,000	74,000	56,000	S	60,000
Hispanic	61,000	78,000	49,000	S	60,500
White	68,400	75,000	50,000	55,000	60,000
Other/unknown race/ethnicity [a]	S	S	S	S	S
Engineering	82,200	94,400	70,000	62,000	70,000
American Indian/Alaska Native	S	S	S	S	S
Asian	76,200	93,000	68,200	55,000	45,000
Black	75,300	95,000	63,000	S	S
Hispanic	80,000	85,500	S	S	S
White	85,000	95,000	71,100	65,000	80,000
Other/unknown race/ethnicity [a]	S	S	S	S	S
Health sciences	70,000	78,000	60,000	68,500	69,000
American Indian/Alaska Native	S	S	S	S	S
Asian	63,000	96,000	63,000	S	36,000
Black	73,000	86,000	62,500	S	S
Hispanic	69,000	S	S	S	S
White	70,000	76,700	58,000	68,000	72,000
Other/unknown race/ethnicity [a]	S	S	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 65. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

(Thousands of dollars)

Occupation	All full-time employed			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity[a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
All occupations	82.0	86.5	70.0	75.0	80.0	72.4	84.5	87.1	73.0	70.0	73.0	68.0	73.0	80.0	62.0	82.5	87.3	70.0	65.0	70.0	62.5
Science occupations	75.0	80.0	65.0	72.5	75.0	63.7	77.0	80.0	70.0	65.0	65.2	63.2	67.0	72.0	60.0	75.0	80.0	64.0	63.0	63.0	S
Biological, agricultural, other life scientist	71.0	75.0	63.0	75.0	75.0	S	70.0	71.6	65.0	60.0	67.5	55.0	62.0	65.0	54.8	72.0	75.0	63.0	65.0	S	S
Agricultural/food scientist	75.0	76.5	65.0	S	S	S	70.0	73.0	56.0	65.0	S	S	80.0	80.0	S	78.0	79.0	70.0	S	S	S
Biochemist/biophysicist	76.0	80.0	68.0	S	S	S	74.5	78.0	72.0	S	S	S	53.0	S	S	78.0	80.0	68.0	S	S	S
Biological scientist	65.7	70.0	58.0	S	S	S	55.8	60.0	55.0	63.0	S	S	56.0	63.0	55.0	68.0	72.0	60.0	S	S	S
Forestry/conservation scientist	69.1	69.1	73.0	S	S	S	S	S	S	S	S	S	S	S	S	72.0	70.0	73.0	S	S	S
Medical scientist	80.0	87.0	70.0	S	S	S	74.0	75.5	69.0	70.0	85.7	60.0	62.7	70.0	58.0	84.0	95.0	73.0	S	S	S
Postsecondary teacher, agricultural/ other natural sciences	70.0	72.0	60.0	S	S	S	64.3	S	S	S	S	S	S	S	S	70.4	72.0	59.0	S	S	S
Postsecondary teacher, biological sciences	63.5	66.0	57.0	S	S	S	70.0	76.0	66.0	57.0	70.0	47.5	60.0	61.0	54.0	63.0	65.0	57.0	S	S	S
Other biological/agricultural/life scientist	68.8	72.0	62.5	S	S	S	62.0	62.0	63.0	S	S	S	S	S	S	72.0	77.0	62.0	S	S	S
Computer and information scientist	90.0	91.8	80.0	S	S	S	88.5	90.0	81.0	70.0	73.0	S	76.0	78.0	S	92.5	93.8	81.0	S	S	S
Computer/information scientist	96.5	98.0	85.0	S	S	S	92.0	94.0	81.5	90.0	100.0	S	95.0	100.0	S	100.0	100.0	93.0	S	S	S
Postsecondary teacher, computer science	76.0	76.0	72.3	S	S	S	75.0	75.0	78.5	S	S	S	69.0	69.0	S	76.0	78.0	72.3	S	S	S
Mathematical scientist	75.0	77.0	64.0	S	S	S	70.0	70.0	70.0	68.0	66.6	S	65.2	68.0	S	76.0	79.8	62.0	S	S	S
Mathematical scientist	93.0	97.9	85.0	S	S	S	86.0	86.0	85.0	73.5	S	S	80.0	S	S	100.0	102.0	90.0	S	S	S
Postsecondary teacher, mathematics/statistics	62.0	65.0	55.7	S	S	S	58.0	58.0	59.0	62.0	62.3	S	63.0	63.0	S	64.0	70.0	55.0	S	S	S
Physical scientist	80.0	83.1	70.0	64.0	64.0	S	80.0	81.8	80.0	70.0	74.0	55.0	74.0	78.8	66.0	81.5	84.0	67.0	S	S	S
Chemist, except biochemist	86.0	89.0	80.0	S	S	S	83.0	84.0	80.0	80.0	82.0	S	78.0	75.0	S	90.6	94.0	82.6	S	S	S
Earth/atmospheric/ocean scientist	84.7	86.0	67.0	S	S	S	69.0	73.0	S	S	S	S	82.0	82.0	S	86.0	87.0	68.7	S	S	S
Physicist/astronomer	96.0	99.1	85.0	S	S	S	87.0	87.0	S	S	S	S	85.0	87.3	S	98.8	100.0	85.0	S	S	S
Postsecondary teacher, chemistry	60.0	62.0	53.4	S	S	S	62.5	61.0	S	53.0	55.0	S	61.0	70.0	S	60.0	62.0	53.0	S	S	S
Postsecondary teacher, physics	67.5	68.0	62.5	S	S	S	75.0	75.0	S	S	S	S	68.3	69.5	S	66.0	66.6	63.0	S	S	S
Postsecondary teacher, other physical sciences	65.0	68.0	58.4	S	S	S	70.0	74.0	S	S	S	S	S	S	S	65.0	67.7	58.4	S	S	S
Other physical scientist	82.0	85.3	72.0	S	S	S	75.0	63.0	S	S	S	S	S	S	S	91.6	95.0	72.0	S	S	S
Psychologist	70.0	76.0	62.4	60.0	75.0	60.0	63.0	64.5	62.0	68.0	65.0	68.8	63.0	70.0	62.0	70.0	78.0	62.0	S	S	S
Psychologist	75.0	80.0	68.0	60.0	S	S	64.5	64.5	65.0	68.8	70.0	67.0	73.0	87.0	70.0	75.0	81.0	68.5	S	S	S
Postsecondary teacher, psychology	61.2	66.2	56.0	72.5	S	S	63.0	S	60.0	65.0	62.0	69.0	57.8	60.0	57.8	61.3	66.4	56.0	S	S	S
Social scientist	70.0	72.0	62.3	67.6	67.6	S	70.0	75.0	64.0	60.0	60.0	63.0	68.0	74.0	59.0	70.0	73.0	62.3	S	S	S
Economist	108.0	110.0	100.0	S	S	S	93.0	88.5	93.0	87.0	S	S	100.0	100.0	S	115.0	120.0	105.0	S	S	S
Political scientist	80.0	92.0	75.0	S	S	S	S	S	S	S	S	S	S	S	S	81.2	100.0	80.0	S	S	S
Postsecondary teacher, economics	75.0	78.0	70.0	S	S	S	71.0	72.0	S	63.5	60.0	S	S	S	S	79.0	80.0	70.0	S	S	S
Postsecondary teacher, political science	60.0	60.0	59.9	S	S	S	55.0	S	S	60.0	59.4	S	65.0	S	S	60.0	60.0	59.9	S	S	S

TABLE 65. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation, race/ethnicity, and sex: 2003

(Thousands of dollars)

Occupation	All full-time employed			American Indian/ Alaska Native			Asian			Black			Hispanic			White			Other/unknown race/ethnicity[a]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Postsecondary teacher, sociology	60.0	63.0	55.0	S	S	S	65.0	67.0	S	58.0	58.0	S	58.0	S	S	60.0	63.0	55.0	S	S	S
Postsecondary teacher, other social sciences	60.0	64.2	56.0	S	S	S	58.0	61.0	55.0	55.0	S	S	58.0	60.0	57.0	60.0	65.0	56.0	S	S	S
Sociologist/anthropologist	68.0	71.4	65.5	S	S	S	S	S	S	S	S	S	S	S	S	70.0	72.7	67.0	S	S	S
Other social scientist	70.0	76.1	66.0	S	S	S	70.0	S	S	63.0	S	S	S	S	S	70.0	80.0	65.0	S	S	S
Engineering occupations	92.7	94.0	85.0	85.0	85.0	S	90.0	92.0	83.4	81.0	81.3	81.0	85.0	85.5	70.0	95.0	95.0	86.0	S	S	S
Aerospace/aeronautical/ astronautical engineer	100.0	100.0	S	S	S	S	93.0	93.0	S	S	S	S	S	S	S	104.0	103.0	S	S	S	S
Chemical engineer	95.0	97.0	90.0	S	S	S	94.0	95.0	85.0	S	S	S	S	S	S	99.1	100.0	92.0	S	S	S
Civil/architectural/sanitary engineer	81.5	81.5	S	S	S	S	85.0	85.0	S	S	S	S	S	S	S	82.0	81.5	S	S	S	S
Electrical engineer	103.0	105.0	94.0	S	S	S	100.0	100.0	95.0	96.0	96.0	S	109.0	S	S	108.0	110.0	93.0	S	S	S
Materials/metallurgical engineer	94.0	95.0	90.0	S	S	S	83.0	83.0	S	S	S	S	S	S	S	100.0	100.0	S	S	S	S
Mechanical engineer	93.0	94.0	85.0	S	S	S	88.0	89.0	82.0	S	S	S	S	S	S	100.0	100.0	S	S	S	S
Postsecondary teacher, engineering	82.2	83.2	72.0	S	S	S	83.7	84.0	S	75.3	79.0	S	76.0	76.0	S	83.0	84.0	75.0	S	S	S
Other engineer	88.8	90.0	85.5	S	S	S	85.0	85.0	82.0	S	S	S	84.0	94.0	S	91.4	92.7	88.0	S	S	S
Science and engineering-related occupations	97.0	108.0	73.5	72.0	72.0	S	98.0	105.0	67.0	75.2	80.0	69.5	94.0	110.0	72.0	98.0	110.0	74.0	S	S	S
Health-related occupation, except postsecondary teacher	100.0	115.0	80.0	S	S	S	82.0	104.0	55.0	75.2	84.0	67.5	94.0	100.0	S	100.0	120.0	81.3	S	S	S
Postsecondary teacher, health and related sciences	75.0	87.0	68.0	S	S	S	69.0	82.0	55.0	73.0	77.0	69.5	74.0	S	72.0	76.2	89.0	69.0	S	S	S
S&E manager	120.0	123.0	100.0	S	S	S	120.0	123.0	109.0	98.5	106.0	S	122.7	122.7	S	120.0	124.0	99.8	S	S	S
S&E precollege teacher	48.0	48.0	48.5	S	S	S	S	S	S	S	S	S	S	S	S	48.0	48.0	48.0	S	S	S
S&E technician/technologist	80.0	83.0	60.0	S	S	S	80.0	83.0	63.0	S	S	S	S	S	S	80.0	85.0	53.0	S	S	S
Other S&E-related occupation	99.0	99.0	S	S	S	S	S	S	S	S	S	S	S	S	S	99.0	99.0	S	S	S	S
Non-science and engineering occupations	100.0	107.0	80.0	90.0	105.0	S	104.0	110.0	84.0	80.0	85.0	75.0	85.0	99.0	78.0	100.0	108.0	82.0	S	S	S
Arts/humanities-related occupation	65.0	65.0	65.0	S	S	S	65.0	S	S	S	S	S	S	S	S	65.0	65.0	65.0	S	S	S
Management-related occupation	96.0	100.0	87.0	S	S	S	100.0	100.0	87.0	75.0	80.0	S	105.0	S	S	96.0	100.0	87.0	S	S	S
Non-S&E manager	124.2	130.0	102.0	120.0	S	S	130.4	137.0	102.0	104.0	115.0	92.0	110.0	119.0	85.0	125.0	130.0	105.0	S	S	S
Non-S&E postsecondary teacher	66.0	75.0	59.0	S	S	S	65.0	75.6	56.0	63.0	66.0	62.0	60.0	60.0	S	67.0	75.0	59.0	S	S	S
Non-S&E precollege/other teacher	45.0	44.0	45.0	S	S	S	S	S	S	S	S	S	S	S	S	43.3	44.0	43.0	S	S	S
Sales/marketing occupation	90.0	88.5	90.0	S	S	S	120.0	100.0	S	S	S	S	S	S	S	85.0	85.0	84.0	S	S	S
Social service-related occupation	52.0	52.2	49.0	S	S	S	42.1	S	S	54.0	S	S	S	S	S	54.0	54.0	50.0	S	S	S
Other non-S&E occupation	80.0	80.0	72.0	S	S	S	80.0	80.0	S	90.0	S	S	S	S	S	80.0	90.0	70.0	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

S&E = science and engineering.

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 66. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and citizenship status: 2003
(Thousands of dollars)

Occupation	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
All occupations	82.0	84.0	81.5	90.0	73.0	80.0	62.0
Science occupations	75.0	75.0	75.0	82.5	68.0	73.0	54.0
Biological, agricultural, and other life scientist	71.0	73.0	72.0	77.0	55.0	66.0	42.0
Agricultural/food scientist	75.0	76.9	76.5	80.0	65.0	74.0	46.5
Biochemist/biophysicist	76.0	79.0	79.0	80.0	50.8	75.3	40.5
Biological scientist	65.7	69.0	68.0	70.0	45.0	53.0	40.0
Forestry/conservation scientist	69.1	70.0	72.0	S	S	S	S
Medical scientist	80.0	83.0	82.0	85.0	60.0	66.0	42.0
Postsecondary teacher, agricultural/other natural sciences	70.0	70.0	70.4	70.0	65.0	S	S
Postsecondary teacher, biological sciences	63.5	64.0	62.7	72.0	60.0	65.0	46.0
Other biological/agricultural/life scientist	68.8	73.0	72.8	77.0	53.0	60.0	40.0
Computer and information scientist	90.0	93.0	92.0	94.0	84.5	88.5	77.9
Computer/information scientist	96.5	100.0	100.0	100.0	85.0	90.0	80.0
Postsecondary teacher, computer science	76.0	76.0	73.5	81.0	72.0	72.0	75.0
Mathematical scientist	75.0	77.0	76.0	80.0	65.0	68.0	60.0
Mathematical scientist	93.0	97.0	100.0	93.0	80.0	87.0	72.0
Postsecondary teacher, mathematics/statistics	62.0	63.6	64.0	62.0	55.0	60.0	48.0
Physical scientist	80.0	83.0	82.0	85.7	66.0	72.3	54.0
Chemist, except biochemist	86.0	90.0	92.0	85.3	74.0	80.0	65.0
Earth/atmospheric/ocean scientist	84.7	87.0	87.0	85.7	60.8	68.0	55.4
Physicist/astronomer	96.0	100.0	98.8	100.0	67.4	100.0	51.3
Postsecondary teacher, chemistry	60.0	61.0	60.0	77.0	47.0	53.0	45.0
Postsecondary teacher, physics	67.5	70.0	67.0	75.0	63.0	63.0	S
Postsecondary teacher, other physical sciences	65.0	65.0	64.0	67.7	70.0	70.0	S
Other physical scientist	82.0	89.0	90.0	89.0	67.0	S	S
Psychologist	70.0	70.0	70.0	73.0	58.0	63.0	47.0
Psychologist	75.0	75.0	75.0	76.5	63.0	65.0	S
Postsecondary teacher, psychology	61.2	61.3	61.0	71.0	50.0	62.0	S
Social scientist	70.0	70.0	69.0	76.0	67.0	65.5	70.0
Economist	108.0	107.0	110.0	98.0	110.0	100.0	140.0
Political scientist	80.0	81.2	90.0	S	S	S	S
Postsecondary teacher, economics	75.0	78.0	78.0	79.3	65.0	65.0	69.0
Postsecondary teacher, political science	60.0	60.0	60.0	69.0	55.0	55.0	S
Postsecondary teacher, sociology	60.0	60.0	60.0	70.2	60.0	66.5	S
Postsecondary teacher, other social sciences	60.0	60.0	60.0	76.0	55.0	57.0	S
Sociologist/anthropologist	68.0	68.0	68.0	S	S	S	S
Other social scientist	70.0	70.0	70.0	69.7	63.0	S	S
Engineering occupations	92.7	95.5	95.0	97.0	82.0	85.0	73.0
Aerospace/aeronautical/astronautical engineer	100.0	100.0	106.7	96.0	82.0	S	S
Chemical engineer	95.0	100.0	98.0	100.0	83.4	85.0	80.0
Civil/architectural/sanitary engineer	81.5	85.0	82.0	92.0	72.0	81.5	63.0
Electrical engineer	103.0	108.0	110.0	107.0	96.0	100.0	85.0
Materials/metallurgical engineer	94.0	100.0	100.0	100.0	75.0	S	S
Mechanical engineer	93.0	98.1	100.0	98.0	78.0	78.0	75.0
Postsecondary teacher, engineering	82.2	84.0	84.0	84.0	70.0	75.0	62.0
Other engineer	88.8	93.0	92.7	93.0	77.0	85.0	70.2
Science and engineering-related occupations	97.0	98.5	97.0	101.6	75.0	76.0	55.0
Health-related occupation, except postsecondary teacher	100.0	100.0	100.0	99.0	50.0	54.0	45.0
Postsecondary teacher, health and related sciences	75.0	76.0	75.0	83.0	62.0	63.0	S
S&E manager	120.0	120.0	120.0	123.0	111.3	115.0	S
S&E precollege teacher	48.0	48.0	48.0	51.0	S	S	S
S&E technician/technologist	80.0	83.0	80.0	85.0	60.0	60.0	S

TABLE 66. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and citizenship status: 2003
(Thousands of dollars)

Occupation	Total	U.S. citizen			Non-U.S. citizen		
		All	Native born	Naturalized	All	Permanent resident	Temporary resident
Other S&E-related occupation	99.0	99.0	87.4	S	S	S	S
Non-science and engineering occupations	100.0	100.0	100.0	108.0	90.0	95.0	70.0
Arts/humanities-related occupation	65.0	65.0	65.0	63.0	S	S	S
Management-related occupation	96.0	98.5	95.0	101.3	83.0	95.0	65.0
Non-S&E manager	124.2	124.0	121.0	135.0	130.0	130.0	111.0
Non-S&E postsecondary teacher	66.0	66.0	66.0	74.0	60.0	60.0	50.0
Non-S&E precollege/other teacher	45.0	45.0	44.0	S	S	S	S
Sales/marketing occupation	90.0	90.0	90.0	98.1	100.0	125.0	S
Social service-related occupation	52.0	52.0	52.0	50.0	S	S	S
Other non-S&E occupation	80.0	80.0	80.0	80.0	S	S	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

S&E = science and engineering.

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 67. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and age: 2003
(Thousands of dollars)

Occupation	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
All occupations	82.0	60.2	72.0	80.0	84.0	88.4	93.5	95.4	95.0
Science occupations	75.0	55.0	65.0	72.4	75.0	81.1	85.0	87.5	90.0
Biological, agricultural, and other life scientist	71.0	44.0	60.0	70.0	74.0	81.0	86.0	88.0	94.0
Agricultural/food scientist	75.0	55.0	66.5	75.0	80.0	81.0	90.0	80.0	S
Biochemist/biophysicist	76.0	42.0	74.0	80.0	80.0	103.9	90.0	100.0	121.0
Biological scientist	65.7	42.5	52.0	71.6	73.0	80.0	82.7	96.0	95.0
Forestry/conservation scientist	69.1	S	S	S	73.0	64.0	S	S	S
Medical scientist	80.0	45.0	64.5	82.0	85.0	98.0	106.0	101.3	122.4
Postsecondary teacher, agricultural/other natural sciences	70.0	51.0	58.0	65.0	72.0	70.0	80.0	75.0	S
Postsecondary teacher, biological sciences	63.5	45.0	50.5	55.6	62.7	70.0	75.0	85.0	80.0
Other biological/agricultural/life scientist	68.8	44.0	68.8	65.0	85.0	97.0	75.0	S	S
Computer and information scientist	90.0	85.0	85.0	93.0	95.0	100.0	94.0	85.0	89.0
Computer/information scientist	96.5	85.0	95.0	98.0	100.0	104.0	100.0	87.0	82.0
Postsecondary teacher, computer science	76.0	75.0	71.0	75.0	76.0	78.0	80.0	76.0	93.0
Mathematical scientist	75.0	55.0	63.0	72.0	72.0	84.0	86.0	90.0	90.0
Mathematical scientist	93.0	82.0	79.0	92.0	94.8	104.0	100.0	110.0	S
Postsecondary teacher, mathematics/statistics	62.0	48.0	52.0	60.0	60.0	66.7	80.0	84.0	90.0
Physical scientist	80.0	60.0	70.0	80.0	83.0	90.0	95.0	95.0	93.0
Chemist, except biochemist	86.0	72.5	82.5	88.6	94.1	100.0	105.0	100.0	85.0
Earth/atmospheric/ocean scientist	84.7	60.0	63.0	75.0	82.9	100.0	99.0	108.5	110.0
Physicist/astronomer	96.0	56.0	81.6	94.0	102.0	103.4	107.0	121.7	108.3
Postsecondary teacher, chemistry	60.0	46.5	51.0	57.4	65.0	60.0	75.0	80.5	90.0
Postsecondary teacher, physics	67.5	54.7	62.5	65.0	62.5	70.0	78.0	93.0	85.0
Postsecondary teacher, other physical sciences	65.0	49.0	55.0	60.0	63.7	71.5	95.0	88.0	90.0
Other physical scientist	82.0	70.0	60.0	89.0	S	105.0	S	S	S
Psychologist	70.0	52.0	60.0	64.0	72.0	75.0	80.0	80.0	82.0
Psychologist	75.0	55.0	63.0	70.5	75.5	80.0	80.0	80.0	80.0
Postsecondary teacher, psychology	61.2	50.0	52.0	54.0	62.0	63.4	72.0	80.0	87.1
Social scientist	70.0	56.0	59.0	61.4	65.5	74.0	76.0	84.0	93.0
Economist	108.0	93.0	100.0	110.0	120.0	105.0	135.0	123.0	100.0
Political scientist	80.0	S	S	S	S	S	S	S	S
Postsecondary teacher, economics	75.0	70.0	65.0	70.0	71.0	83.3	80.0	88.0	S
Postsecondary teacher, political science	60.0	46.8	49.0	53.0	59.9	80.0	72.0	62.5	90.0
Postsecondary teacher, sociology	60.0	47.0	54.0	56.0	60.0	68.0	65.8	69.0	89.0
Postsecondary teacher, other social sciences	60.0	48.0	50.0	52.0	59.9	65.0	67.0	82.0	100.0
Sociologist/anthropologist	68.0	54.0	53.8	58.0	65.0	68.0	75.0	100.1	S
Other social scientist	70.0	60.8	58.0	66.0	69.0	74.0	79.0	97.0	S
Engineering occupations	92.7	80.0	85.0	90.6	98.0	98.0	105.5	108.0	100.0
Aerospace/aeronautical/astronautical engineer	100.0	81.0	85.0	90.0	112.0	98.0	114.0	134.0	120.1
Chemical engineer	95.0	81.0	86.5	100.0	102.0	104.1	110.5	120.0	94.5
Civil/architectural/sanitary engineer	81.5	61.9	76.0	75.0	110.0	77.0	104.0	91.5	132.0
Electrical engineer	103.0	86.0	100.0	108.0	111.6	124.0	113.2	120.0	108.0
Materials/metallurgical engineer	94.0	S	S	105.0	S	90.0	S	S	S
Mechanical engineer	93.0	81.0	86.0	90.0	95.0	103.0	120.0	112.0	130.0
Postsecondary teacher, engineering	82.2	66.5	72.0	77.3	86.9	85.0	94.4	95.2	95.0
Other engineer	88.8	80.0	80.0	88.0	93.0	100.0	110.0	106.1	106.5
Science and engineering-related occupations	97.0	53.7	80.0	98.0	99.0	100.0	102.0	110.0	100.0
Health-related occupation, except postsecondary teacher	100.0	42.0	83.5	115.0	115.0	102.0	100.0	110.0	100.0
Postsecondary teacher, health and related sciences	75.0	53.0	62.0	71.0	71.0	75.0	85.0	100.0	96.0
S&E manager	120.0	83.0	112.0	113.0	120.0	125.0	120.0	140.0	140.0
S&E precollege teacher	48.0	S	43.0	48.5	45.0	50.0	51.5	55.0	S
S&E technician/technologist	80.0	83.0	72.0	72.0	95.0	S	90.0	85.0	S
Other S&E-related occupation	99.0	S	S	S	S	S	S	S	S

TABLE 67. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and age: 2003
(Thousands of dollars)

Occupation	Total	Under 35	35–39	40–44	45–49	50–54	55–59	60–64	65–75
Non-science and engineering occupations	100.0	75.5	86.1	103.0	99.0	100.0	105.6	110.0	93.0
Arts/humanities-related occupation	65.0	63.0	65.0	56.5	75.0	75.0	75.0	53.0	51.0
Management-related occupation	96.0	90.0	97.3	95.0	96.0	95.0	98.5	100.0	70.0
Non-S&E manager	124.2	100.0	107.0	120.0	118.0	122.3	131.5	135.0	128.0
Non-S&E postsecondary teacher	66.0	52.0	60.0	63.0	61.0	60.0	80.0	70.0	70.0
Non-S&E precollege/other teacher	45.0	S	S	S	47.0	60.8	S	S	S
Sales/marketing occupation	90.0	75.0	84.0	100.0	100.0	101.0	88.5	65.0	75.0
Social service-related occupation	52.0	S	S	54.0	65.0	47.0	52.0	47.0	S
Other non-S&E occupation	80.0	80.0	110.0	120.0	103.0	60.0	52.0	62.5	25.0

S = suppressed due to too few cases (fewer than 200 weighted cases).

S&E = science and engineering.

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 68. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and years since doctorate: 2003
(Thousands of dollars)

Occupation	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
All occupations	82.0	60.0	75.0	83.0	90.0	99.0	101.0
Science occupations	75.0	55.0	70.0	75.0	82.0	88.0	92.9
Biological, agricultural, and other life scientist	71.0	46.5	65.0	75.0	83.3	90.0	94.0
Agricultural/food scientist	75.0	56.0	71.0	75.0	83.5	90.0	87.0
Biochemist/biophysicist	76.0	42.0	75.0	86.6	103.9	102.0	106.1
Biological scientist	65.7	45.0	63.0	80.0	82.9	82.9	96.0
Forestry/conservation scientist	69.1	45.0	S	64.0	85.0	S	S
Medical scientist	80.0	48.0	75.0	90.0	95.0	107.9	120.0
Postsecondary teacher, agricultural/other natural sciences	70.0	53.3	62.0	70.4	76.0	73.8	80.0
Postsecondary teacher, biological sciences	63.5	44.7	50.5	60.0	66.0	75.0	82.0
Other biological/agricultural/life scientist	68.8	50.0	77.0	76.6	91.7	85.0	92.3
Computer and information scientist	90.0	81.0	90.0	96.0	100.0	102.0	94.0
Computer/information scientist	96.5	85.0	95.0	100.0	103.0	105.0	100.0
Postsecondary teacher, computer science	76.0	68.0	80.0	75.0	82.0	91.3	78.0
Mathematical scientist	75.0	58.0	67.7	70.0	76.0	86.0	97.0
Mathematical scientist	93.0	75.0	93.5	93.6	110.0	100.0	110.0
Postsecondary teacher, mathematics/statistics	62.0	50.0	52.5	58.0	65.0	75.0	85.5
Physical scientist	80.0	60.0	73.0	80.0	87.1	100.0	99.5
Chemist, except biochemist	86.0	73.0	85.0	90.1	96.0	100.0	104.0
Earth/atmospheric/ocean scientist	84.7	61.0	75.0	77.0	85.0	110.0	110.0
Physicist/astronomer	96.0	57.0	85.0	93.0	100.0	110.0	115.0
Postsecondary teacher, chemistry	60.0	46.0	51.0	60.0	63.0	65.0	80.9
Postsecondary teacher, physics	67.5	50.0	61.7	62.5	66.0	75.0	85.0
Postsecondary teacher, other physical sciences	65.0	50.0	58.7	63.7	70.0	81.5	95.0
Other physical scientist	82.0	70.0	67.0	117.0	S	105.0	121.3
Psychologist	70.0	54.0	60.0	70.0	79.2	80.0	85.0
Psychologist	75.0	57.0	67.8	76.5	81.0	85.0	90.0
Postsecondary teacher, psychology	61.2	45.0	52.0	60.0	62.0	66.0	81.0
Social scientist	70.0	53.3	60.0	69.0	73.0	80.0	90.0
Economist	108.0	84.0	108.0	115.0	124.0	130.0	135.0
Political scientist	80.0	72.0	75.0	S	S	S	112.0
Postsecondary teacher, economics	75.0	65.0	65.8	67.9	83.0	80.0	90.0
Postsecondary teacher, political science	60.0	45.0	55.0	55.0	68.0	69.0	87.0
Postsecondary teacher, sociology	60.0	47.5	55.0	56.5	62.0	67.0	76.0
Postsecondary teacher, other social sciences	60.0	48.0	52.0	65.0	65.0	74.0	83.4
Sociologist/anthropologist	68.0	55.0	60.0	75.0	68.0	85.0	88.0
Other social scientist	70.0	58.0	65.0	76.1	77.0	80.0	118.4
Engineering occupations	92.7	78.7	87.5	96.0	100.0	103.1	110.0
Aerospace/aeronautical/astronautical engineer	100.0	80.0	92.0	100.0	98.0	100.0	120.0
Chemical engineer	95.0	80.0	90.0	104.0	100.0	107.0	113.0
Civil/architectural/sanitary engineer	81.5	63.5	81.5	91.1	100.0	85.0	104.9
Electrical engineer	103.0	93.0	102.0	112.0	123.0	110.0	120.0
Materials/metallurgical engineer	94.0	S	100.0	110.0	75.0	S	100.0
Mechanical engineer	93.0	80.0	92.0	95.0	105.0	103.0	120.0
Postsecondary teacher, engineering	82.2	65.0	72.0	81.3	90.0	100.0	98.0
Other engineer	88.8	77.0	85.0	92.0	100.0	102.0	115.0
Science and engineering-related occupations	97.0	60.0	80.0	91.0	110.0	116.0	120.0
Health-related occupation, except postsecondary teacher	100.0	48.0	85.0	100.0	140.0	150.0	120.0
Postsecondary teacher, health and related sciences	75.0	55.0	62.0	75.0	85.4	98.5	110.0
S&E manager	120.0	82.0	105.0	116.0	120.0	131.0	132.0
S&E precollege teacher	48.0	42.0	45.0	52.0	48.0	53.0	49.0
S&E technician/technologist	80.0	72.0	78.0	91.0	S	S	85.0

TABLE 68. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and years since doctorate: 2003
(Thousands of dollars)

Occupation	Total	5 or less	6–10	11–15	16–20	21–25	More than 25
Other S&E-related occupation	99.0	S	S	S	S	S	S
Non-science and engineering occupations	100.0	66.0	85.0	96.6	100.0	112.0	120.0
Arts/humanities-related occupation	65.0	55.0	66.0	75.0	65.1	75.0	55.0
Management-related occupation	96.0	81.0	100.0	95.0	96.0	100.0	100.6
Non-S&E manager	124.2	85.0	105.0	112.8	119.0	135.0	140.0
Non-S&E postsecondary teacher	66.0	52.0	60.0	65.0	75.0	72.8	85.0
Non-S&E precollege/other teacher	45.0	50.0	45.0	43.3	48.0	S	S
Sales/marketing occupation	90.0	74.0	90.0	90.0	100.0	100.0	85.0
Social service-related occupation	52.0	50.0	54.0	60.0	53.0	42.0	50.0
Other non-S&E occupation	80.0	80.0	79.0	85.0	103.0	100.3	67.7

S = suppressed due to too few cases (fewer than 200 weighted cases).

S&E = science and engineering.

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 69. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and sector of employment: 2003
(Thousands of dollars)

Occupation	Total	Universities and 4-year colleges	Other educational institutions	Private-for-profit	Private not-for-profit	Federal government	State, local government	Self-employed	Other
All occupations	82.0	70.0	58.0	100.0	80.0	91.0	68.0	90.0	112.0
Science occupations	75.0	64.1	60.0	94.0	75.0	87.0	65.0	95.0	110.0
Biological, agricultural, and other life scientist	71.0	62.0	50.0	90.0	69.0	80.0	62.2	83.0	72.0
Agricultural/food scientist	75.0	70.0	S	82.0	70.0	76.0	S	80.0	S
Biochemist/biophysicist	76.0	50.0	S	88.0	85.0	95.0	S	S	S
Biological scientist	65.7	51.0	S	84.0	53.0	74.0	59.5	63.0	S
Forestry/conservation scientist	69.1	70.0	S	S	S	81.0	S	S	S
Medical scientist	80.0	64.5	S	100.0	70.0	88.4	67.0	110.0	S
Postsecondary teacher, agricultural/other natural sciences	70.0	70.0	S	S	S	S	S	S	S
Postsecondary teacher, biological sciences	63.5	64.5	49.0	S	S	S	S	S	S
Other biological/agricultural/life scientist	68.8	47.0	S	85.0	75.0	72.8	S	S	S
Computer and information scientist	90.0	76.0	S	100.0	96.0	103.0	72.0	75.0	S
Computer/information scientist	96.5	75.0	S	100.0	96.0	103.0	72.0	78.0	S
Postsecondary teacher, computer science	76.0	76.0	S	S	S	S	S	S	S
Mathematical scientist	75.0	63.0	60.0	100.0	93.0	97.0	57.0	95.0	S
Mathematical scientist	93.0	68.5	S	100.0	93.0	97.0	57.0	95.0	S
Postsecondary teacher, mathematics/statistics	62.0	62.4	60.0	S	S	S	S	S	S
Physical scientist	80.0	65.0	57.0	92.0	86.0	95.0	68.0	100.0	91.8
Chemist, except biochemist	86.0	60.0	S	90.0	80.0	84.0	66.0	86.0	S
Earth/atmospheric/ocean scientist	84.7	65.0	S	94.0	85.0	98.8	61.3	80.0	S
Physicist/astronomer	96.0	70.0	S	104.0	96.0	100.0	110.0	S	100.0
Postsecondary teacher, chemistry	60.0	60.0	55.0	S	S	S	S	S	S
Postsecondary teacher, physics	67.5	70.0	58.0	S	S	S	S	S	S
Postsecondary teacher, other physical sciences	65.0	65.0	S	S	S	S	S	S	S
Other physical scientist	82.0	50.0	S	101.5	S	95.0	S	S	S
Psychologist	70.0	62.0	66.0	80.0	63.5	85.0	67.0	97.0	S
Psychologist	75.0	63.0	68.0	80.0	64.0	85.0	68.0	97.0	S
Postsecondary teacher, psychology	61.2	61.0	60.0	S	S	S	S	S	S
Social scientist	70.0	65.0	58.0	105.0	75.0	87.3	64.0	110.0	153.0
Economist	108.0	89.0	S	130.0	100.7	97.0	74.8	S	155.0
Political scientist	80.0	72.0	S	S	S	S	S	S	S
Postsecondary teacher, economics	75.0	76.0	65.0	S	S	S	S	S	S
Postsecondary teacher, political science	60.0	60.0	52.0	S	S	S	S	S	S
Postsecondary teacher, sociology	60.0	60.0	S	S	S	S	S	S	S
Postsecondary teacher, other social sciences	60.0	60.0	54.0	S	S	S	S	S	S
Sociologist/anthropologist	68.0	65.0	S	72.0	68.0	72.0	60.0	S	S
Other social scientist	70.0	61.5	S	74.0	69.0	85.0	63.5	S	S
Engineering occupations	92.7	82.0	60.0	98.0	102.0	92.0	71.0	130.0	104.0

TABLE 69. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and sector of employment: 2003
(Thousands of dollars)

Occupation	Total	Universities and 4-year colleges	Other educational institutions	Private-for-profit	Private not-for-profit	Federal government	State, local government	Self-employed	Other
Aerospace/aeronautical/astronautical engineer	100.0	S	S	103.0	105.0	88.0	S	S	S
Chemical engineer	95.0	85.5	S	95.0	113.0	102.0	S	S	S
Civil/architectural/sanitary engineer	81.5	80.0	S	82.0	S	91.5	65.0	150.0	S
Electrical engineer	103.0	100.0	S	102.6	114.0	103.0	S	100.0	S
Materials/metallurgical engineer	94.0	S	S	95.0	S	S	S	S	S
Mechanical engineer	93.0	79.7	S	93.0	S	100.0	S	S	S
Postsecondary teacher, engineering	82.2	82.2	S	S	S	S	S	S	S
Other engineer	88.8	72.0	S	92.2	80.0	90.0	55.0	140.0	S
Science and engineering-related occupations	97.0	78.0	50.0	124.0	95.0	105.0	74.0	105.0	117.0
Health-related occupation, except postsecondary teacher	100.0	71.0	S	130.0	87.0	94.0	60.0	120.0	S
Postsecondary teacher, health and related sciences	75.0	75.0	S	S	S	S	S	S	S
S&E manager	120.0	110.0	S	126.0	100.0	114.0	76.0	105.0	S
S&E precollege teacher	48.0	S	48.0	S	S	S	S	S	S
S&E technician/technologist	80.0	50.0	S	85.0	76.0	S	S	S	S
Other S&E-related occupation	99.0	S	S	106.0	S	S	S	S	S
Non-science and engineering occupations	100.0	87.0	67.0	122.0	82.0	110.0	70.0	70.0	145.0
Arts/humanities-related occupation	65.0	40.0	S	75.0	55.0	S	S	55.0	S
Management-related occupation	96.0	68.0	S	102.0	72.0	97.6	57.0	108.0	93.0
Non-S&E manager	124.2	110.3	80.0	145.0	100.0	125.0	85.0	130.0	200.0
Non-S&E postsecondary teacher	66.0	66.0	43.0	S	S	S	S	S	S
Non-S&E precollege/other teacher	45.0	S	48.0	S	S	S	S	S	S
Sales/marketing occupation	90.0	S	S	98.1	S	S	S	60.0	S
Social service-related occupation	52.0	45.0	60.0	60.0	49.0	S	60.0	S	S
Other non-S&E occupation	80.0	40.0	S	120.0	87.0	70.0	65.0	50.0	S

S = suppressed due to too few cases (fewer than 200 weighted cases).
S&E = science and engineering.

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 70. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad occupation, and sex: 2003
(Thousands of dollars)

Employment sector and occupation	Total	Male	Female
All sectors	82.0	86.5	70.0
Science occupations	75.0	80.0	65.0
Biological, agricultural, and other life scientist	71.0	75.0	63.0
Computer and information scientist	90.0	91.8	80.0
Mathematical scientist	75.0	77.0	64.0
Physical scientist	80.0	83.1	70.0
Psychologist	70.0	76.0	62.4
Social scientist	70.0	72.0	62.3
Engineering occupations	92.7	94.0	85.0
Science and engineering-related occupations	97.0	108.0	73.5
Non-science and engineering occupations	100.0	107.0	80.0
University and 4-year colleges	70.0	73.0	60.0
Science occupations	64.1	68.0	57.0
Biological, agricultural, and other life scientist	62.0	67.0	54.0
Computer and information scientist	76.0	77.0	72.0
Mathematical scientist	63.0	66.0	59.0
Physical scientist	65.0	67.0	55.0
Psychologist	62.0	68.0	59.0
Social scientist	65.0	69.0	59.0
Engineering occupations	82.0	83.0	72.0
Science and engineering-related occupations	78.0	90.5	68.8
Non-science and engineering occupations	87.0	97.8	72.0
Other educational institutions	58.0	59.0	56.0
Science occupations	60.0	60.0	58.0
Biological, agricultural, and other life scientist	50.0	52.0	46.0
Computer and information scientist	S	S	S
Mathematical scientist	60.0	60.0	S
Physical scientist	57.0	57.0	60.0
Psychologist	66.0	70.0	62.0
Social scientist	58.0	61.6	57.0
Engineering occupations	60.0	S	S
Science and engineering-related occupations	50.0	48.0	50.0
Non-science and engineering occupations	67.0	70.0	61.0
Private-for-profit	100.0	102.0	90.0
Science occupations	94.0	98.0	84.0
Biological, agricultural, and other life scientist	90.0	95.0	84.9
Computer and information scientist	100.0	100.0	91.0
Mathematical scientist	100.0	105.0	94.0
Physical scientist	92.0	95.0	84.4
Psychologist	80.0	89.0	65.0
Social scientist	105.0	112.0	80.0
Engineering occupations	98.0	98.5	92.0
Science and engineering-related occupations	124.0	125.0	105.0
Non-science and engineering occupations	122.0	126.0	103.0
Private not-for-profit	80.0	85.0	70.0
Science occupations	75.0	81.0	64.0
Biological, agricultural, and other life scientist	69.0	74.5	55.8
Computer and information scientist	96.0	96.0	S
Mathematical scientist	93.0	102.0	S
Physical scientist	86.0	89.0	80.0
Psychologist	63.5	70.0	61.0
Social scientist	75.0	97.2	70.0
Engineering occupations	102.0	102.0	S
Science and engineering-related occupations	95.0	110.0	80.0

TABLE 70. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad occupation, and sex: 2003
(Thousands of dollars)

Employment sector and occupation	Total	Male	Female
Non-science and engineering occupations	82.0	79.0	85.0
Federal government	91.0	95.0	83.0
Science occupations	87.0	90.0	79.0
Biological, agricultural, and other life scientist	80.0	82.9	73.5
Computer and information scientist	103.0	105.0	S
Mathematical scientist	97.0	100.6	85.0
Physical scientist	95.0	100.0	80.0
Psychologist	85.0	85.0	83.5
Social scientist	87.3	87.3	85.0
Engineering occupations	92.0	93.0	79.1
Science and engineering-related occupations	105.0	110.0	85.0
Non-science and engineering occupations	110.0	115.0	104.0
State and local government	68.0	70.0	65.0
Science occupations	65.0	66.0	65.0
Biological, agricultural, and other life scientist	62.2	62.0	65.0
Computer and information scientist	72.0	60.0	S
Mathematical scientist	57.0	S	S
Physical scientist	68.0	70.0	65.0
Psychologist	67.0	69.2	63.2
Social scientist	64.0	64.0	65.0
Engineering occupations	71.0	71.0	S
Science and engineering-related occupations	74.0	80.0	65.0
Non-science and engineering occupations	70.0	73.0	67.0
Self-employed	90.0	100.0	80.0
Science occupations	95.0	100.0	83.0
Biological, agricultural, and other life scientist	83.0	80.0	110.0
Computer and information scientist	75.0	75.0	S
Mathematical scientist	95.0	65.0	S
Physical scientist	100.0	100.0	S
Psychologist	97.0	110.0	80.0
Social scientist	110.0	135.0	S
Engineering occupations	130.0	130.0	S
Science and engineering-related occupations	105.0	105.0	85.0
Non-science and engineering occupations	70.0	75.0	52.0
Other	112.0	124.7	85.0
Science occupations	110.0	120.0	85.0
Biological, agricultural, and other life scientist	72.0	S	S
Computer and information scientist	S	S	S
Mathematical scientist	S	S	S
Physical scientist	91.8	100.0	0.0
Psychologist	S	S	S
Social scientist	153.0	160.0	140.0
Engineering occupations	104.0	104.0	S
Science and engineering-related occupations	117.0	S	S
Non-science and engineering occupations	145.0	150.0	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

NOTE: Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 71. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003

(Thousands of dollars)

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
All sectors	82.0	75.0	84.5	70.0	73.0	82.5	65.0
Science occupations	75.0	72.5	77.0	65.0	67.0	75.0	63.0
Biological, agricultural, and other life scientist	71.0	75.0	70.0	60.0	62.0	72.0	65.0
Computer and information scientist	90.0	S	88.5	70.0	76.0	92.5	S
Mathematical scientist	75.0	S	70.0	68.0	65.2	76.0	S
Physical scientist	80.0	64.0	80.0	70.0	74.0	81.5	S
Psychologist	70.0	60.0	63.0	68.0	63.0	70.0	S
Social scientist	70.0	67.6	70.0	60.0	68.0	70.0	S
Engineering occupations	92.7	85.0	90.0	81.0	85.0	95.0	S
Science and engineering-related occupations	97.0	72.0	98.0	75.2	94.0	98.0	S
Non-science and engineering occupations	100.0	90.0	104.0	80.0	85.0	100.0	S
University and 4-year colleges	70.0	68.0	65.0	65.0	63.0	70.0	60.0
Science occupations	64.1	64.0	60.0	60.0	60.2	65.0	60.0
Biological, agricultural, and other life scientist	62.0	84.0	51.0	57.0	58.0	65.0	S
Computer and information scientist	76.0	S	76.0	S	70.0	76.0	S
Mathematical scientist	63.0	S	60.0	62.0	63.0	64.0	S
Physical scientist	65.0	60.0	60.0	53.0	69.5	65.0	S
Psychologist	62.0	72.5	62.0	60.0	58.0	62.0	S
Social scientist	65.0	56.6	65.0	60.0	60.0	65.8	S
Engineering occupations	82.0	S	77.0	77.5	81.0	84.0	S
Science and engineering-related occupations	78.0	S	65.0	75.0	74.0	80.0	S
Non-science and engineering occupations	87.0	S	76.0	75.0	70.0	90.0	S
Other educational institutions	58.0	S	56.0	56.0	61.0	57.0	S
Science occupations	60.0	S	54.4	50.0	60.0	60.0	S
Biological, agricultural, and other life scientist	50.0	S	S	S	S	51.0	S
Computer and information scientist	S	S	S	S	S	S	S
Mathematical scientist	60.0	S	S	S	S	63.0	S
Physical scientist	57.0	S	S	S	S	55.5	S
Psychologist	66.0	S	S	S	S	65.0	S
Social scientist	58.0	S	S	S	S	60.0	S
Engineering occupations	60.0	S	S	S	S	S	S
Science and engineering-related occupations	50.0	S	S	S	S	48.5	S
Non-science and engineering occupations	67.0	S	S	61.0	S	68.0	S
Private-for-profit	100.0	90.0	96.0	95.0	100.0	104.0	76.0
Science occupations	94.0	86.0	88.1	86.0	85.0	98.0	S
Biological, agricultural, and other life scientist	90.0	S	85.0	89.0	80.0	93.0	S
Computer and information scientist	100.0	S	95.0	75.0	100.0	103.0	S
Mathematical scientist	100.0	S	89.2	S	S	110.0	S
Physical scientist	92.0	S	85.0	85.0	82.0	97.0	S
Psychologist	80.0	S	S	100.0	100.0	80.0	S
Social scientist	105.0	S	100.0	S	S	112.0	S
Engineering occupations	98.0	S	95.0	93.0	94.0	100.0	S
Science and engineering-related occupations	124.0	S	116.0	115.0	122.7	125.0	S
Non-science and engineering occupations	122.0	120.0	120.0	103.0	125.0	125.0	S
Private not-for-profit	80.0	S	74.0	70.0	78.0	80.0	S
Science occupations	75.0	S	70.5	68.0	80.0	78.0	S
Biological, agricultural, and other life scientist	69.0	S	70.0	S	S	66.0	S
Computer and information scientist	96.0	S	88.0	S	S	96.5	S
Mathematical scientist	93.0	S	S	S	S	101.0	S
Physical scientist	86.0	S	70.5	S	S	95.0	S

TABLE 71. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003
(Thousands of dollars)

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Psychologist	63.5	S	60.0	S	S	65.0	S
Social scientist	75.0	S	71.0	S	S	74.0	S
Engineering occupations	102.0	S	100.0	S	S	105.0	S
Science and engineering-related occupations	95.0	S	70.0	S	S	96.0	S
Non-science and engineering occupations	82.0	S	75.0	92.5	S	83.0	S
Federal government	91.0	75.0	86.0	80.0	80.0	94.1	S
Science occupations	87.0	75.0	85.0	73.5	80.0	89.0	S
Biological, agricultural, and other life scientist	80.0	S	80.9	67.0	S	80.0	S
Computer and information scientist	103.0	S	108.8	S	S	103.0	S
Mathematical scientist	97.0	S	89.0	S	S	100.0	S
Physical scientist	95.0	S	89.0	S	85.0	97.0	S
Psychologist	85.0	S	S	S	S	85.0	S
Social scientist	87.3	S	83.0	S	S	90.0	S
Engineering occupations	92.0	S	89.0	S	S	95.0	S
Science and engineering-related occupations	105.0	S	98.0	S	S	105.0	S
Non-science and engineering occupations	110.0	S	105.1	89.8	S	112.8	S
State and local government	68.0	S	65.0	68.8	75.0	68.0	S
Science occupations	65.0	S	62.0	67.0	70.0	65.0	S
Biological, agricultural, and other life scientist	62.2	S	S	S	S	62.4	S
Computer and information scientist	72.0	S	S	S	S	60.0	S
Mathematical scientist	57.0	S	S	S	S	S	S
Physical scientist	68.0	S	S	S	S	70.2	S
Psychologist	67.0	S	S	70.0	S	66.8	S
Social scientist	64.0	S	S	S	S	65.0	S
Engineering occupations	71.0	S	70.0	S	S	72.0	S
Science and engineering-related occupations	74.0	S	70.0	S	S	74.0	S
Non-science and engineering occupations	70.0	S	72.0	S	S	70.0	S
Self-employed	90.0	S	87.0	80.0	84.0	95.0	S
Science occupations	95.0	S	85.0	0.0	90.0	97.0	S
Biological, agricultural, and other life scientist	83.0	S	S	S	S	85.0	S
Computer and information scientist	75.0	S	S	S	S	75.0	S
Mathematical scientist	95.0	S	S	S	S	95.0	S
Physical scientist	100.0	S	S	S	S	100.0	S
Psychologist	97.0	S	S	S	S	99.0	S
Social scientist	110.0	S	S	S	S	120.0	S
Engineering occupations	130.0	S	S	S	S	143.0	S
Science and engineering-related occupations	105.0	S	105.0	S	S	110.0	S
Non-science and engineering occupations	70.0	S	100.0	S	S	70.0	S
Other	112.0	S	140.0	S	S	112.0	S
Science occupations	110.0	S	140.0	S	S	110.0	S
Biological, agricultural, and other life scientist	72.0	S	S	S	S	S	S
Computer and information scientist	S	S	S	S	S	S	S
Mathematical scientist	S	S	S	S	S	S	S

TABLE 71. Median annual salaries of full-time employed doctoral scientists and engineers, by sector of employment, broad occupation, and race/ethnicity: 2003
(Thousands of dollars)

Employment sector and occupation	Total	American Indian/ Alaska Native	Asian	Black	Hispanic	White	Other/ unknown race/ ethnicity [a]
Physical scientist	91.8	S	S	S	S	100.0	S
Psychologist	0.0	S	S	S	S	S	S
Social scientist	153.0	S	S	S	S	160.0	S
Engineering occupations	104.0	S	S	S	S	105.0	S
Science and engineering-related occupations	117.0	S	S	S	S	85.0	S
Non-science and engineering occupations	145.0	S	S	S	S	165.0	S

S = suppressed due to too few cases (fewer than 200 weighted cases).

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting an Hispanic ethnicity).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 72. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and primary or secondary work activities: 2003
(Thousands of dollars)

Occupation	Total	Computer applications	Management, sales, administration	Professional services	R&D [a]	Teaching	Other
All occupations	82.0	86.5	101.0	81.0	85.0	61.0	76.5
Science occupations	75.0	85.0	85.0	75.0	80.0	60.0	71.9
Biological, agricultural, and other life scientist	71.0	54.0	85.0	80.0	73.0	56.0	63.0
Agricultural/food scientist	75.0	S	79.0	70.0	75.0	S	65.0
Biochemist/biophysicist	76.0	S	89.0	100.0	73.0	S	70.0
Biological scientist	65.7	S	78.0	66.0	62.0	S	59.8
Forestry/conservation scientist	69.1	S	88.2	S	70.0	S	S
Medical scientist	80.0	48.6	96.0	95.0	78.0	S	74.0
Postsecondary teacher, agricultural/other natural sciences	70.0	S	70.0	S	78.7	65.0	S
Postsecondary teacher, biological sciences	63.5	S	75.0	56.0	80.0	55.0	51.0
Other biological/agricultural/life scientist	68.8	S	75.5	65.0	65.0	S	73.5
Computer and information scientist	90.0	87.5	100.0	85.0	103.0	70.0	83.0
Computer/information scientist	96.5	87.5	100.0	80.0	105.0	S	90.0
Postsecondary teacher, computer science	76.0	85.0	120.0	S	90.0	70.0	71.0
Mathematical scientist	75.0	85.0	91.5	87.0	86.0	60.0	53.0
Mathematical scientist	93.0	85.0	100.0	100.0	94.8	63.0	100.0
Postsecondary teacher, mathematics/statistics	62.0	S	80.0	70.0	71.2	60.0	48.0
Physical scientist	80.0	85.0	90.0	89.2	87.0	60.0	80.0
Chemist, except biochemist	86.0	78.0	89.0	85.0	87.0	S	82.0
Earth/atmospheric/ocean scientist	84.7	85.0	90.0	82.0	85.0	S	87.0
Physicist/astronomer	96.0	85.0	103.0	112.0	94.0	80.0	91.0
Postsecondary teacher, chemistry	60.0	S	80.5	S	85.0	55.4	55.0
Postsecondary teacher, physics	67.5	S	86.0	S	80.0	62.0	47.4
Postsecondary teacher, other physical sciences	65.0	S	0.0	S	73.0	60.0	S
Other physical scientist	82.0	S	76.0	S	84.0	S	111.0
Psychologist	70.0	S	72.0	73.5	72.0	60.0	70.0
Psychologist	75.0	S	71.5	75.0	70.3	84.7	79.0
Postsecondary teacher, psychology	61.2	S	81.5	63.0	73.0	59.0	65.0
Social scientist	70.0	63.0	84.3	82.0	77.3	60.0	67.9
Economist	108.0	S	130.0	160.0	100.7	S	125.0
Political scientist	80.0	S	75.0	90.0	84.0	S	S
Postsecondary teacher, economics	75.0	S	90.0	S	88.0	71.3	60.0
Postsecondary teacher, political science	60.0	S	101.0	S	65.0	55.0	50.0
Postsecondary teacher, sociology	60.0	S	65.0	S	60.0	60.0	45.0
Postsecondary teacher, other social sciences	60.0	S	76.0	61.0	63.1	58.0	64.0
Sociologist/anthropologist	68.0	S	70.0	68.0	68.0	S	65.0
Other social scientist	70.0	S	75.0	67.5	71.5	S	69.5
Engineering occupations	92.7	95.0	100.0	97.0	95.0	76.0	90.0
Aerospace/aeronautical/astronautical engineer	100.0	107.1	105.0	S	95.5	S	S
Chemical engineer	95.0	95.0	100.0	S	95.0	S	91.0
Civil/architectural/sanitary engineer	81.5	S	91.5	100.0	80.0	S	S
Electrical engineer	103.0	104.0	112.0	S	103.0	S	100.0
Materials/metallurgical engineer	94.0	S	94.0	S	102.0	S	78.5
Mechanical engineer	93.0	95.0	108.0	97.0	90.0	S	105.0
Postsecondary teacher, engineering	82.2	S	100.0	S	90.0	76.0	74.4
Other engineer	88.8	85.0	95.0	94.0	87.0	S	84.6
Science and engineering-related occupations	97.0	85.0	114.0	100.0	99.0	60.0	82.0
Health-related occupation, except postsecondary teacher	100.0	S	85.0	100.0	88.0	80.0	70.0
Postsecondary teacher, health and related sciences	75.0	S	81.0	85.5	85.0	67.0	56.5
S&E manager	120.0	115.0	120.0	100.0	124.3	S	120.0
S&E precollege teacher	48.0	S	S	S	S	48.0	S
S&E technician/technologist	80.0	76.0	100.7	S	80.0	S	72.0

TABLE 72. Median annual salaries of full-time employed doctoral scientists and engineers, by occupation and primary or secondary work activities: 2003
(Thousands of dollars)

Occupation	Total	Computer applications	Management, sales, administration	Professional services	R&D [a]	Teaching	Other
Other S&E-related occupation	99.0	S	S	S	S	S	S
Non-science and engineering occupations	100.0	92.0	110.0	90.0	106.0	59.7	80.0
Arts/humanities-related occupation	65.0	S	61.0	66.0	75.0	S	45.0
Management-related occupation	96.0	86.0	90.0	105.0	102.0	S	98.5
Non-S&E manager	124.2	119.0	125.0	105.0	126.0	90.0	110.0
Non-S&E postsecondary teacher	66.0	S	75.0	62.5	80.0	62.0	50.0
Non-S&E precollege/other teacher	45.0	S	44.0	44.0	S	46.0	S
Sales/marketing occupation	90.0	S	90.0	85.0	104.0	S	80.0
Social service-related occupation	52.0	S	52.2	52.0	S	54.0	40.0
Other non-S&E occupation	80.0	S	36.0	125.0	70.0	S	35.0

S = suppressed due to too few cases (fewer than 200 weighted cases).

S&E = science and engineering.

[a] R&D includes applied or basic research, design, and development.

NOTES: Salaries are rounded to nearest 100. If respondent reported more than one category of activity as the primary and secondary work activity, respondent's salary appears in both categories.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE 73. Median annual salaries of full-time employed doctoral scientists and engineers, by employer location and broad occupation: 2003
(Thousands of dollars)

Employer location	Total	Science occupations							Engineering occupations	S&E-related occupations	Non-S&E occupations
		All	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist			
All locations	82.0	75.0	71.0	90.0	75.0	80.0	70.0	70.0	92.7	97.0	100.0
New England	85.0	78.0	74.0	90.0	80.0	87.0	73.4	76.0	95.0	92.0	105.0
Connecticut	90.0	85.0	97.0	72.0	S	95.0	72.0	80.0	86.0	114.0	125.0
Maine	67.0	64.3	64.3	S	S	69.4	70.0	60.0	S	S	75.0
Massachusetts	86.0	80.0	72.0	93.8	80.0	87.0	79.2	80.0	97.5	100.0	120.0
New Hampshire	67.0	63.0	50.0	116.0	S	63.0	60.0	S	100.0	S	86.0
Rhode Island	78.0	74.0	80.0	S	S	95.0	73.0	60.0	91.0	80.0	70.0
Vermont	70.0	63.0	S	S	S	S	S	59.9	115.0	S	88.9
Middle Atlantic	87.0	80.0	76.0	96.0	85.0	82.3	77.5	72.4	96.0	102.0	110.0
New Jersey	100.0	93.0	93.0	104.0	103.0	90.0	88.1	83.0	100.0	114.0	120.0
New York	85.0	80.0	72.5	98.0	80.0	84.0	73.0	70.0	93.0	102.0	112.0
Pennsylvania	80.0	73.0	70.0	82.0	78.0	75.0	70.0	72.4	100.0	97.0	94.0
East North Central	78.0	70.8	70.0	80.0	74.0	77.0	65.0	65.5	87.0	85.0	90.0
Illinois	80.0	75.0	72.0	95.0	88.0	78.0	67.5	66.3	89.0	80.0	90.0
Indiana	75.0	70.0	73.0	75.0	66.0	72.0	75.0	63.5	80.0	90.0	90.0
Michigan	83.0	73.0	75.0	75.0	67.5	80.0	65.0	70.0	90.0	105.0	117.0
Ohio	76.0	71.0	70.0	72.0	85.0	76.0	68.0	62.0	87.5	82.0	81.0
Wisconsin	70.0	60.1	56.0	72.5	52.0	70.0	60.1	54.0	84.0	81.0	80.2
West North Central	71.4	65.0	69.0	82.0	65.0	67.5	62.0	61.0	83.0	78.0	80.0
Iowa	72.0	70.0	80.0	S	68.0	67.0	65.0	72.0	75.0	72.0	77.0
Kansas	65.0	60.0	56.0	S	S	55.0	74.0	64.0	79.9	85.0	68.0
Minnesota	75.0	69.0	69.1	73.0	105.0	78.0	62.0	57.2	93.0	80.3	80.0
Missouri	70.0	60.7	61.0	0.0	60.0	64.0	53.0	63.0	89.0	75.0	85.0
Nebraska	66.8	66.8	68.0	S	S	S	S	S	S	S	S
North Dakota	72.4	66.0	75.0	S	S	60.0	63.0	63.0	S	80.0	65.4
South Dakota	65.0	60.0	69.0	S	S	S	S	S	S	S	S
South Atlantic	83.0	75.0	73.5	90.0	80.0	80.0	67.8	73.0	90.0	92.0	100.0
Delaware	100.0	97.8	93.0	S	S	97.8	S	S	110.0	96.0	110.0
District of Columbia	104.0	100.0	77.3	89.0	71.0	100.0	80.0	105.0	98.9	105.0	120.0
Florida	70.0	65.0	70.0	76.0	55.0	68.0	63.0	54.5	78.0	78.0	85.0
Georgia	73.0	66.8	67.0	85.0	66.0	69.0	66.8	58.0	90.0	86.0	96.0
Maryland	88.0	82.0	80.0	98.0	100.0	89.0	66.0	66.0	95.0	100.0	100.0
North Carolina	76.8	72.0	72.0	94.0	62.0	75.0	69.0	58.0	85.2	90.0	90.0
South Carolina	70.0	66.0	70.0	S	68.0	70.0	60.0	55.4	76.0	77.1	73.0
Virginia	85.2	79.0	72.0	100.0	99.0	80.0	65.0	70.0	96.0	94.0	108.0
West Virginia	76.0	70.0	74.0	S	S	88.0	S	43.8	78.0	71.0	S
East South Central	74.0	68.0	64.6	80.0	64.0	70.0	75.0	62.0	82.5	81.5	92.4
Alabama	75.0	66.6	65.0	80.0	S	72.5	65.0	60.0	85.0	89.0	100.0
Kentucky	70.0	65.0	60.6	S	64.0	55.0	79.7	57.0	75.0	70.0	84.0
Mississippi	72.0	68.0	61.6	S	S	75.0	S	70.0	78.0	70.0	110.0
Tennessee	80.0	68.0	63.0	81.0	62.0	72.8	80.0	71.0	84.0	90.2	75.0
West South Central	80.0	70.4	68.0	78.0	60.0	83.0	65.0	64.0	94.0	97.5	85.0
Arkansas	65.0	61.2	62.0	S	S	65.0	S	60.0	S	83.7	90.0
Louisiana	72.0	68.0	70.0	S	50.0	85.0	62.0	55.0	109.0	74.0	66.0
Oklahoma	70.0	62.0	68.0	80.0	S	71.0	58.6	50.0	69.0	82.0	85.0
Texas	83.0	75.0	70.0	78.0	66.7	85.0	70.0	69.0	94.0	100.0	89.9
Mountain	76.0	70.0	63.6	80.0	64.1	82.0	63.1	62.0	95.0	94.0	89.0
Arizona	73.5	66.0	60.0	81.0	S	71.0	67.0	56.0	90.0	75.0	70.6
Colorado	75.0	72.0	65.0	86.0	62.0	84.7	70.0	62.0	84.0	83.5	100.0

TABLE 73. Median annual salaries of full-time employed doctoral scientists and engineers, by employer location and broad occupation: 2003
(Thousands of dollars)

Employer location	Total	Science occupations							Engineering occupations	S&E-related occupations	Non-S&E occupations
		All	Biological, agricultural, and other life scientist	Computer and information scientist	Mathematical scientist	Physical scientist	Psychologist	Social scientist			
Idaho	70.0	53.5	50.3	S	S	63.0	S	S	93.0	95.0	95.0
Montana	60.0	55.0	58.0	S	S	60.0	S	S	S	S	S
New Mexico	95.4	78.0	72.0	85.0	S	100.0	63.0	60.0	103.0	110.1	103.0
Nevada	87.0	75.3	70.0	S	S	78.0	S	S	105.0	S	100.0
Utah	73.0	67.6	65.0	S	S	72.5	60.0	70.0	98.0	61.0	90.0
Wyoming	70.0	70.0	S	S	S	S	S	S	S	S	S
Pacific	90.0	80.0	73.0	100.0	74.0	85.0	72.0	75.0	100.0	120.0	110.0
Alaska	66.6	65.0	59.5	S	S	S	S	S	S	S	S
California	98.0	85.0	79.0	105.0	76.0	91.0	75.0	80.4	100.0	125.0	120.0
Hawaii	72.0	70.0	70.0	S	S	80.0	S	68.0	S	99.0	75.0
Oregon	76.7	70.0	72.0	85.0	63.0	75.0	55.0	57.5	86.0	85.6	75.0
Washington	80.0	70.0	60.0	89.0	77.0	80.0	65.0	63.0	88.0	95.0	88.0
Puerto Rico	60.0	55.0	54.8	S	S	57.7	S	S	S	S	65.0
Other U.S. territories and other areas	80.0	60.0	60.0	S	S	S	S	S	S	S	100.0

S = suppressed due to too few cases (fewer than 200 weighted cases).
S&E = science and engineering.

NOTES: Because survey sample design does not include geography, reliability of estimates in some states may be poor due to small sample size. Salaries are rounded to nearest 100.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

APPENDIX A: TECHNICAL NOTES

The Survey of Doctorate Recipients is designed to complement two other surveys of scientists and engineers conducted by the National Science Foundation (NSF), Division of Science Resources Statistics. Together, these three surveys provide a comprehensive picture of the number and characteristics of individuals with training and/or employment in science and engineering in the United States. This combined system is known as the Scientists and Engineers Statistical Data System (SESTAT, http://sestat.nsf.gov). Additional data on education and demographic information in the SDR come from the Survey of Earned Doctorates (SED), an annual census of research doctorates earned in the United States. The annual SED data are accumulated to form the Doctorate Records File (DRF), a complete record of U.S. doctorate recipients since 1920.

TARGET POPULATION AND SAMPLING FRAME

The 2003 SDR target population definition was the same as those of the previous SDR cycles except that a single day, 1 October, was used as the survey's reference period instead of the week of 15 April.

The target population consisted of individuals who

- had earned a research doctoral degree from a U.S. college or university in a science, engineering, or health field [1]
- were U.S. citizens or non-U.S. citizens who indicated in the SED a plan to reside in the United States after degree award
- were under 76 years of age on 1 October 2003
- were living in the United States in a noninstitutionalized setting on 1 October 2003

To select a probability sample from this population, a sampling frame must be constructed. As in prior cycles, the 2003 SDR frame was constructed as two separate databases, the old cohort frame and the new cohort frame. The cohorts are defined by the year of receipt of the first U.S.-granted doctoral degree. [2] The old cohort frame represents individuals who received their science, engineering, or health doctorate before 1 July 2000, whereas the new cohort frame represents individuals who received their science, engineering, or health doctorate between 1 July 2000 and 30 June 2002.

The old cohort frame was constructed from the 2001 SDR sample by removing the ineligible cases—those that had reached the age of 76, were permanently institutionalized, or deceased, and non-U.S. citizens who were found to have resided outside the United States for two previous consecutive survey cycles. The new cohort frame was developed from the 2001 and 2002 SED. The total 2003 SDR sample frame consisted of 89,139 cases, including 39,436 cases from the old cohort and 49,703 cases from the new cohort. Note that the old cohort frame represents a much larger population because the frame itself was developed from a weighted sample of doctorate recipients.

The approach to frame construction for the 2003 SDR departed significantly from the prior cycles in two respects. First, the eligibility rules for inclusion in the old cohort frame were revised to include U.S. citizens who had been living outside the United States for two or more consecutive prior cycles. In the past, if a doctorate recipient was a U.S. citizen and had been outside the U.S. for two consecutive survey cycles, the individual would be classified as "permanently ineligible" and excluded from the frame. NSF determined that this policy ran an unacceptable risk of excluding sampled individuals who lived abroad briefly but then returned to the United States. This change had the effect of restoring a total of 713 U.S. citizens who had been removed from the 1999 and

[1] See appendix table C-1 for science, engineering, and health fields included in the 2003 SDR sampling frame.

[2] The SDR frame is based on the first U.S. doctorate earned. Recipients of two doctorates whose first degree is not in a science, engineering, or health field are not included in the SDR frame, even if their second doctorate is in a science, engineering, or health field. Based on information collected annually by the SED on the number and characteristics of those earning two doctorates, this exclusion results in a slight undercoverage bias. In 1983–2000, for example, the total number of double doctorate recipients with a non-science, engineering, or health first doctorate and a science, engineering, or health second doctorate was 154, representing 0.046 percent of the total number of science, engineering, or health doctorates awarded in that period.

2001 SDR frames because they had been living outside the United States for two consecutive survey cycles. Second, the most recent information available for the old cohort portion of the frame, including SDR-derived data, was used to determine case eligibility and to update the sample stratification variables. Because analysts typically use survey variables rather than frame variables to define analysis domains, this frame-variable updating was expected to bring sampling strata into closer agreement with reporting domains and reduce the standard errors of estimates for these reporting domains.

Sample Design

The sampling frame was stratified using three variables: demographic group, degree field, and sex. The 2003 SDR sample of 40,000 cases was systematically selected from the 164 resulting strata. This stratified, systematic sample design was similar in principle to that used in previous surveys, but with sample stratification and allocation substantially modified.

The object of the stratified sample design was to create strata that both conformed as closely as possible to the reporting domains used by analysts and had associated subpopulations large enough to be suitable for separate estimation and reporting. The revised demographic-group variable features 10 categories defined by race/ethnicity, disability status, and citizenship at birth. Frame cases were classified into these categories hierarchically to ensure higher selection probability for rarer population groups. In the past, a 15-category degree-field code frame (recode) was used to stratify all demographic groups, resulting in a large number of strata with very small populations. NSF decided that an alternative degree-field recode was needed to stratify the smaller demographic groups. In 2003 only the three largest demographic groups (U.S. white, non-U.S. white, and non-U.S. Asian) were stratified by the 15-category degree-field recode. All other demographic groups were stratified by a 7-category degree-field recode, except that American Indians and Native Hawaiians/other Pacific Islanders were stratified only by sex. Thus, the 2003 SDR sample design features a total of 164 strata defined by a revised demographic group variable, a degree-field variable of 7 or 15 categories, and sex.

The 2003 sample allocation also differed from that of previous cycles. The 2001 SDR allocation was based on a simplified alternative to optimal allocation, where precision constraints were set for domains of interest and the total sample was then optimally allocated to the strata and substrata based on a full cross of the stratification variables as well as cohorts. Under this strategy, the sample size allocated to the smallest strata tended to be too small to support separate analyses. The 2003 SDR sample allocation used the following strategy: (1) allocate a minimum sample size for the smallest strata through a supplemental stratum allocation; (2) allocate extra sample for specific demographic-by-sex domains through a supplemental domain allocation; and (3) allocate the remaining sample proportionately across all strata. The final sample allocation was therefore based on the sum of a proportional allocation across all strata, a domain-specific supplement allocated proportionately across strata in that domain, and a stratum-specific supplement added to obtain the minimum stratum size.

The 2003 SDR sample selection was carried out independently for each stratum and cohort substratum. For the old cohort strata, the past practice of selecting the sample with probability proportional to size continued, where the measure of size was the sampling weight associated with the previous survey cycle without any adjustments for nonresponse or undercoverage. For each stratum, the sampling algorithm started by identifying and removing self-representing cases through an iterative procedure. A case was self-representing if its selection probability was equal to or greater than unity based on its measure of size. Iteration ended when all self-representing cases had been identified and removed. Next, the nonself-representing cases within each stratum were sorted by citizenship, disability status, DRF degree field, and year of doctoral degree award. Finally, the balance of the sample (i.e., the total allocation minus the number of self-representing cases) was selected from each stratum systematically with probability proportional to size.

The new cohort sample was selected using exactly the same algorithm as was used to select the old cohort sample. However, because the sampling weight for every case in the new cohort frame was equal to 1, there were no self-representing cases. For the same reason, each stratum sample from the new cohort was actually a self-weighting sample.

The 2003 SDR sample of 40,000 consisted of 36,582 cases from the old cohort frame and 3,418 cases from the new cohort frame. The overall sampling rate was about 1 in 18 (5.5 percent). However, sampling rates varied considerably across the strata. Sampling rates for selected demographic groups in the 2003 SDR universe are in table A-1.

TABLE A-1. Frame counts and sampling rates for 2003 Survey of Doctorate Recipients, by characteristics of doctorate recipient

Characteristic	Number in frame	Sample[a]	Sampling rate
All doctorate recipients	720,241	39,957	0.0555
Field of doctorate			
Agricultural sciences	28,206	1,614	0.0572
Anthropology/archaeology/sociology	29,923	1,934	0.0646
Biological sciences, NIH[b]	82,002	4,476	0.0546
Biological sciences, other	65,682	3,711	0.0565
Chemistry	72,675	3,880	0.0534
Computer/information sciences	13,209	872	0.0660
Earth/atmospheric/ocean sciences	35,436	1,992	0.0562
Economics	27,903	1,491	0.0534
Electrical/electronic/communication engineering	34,136	1,964	0.0575
Engineering, other	89,922	4,740	0.0527
Health	27,008	1,797	0.0665
Mathematics	20,906	1,217	0.0582
Physics/astronomy	47,482	2,527	0.0532
Psychology	105,610	5,578	0.0528
Social sciences	40,143	2,164	0.0539
Race/ethnicity			
American Indian/Alaska Native	4,735	333	0.0703
Asian	114,469	7,037	0.0615
Black	18,479	2,178	0.1179
Hispanic	17,421	2,164	0.1242
Native Hawaiian/other Pacific Islander	704	85	0.1208
White	542,529	26,630	0.0491
Missing race, non-Hispanic	21,905	1,530	0.0698
Sex			
Male	529,504	27,518	0.0520
Female	189,946	12,389	0.0652
Missing	791	50	0.0632
Citizenship status			
U.S. born	535,751	29,307	0.0547
Foreign born	172,896	9,807	0.0567
U.S. citizen	76,961	4,342	0.0564
Non-U.S. citizen	95,935	5,465	0.0570
Missing	11,594	843	0.0727
Disability status			
Not handicapped	660,229	36,320	0.0550
Handicapped	44,689	2,413	0.0540
Missing	15,323	1,224	0.0799
Doctorate academic year			
Old cohort (doctoral award year 1948–2000)	670,663	36,548	0.0545
New cohort (doctoral award year 2001–02)	49,578	3,409	0.0688

[a] Of the sampled cases, 43 were determined to be permanently ineligible for the survey. Therefore, the eligible sample was reduced from 40,000 to 39,957 selected sample members.

[b] National Institutes of Health (NIH) biological sciences were sampled separately at the request of NIH and include the following doctoral degree fields, listed with their with codes as recorded in the Doctorate Records File: biochemistry (100), bacteriology (110), plant genetics (115), plant physiology (125), anatomy (130), cell biology (136), microbiology and bacteriology (156), microbiology (157), neuroscience (160), parasitology (166), human and animal genetics (170), genetics (171), human and animal pathology (175), human and animal pharmacology (180), human and animal physiology (185) and animal and plant physiology (186).

NOTE: Race/ethnicity data are for all doctorate recipients, including temporary residents.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

Survey Content

The 2003 SDR maintained the questionnaire design changes that were implemented in 1993 (for the survey questionnaire, see appendix D). The questionnaire comprises a large set of core data items that are retained in each survey round to enable trend comparisons, and several sets of module questions asked intermittently on special topics of interest. For example, the 1995 SDR questionnaire had a module on temporary postdoctoral appointments awarded primarily for gaining additional education and training in research, and the 1997 questionnaire had special modules on alternative work arrangements, job security concerns, and recent doctorate recipients' initial career experiences.

A special module on publication and patenting first introduced in 1995 and fielded in 2001 was fielded again in 2003 for activities during the past 2-year period. Questions added in 2001 on individual satisfaction and importance of various job attributes were retained in the 2003 SDR questionnaire. New questions, asked only of foreign-born citizens, were added to obtain data on immigrants. Additionally, a new question determining academic positions for those working at a postsecondary academic institution was added along with a question on overall job satisfaction.

Data Collection

The SDR was a paper-based, self-administered survey until the 1990s, when it became a mixed-mode survey. Since 1991 the data collection protocol has been to mail notification letters, paper questionnaires, and finally postcard reminders, followed by remailing materials to nonresponding sample members according to a set schedule, and then by contacting nonresponders by telephone. The telephone contact was used to prompt the return of the self-administered paper survey or to complete the survey by telephone interview.

With the 2003 SDR, the data collection protocol changed, and three main data collection modes were implemented: self-administered paper questionnaire (SAQ), computer-assisted telephone interview (CATI), and self-administered online questionnaire (Web).

Data collection began in October 2003, with sampled cases starting data collection concurrently in each of the three modes. The 2003 SDR was the first time the Web mode option was offered and the first time that CATI was used as a primary, initial data collection mode for some respondents. Although the project team and sponsors sought ways to improve the SDR, the highest priority was to maintain the high response rates and data quality obtained in prior rounds. To that end, using the CATI and Web as initial modes was introduced as a controlled experiment.

A control group of 29,923 cases received the paper questionnaire in the mail as their initial mode, 7,334 cases started in the CATI mode, and 2,743 cases started in the Web mode. Based on Dillman's Total Design Method (Dillman 1978), different data collection protocols were developed for each of the three different data collection approaches.

The data collection protocol for the SAQ group was as follows: sample members first received an advance notification letter from NSF to acquaint them with the survey. The first questionnaire mailing occurred a week later, followed by a thank you/reminder postcard the following week. Approximately eight weeks after the first questionnaire mailing, the sample members who had not returned a completed questionnaire were sent a second questionnaire by U.S. priority mail. Eight weeks later, any cases still not complete received a single telephone-call prompt to encourage completion of the SAQ. Telephone follow-up to complete the CATI for all mail nonrespondents began three weeks later. Data collection protocols for the CATI and Web start mode experiment groups were similar and ran in parallel to the SAQ data collection protocol.[3]

At any given time, a sample member could ask to complete the survey in a mode other than the mode originally assigned, and 33.1 percent of the sample members did so (n = 10,446).

Quality assurance procedures were in place at each step (address updating, printing, package assembly and mailing, questionnaire receipt, data entry, coding, CATI, and post data collection processing). The data collection field period ended in July 2004. The CATI and data entry processes ended on 9 July 2004 and the Web questionnaire was closed down on 16 July 2004.

Response Rates

The unweighted response rate for the 2003 SDR was 79.1 percent. This is based on 29,915 completed, eligible

[3] For more complete details regarding the mode experiments, see NORC 2003.

respondents. A total of 1,663 cases were found to ineligible during the 2003 SDR and 43 cases were found to be out-of-scope for the SDR frame. Of the ineligible cases, 391 cases were found to be permanently ineligible for the SDR sample and will be dropped from the panel along with the 43 out-of-scope cases that will also be dropped from the panel. Table A-2 shows a breakdown of the 2003 SDR sample by the final outcome. The weighted response rate for the 2003 SDR is 79.5 percent and is based on a target population size of 720,241 science, engineering, and health doctorate holders. The 2003 SDR unweighted and weighted response rates are comparable to the response rates obtained in past survey cycles. Lower response rates generally clustered in groups of non-U.S. citizens and people with large amounts of missing demographic data (table A-2). Missing demographic data indicated incomplete frame records in the Doctorate Records File, which made more difficult the task of locating these cases. Data collection experience has shown that if sample members are located, they are disposed to complete the survey. Individuals who could not be located accounted for the largest number of nonresponders.

Weights

To enable weighted analyses of the 2003 SDR data, a final weight was calculated for every person in the sample. Informally, a final weight approximates the number of persons in the population of doctorate recipients that a sampled person represents. The main goal of weighting is to reduce the nonresponse bias in the survey estimates.

The first step of the weighting process calculated a base weight for all cases selected into the 2003 SDR sample. The base weight accounts for the sample design, and it is defined as the reciprocal of the probability of selection under the sample design. In the next step, an adjustment for nonresponse was performed on completed cases to account for the sample cases that did not complete the survey. Nonresponse adjusted weights were assigned to both respondents and known ineligible cases (i.e., cases who were deceased, institutionalized, over 75 years of age, or living abroad during the survey reference period), but eligible nonrespondents and cases with unknown eligibility received a weight of zero. The total weight carried by unknown eligibility cases was distributed to respondents and known ineligible cases, assuming the same eligibility rates between the two groups of cases. By this method, the respondents represent all eligible cases in the frame, the known ineligible cases represent all ineligible cases, and cases with unknown eligibility carry no weight. Thus the sum of weights equals the frame size.

Data Editing

Complete case data were captured in four separate data collection instruments for the 2003 SDR: the computer assisted data-entry system, which captured data from the complete paper forms; the CATI system; the Web survey; and the "retrieval" instrument, an additional CATI instrument used to collect critical-item follow-up data.

Data exported from each of these four instruments were coded to produce SESTAT variables with the same characteristics (i.e., code frames, lengths, names, and types) across the different instruments. In some cases, this procedure required special coding to standardize code frames across platforms. The result of these procedures was a single database on which all subsequent coding, editing, and cleaning were performed.

Once the merged dataset was created, data from a number of external sources were added to it. These additional data included occupational and educational codes, state/country geographic codes, race/ethnicity and gender data from past SDR surveys and from frame data, the Integrated Postsecondary Education Data System (IPEDS) institution codes, and assigning "Other/Specify" verbatim data to existing variable code frames. After merging all externally coded variables into the data set, the survey data were edited. These edits included checks for range errors, skip errors, multiple responses to "Mark one" questions, and data inconsistencies between items and across years.

Imputation of Missing Data

The 2003 SDR used a combination of logical imputation and statistical imputation. For the most part, logical imputation was accomplished as part of editing. In the editing phase, the answer to a question with missing data was sometimes determined by the answer to another question. In some circumstances, editing was also used to create "missing" data for statistical imputation. During sample frame building for the SDR, some demographic frame variables were found to be missing for sample members. The values for these variables were imputed at the frame construction stage.

TABLE A-2. Survey outcomes and response rates for doctoral scientists and engineers, by characteristics of doctorate recipient: 2003

Characteristic	Survey outcome				Response rate (%)	
	Total	Eligible	Ineligible	Nonresponse	Unweighted	Weighted
All doctorate recipients	39,957	29,915	1,663	8,379	79.1	79.5
Field of doctorate						
Agricultural sciences	1,614	1,226	81	307	81.0	81.1
Anthropology/archaeology/sociology	1,934	1,450	103	381	80.3	82.8
Biological sciences, NIH[a]	4,476	3,451	182	843	81.2	81.5
Biological sciences, other	3,711	2,893	116	702	81.1	81.6
Chemistry	3,880	2,961	122	797	79.5	80.1
Computer/information sciences	872	666	33	173	80.2	80.3
Earth/ocean/atmospheric sciences	1,992	1,441	97	454	77.2	77.4
Economics	1,491	1,048	104	339	77.3	77.5
Electrical/electronic/communication engineering	1,964	1,355	76	533	72.9	73.1
Engineering, other	4,740	3,462	210	1,068	77.5	77.9
Health	1,797	1,373	70	354	80.3	81.5
Mathematics	1,217	977	56	184	85.0	86.3
Physics/astronomy	2,527	1,893	118	516	79.6	79.8
Psychology	5,578	4,136	152	1,290	76.9	77.6
Social sciences	2,164	1,583	143	438	79.8	79.9
Race/ethnicity						
American Indian/Alaska Native	333	262	7	64	80.8	84.7
Asian	7,037	4,657	356	2,024	71.3	69.9
Black	2,178	1,575	50	553	74.6	73.7
Hispanic	2,164	1,684	75	405	81.3	81.1
Native Hawaiian/other Pacific Islander	85	73	1	11	87.1	85.1
White	26,630	21,251	880	4,499	83.1	83.2
Missing race, non-Hispanic	1,530	413	294	823	46.6	43.0
Sex						
Male	27,518	20,482	1,277	5,759	79.1	79.4
Female	12,389	9,426	374	2,589	79.1	80.0
Missing	50	7	12	31	38.0	38.0
Citizenship status						
U.S. born	29,307	23,336	905	5,066	82.7	83.2
Foreign born	9,807	6,366	588	2,853	71.0	70.7
U.S. citizen	4,342	3,391	151	800	81.6	81.8
Non-U.S. citizen	5,465	2,975	437	2,053	62.5	61.8
Missing	843	213	170	460	46.1	42.5
Disability status						
Not handicapped	36,320	27,616	1,176	7,528	79.3	79.5
Handicapped	2,413	1,959	106	348	85.6	86.6
Missing	1,224	340	381	503	59.3	60.8
Doctorate academic year						
Old cohort (doctorate award year 1948–2000)	36,548	27,454	1,510	7,584	76.7	79.4
New cohort (doctorate award year 2001–02)	3,409	2,461	153	795	76.3	79.6

[a] National Institutes of Health (NIH) biological sciences were sampled separately at the request of NIH and include the following doctoral degree fields, listed with their with codes as recorded in the Doctorate Records File: biochemistry (100), bacteriology (110), plant genetics (115), plant physiology (125), anatomy (130), cell biology (136), microbiology and bacteriology (156), microbiology (157), neuroscience (160), parasitology (166), human and animal genetics (170), genetics (171), human and animal pathology (175), human and animal pharmacology (180), human and animal physiology (185) and animal and plant physiology (186).

NOTES: Race/ethnicity data are for all doctorate recipients, including temporary residents. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

The 2003 SDR primary method for statistical imputation was hot-deck imputation. Almost all SDR variables were subjected to hot-deck imputation, where each variable had its own class and sort variables structure created based on a regression analysis. Critical items (which must be complete for all completed cases) and text variables were not imputed.

For some variables, there was no set of class and sort variables that were reliably related to or suitable for predicting the missing value. In these instances consistency was better achieved outside of the hot deck procedures using random imputation. For example, respondents with a missing marital status (question E1) may have answered questions E2 or E3, regarding their spouse or partner's employment status, but failed to answer question E1, regarding their marital status. This implies that E1 should be "1" (Married) or "2" (Living in a marriage-like relationship). Our procedure was to assign a random value for E1 with a probability proportional to the number of cases in each of the valid values (e.g., if there were three married respondents for every respondent living in a marriage-like relationship, then missing values of E1 would be filled in with a "1" 75 percent of the time and "2" 25 percent of the time).

Reliability of Estimates

Because the estimates produced from the SDR are based on a random sample, they may vary from those that would have been obtained if all members of the target population had been surveyed using the same data collection procedures. Two types of error are possible when population estimates are derived from a sample survey: sampling error and nonsampling error. By looking at these errors, the accuracy and precision of the survey estimates can be assessed.

Sampling Errors

Sampling error is the variation that occurs by chance because a sample, rather than the entire population, is surveyed. The particular sample that was used to estimate the 2003 population of science, engineering, and health doctorate recipients in the United States is one of a large number of samples that could have been selected using the same sample design and sample size. Estimates based on each of these samples would have been apt to vary, and such random variation across all possible samples is called the sampling error. Sampling error is measured by the variance or standard error of the survey estimate. The 2003 SDR sample is a systematic sample selected independently from each sampling stratum. The successive difference replication method (SUD) was used to estimate the sampling errors. The theoretical basis for the SUD is described in Wolter (1984) and in Fay and Train (1995).

Table A-3 contains the standard errors for the key sampling variables.

Standard errors like those reported in table A-3 can be used to construct confidence intervals around the estimates. If all possible samples under the sample design were surveyed under the same conditions, and a 95 percent confidence interval were constructed from each sample, then 95 percent of all these intervals would contain the true population value. For example, the estimated total number of agriculture sciences doctorate recipients is 26,656, with a standard error of 259. The 95 percent confidence interval for this estimate is [26,656 – (1.96 × 259), 26,656 + (1.96 × 259)] or [26,148, 27,164]. The standard errors can also be used in testing hypotheses about population parameters.

Nonsampling Errors

In addition to sampling error, survey estimates are subject to nonsampling error, which can arise at many points in the survey process. Sources of nonsampling error include (1) nonresponse error, which arises when the characteristics of respondents differ systematically from nonrespondents; (2) measurement error, which arises when the variables of interest cannot be precisely measured; (3) coverage error, which arises when some members of the target population are excluded from the frame and thus do not have a chance to be selected for the sample; (4) respondent error, which occurs when respondents provide incorrect data; and (5) processing error, which can arise at the point of data editing, coding, or data entry. The analyst should be aware of potential nonsampling errors, but these errors are much harder to quantify than sampling errors.

Generalized Variance Functions

The SDR generates a large number of estimates. In 1999 and 2001, the U.S. Census Bureau used the SUD to compute the variance for a subset of estimates (Tupek 2003). These so-called direct variance estimates were then used to fit generalized variance functions (GVFs) for various population subgroups that represent potential analysis domains. GVFs are provided because it is not feasible to directly calculate and publish the variance for

TABLE A-3. Unweighted number, weighted estimates, standard errors, and design effects for 2003 Survey of Doctorate Recipients, by characteristics of doctorate recipient

Characteristic	Unweighted	Weighted (number)		Weighted (%)		
		Estimate	Standard error	Estimate	Standard error	Design effect
All doctorate recipients	29,915	685,300	982.23	100.0	na	na
Field of doctorate						
Agricultural sciences	1,226	26,656	259.28	3.9	0.0370519	0.11
Anthropology/archaeology/sociology	1,450	28,082	268.66	4.1	0.0383042	0.11
Biological sciences, NIH[a]	3,451	78,471	416.97	11.5	0.0592981	0.10
Biological sciences, other	2,893	63,658	352.85	9.3	0.0493262	0.09
Chemistry	2,961	69,460	313.73	10.1	0.0447338	0.07
Computer/information sciences	666	12,683	193.77	1.9	0.0282487	0.13
Earth/atmospheric/ocean sciences	1,441	33,506	281.16	4.9	0.0415509	0.11
Economics	1,048	25,440	276.99	3.7	0.0393681	0.13
Electrical/electronic/communication engineering	1,355	32,001	260.69	4.7	0.0370019	0.09
Engineering, other	3,462	85,203	448.11	12.4	0.0646928	0.12
Health	1,373	25,854	187.77	3.8	0.0266461	0.06
Mathematics	977	20,224	232.57	3.0	0.0329647	0.11
Physics/astronomy	1,893	44,719	315.31	6.5	0.0446584	0.10
Psychology	4,136	102,285	343.62	14.9	0.0489487	0.06
Social sciences, other	1,583	37,057	325.48	5.4	0.0459709	0.12
Race/ethnicity						
American Indian/Alaska Native	262	4,609	120.70	0.7	0.0174700	0.14
Asian	4,657	106,693	468.53	15.6	0.0615408	0.09
Black	1,575	17,855	200.22	2.6	0.0279163	0.09
Hispanic	1,684	16,615	184.05	2.4	0.0266653	0.09
Native Hawaiian/other Pacific Islander	73	698	41.83	0.1	0.0061090	0.11
White	21,251	523,859	690.91	76.4	0.0744079	0.09
Missing race, non-Hispanic	413	14,969	364.18	2.2	0.0521359	0.38
Sex						
Male	20,482	501,121	813.07	73.1	0.0533418	0.04
Female	9,426	184,013	461.65	26.9	0.0557349	0.05
Missing	7	163	65.86	0.0	0.0096132	1.17
Citizenship status						
U.S. born	23,336	519,559	892.71	75.8	0.1023670	0.17
Foreign born	6,366	159,535	775.85	23.3	0.0993985	0.17
U.S. citizen	3,391	85,813	987.95	12.5	0.1438553	0.57
Non-U.S. citizen	2,975	73,722	976.68	10.8	0.1379479	0.59
Missing	213	6,203	430.81	0.9	0.0629102	1.32
Disability status						
Not handicapped	27,616	633,328	1129.01	92.4	0.0918015	0.36
Handicapped	1,959	43,486	427.65	6.3	0.0620427	0.19
Missing	340	8,483	475.08	1.2	0.0693647	1.18
Doctorate academic year						
Old cohort (doctorate award year 1948–2000)	27,454	635,580	1028.51	92.7	0.0822470	0.30
New cohort (doctorate award year 2001–02)	2,461	49,716	574.41	7.3	0.0822470	0.30

na = not applicable.

[a] National Institutes of Health (NIH) biological sciences were sampled separately at the request of NIH and include the following doctoral degree fields, listed with their with codes as recorded in the Doctorate Records File: biochemistry (100), bacteriology (110), plant genetics (115), plant physiology (125), anatomy (130), cell biology (136), microbiology and bacteriology (156), microbiology (157), neuroscience (160), parasitology (166), human and animal genetics (170), genetics (171), human and animal pathology (175), human and animal pharmacology (180), human and animal physiology (185) and animal and plant physiology (186).

NOTES: Weighted numbers are rounded to nearest 10. Detail may not add to total because of rounding. Race/ethnicity data are for all doctorate recipients, including temporary residents.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

all SDR estimates. In particular, it is impossible to anticipate the numerous analysis domains that may be of interest to SDR data users. The GVFs provide a mechanism for data users to compute the variance of their estimates that are not directly provided by the SDR.

Direct variance estimates are computed for a set of key SDR variables. The lists of key variables used in the 2001 and 2003 GVF estimations are similar. These variables have been determined to be important analysis variables and are sufficiently diverse in that the observed totals cover a wide range within each analysis domain. Some of the key variables are recoded to reduce the number of response categories. Then, a binary variable is created for each response category. Overall, the set of key variables has a total of 103 categories among them; therefore, direct-point and variance estimates involve 103 binary variables.

For a binary variable X, the estimate of the population total is

$$\hat{X} = \sum_{i=1}^{n} X_i W_i \ , \qquad (1)$$

where X_i is the value of X for sample member i, W_i is the final weight for that individual, and n is the sample size. The variance of $\hat{X}$ based on the SUD replicate weights is estimated by

$$V_{SUD}(\hat{X}) = \frac{4}{R}\sum_{r=1}^{R}(\hat{X}_r - \hat{X})^2 \ , \qquad (2)$$

where R is the total number of replicates and $\hat{X}_r$ is the estimated population total based on the rth replicate.

The direct estimates are calculated using SUDAAN's DESCRIPT procedure. Many SDR estimates are based on small populations. This is true for most estimates associated with Blacks, American Indians/Alaska Natives, Native Hawaiians/other Pacific Islanders, and Hispanics. For such small populations, the use of the finite population correction (FPC) factor is generally recommended. As was done in 2001, the FPC was applied to all survey estimates, although its impact is minimal on populations sampled at a rate of less than 10 percent. For each GVF subgroup or domain, the FPC is calculated as

$$fpc_d = (1 - \frac{n_d}{N_d}) \ , \qquad (3)$$

where n_d is the domain sample size and N_d is the domain population size. The population size is estimated by the sum of the base weight per domain, where the base weight reflects the selection probability when the case was last selected to the SDR sample.

To account for potential differences across different population subgroups, the GVFs are estimated independently for each subgroup. (To be consistent with terminology used in the past, the analysis domains defined by degree field and demographic characteristics are called subgroups. These subgroups are not mutually exclusive.) For the GVFs to be successful, statistics that are grouped together should follow a common model, which generally implies that statistics within a subgroup have a similar design effect. Empirically, the grouping is often successful when it is defined by the main design variables, such as demographic, geographic, and racial characteristics.

In estimating the 2001 GVFs, the U.S. Census Bureau defined a total of 261 population subgroups based on the cross-classification of 29 degree-field groups and 9 demographic groups. To reflect changes in both the degree-field definition and the demographic-group definition in the 2003 SDR, NORC defined 352 subgroups for separate GVF estimation based on a cross-classification of 32 degree-field groups and 11 demographic groups. These definitions are consistent with those used in the 2003 detailed statistical tables. For subgroups that are not covered by this classification, the analyst may use the GVF estimated for all doctorate recipients combined. The 32 degree-field groups and 11 demographic groups are listed below.

Degree-field groups
- All doctorate recipients
  - Science
    - Biological, agricultural, and environmental life sciences
      - Agricultural/food sciences
      - Biochemistry/biophysics
      - Cell/molecular biology
      - Environmental life sciences
      - Microbiology
      - Zoology
      - Other biological sciences
    - Computer and information sciences
    - Mathematics and statistics
    - Physical sciences
      - Astronomy/astrophysics
      - Chemistry, except biochemistry
      - Earth/atmospheric/ocean sciences

- Physics
- Psychology
- Social sciences
  - Economics
  - Political sciences
  - Sociology
  - Other social sciences
- Engineering
  - Aerospace/aeronautical/astronautical engineering
  - Chemical engineering
  - Civil engineering
  - Electrical/computer engineering
  - Materials/metallurgical engineering
  - Mechanical engineering
  - Other engineering
- Health

Demographic groups
- Male
- Female
- American Indian/Alaska Native
- Asian
- Black
- Hispanic
- White
- Other/multi-race/unknown race/ethnicity (including Native Hawaiian/other Pacific Islander)
- 2001–02 cohort
- Foreign born

Many mathematical models can be used as generalized variance functions to describe the relationship between the variance of a survey estimate and its expectation. Most models are based on the assumption that the relative variance is a decreasing function of the magnitude of the mean or expectation (Wolter 1985). A commonly used functional form is expressed as a two-parameter model:

$$Var(\hat{X}) = aX^2 + bX \ , \qquad (4)$$

where $\hat{X}$ is an estimator of the total number of cases possessing some characteristic, $X = E(\hat{X})$ is the expectation of $\hat{X}$, $Var(\hat{X})$ is the variance of $\hat{X}$, and a and b are the generalized variance function parameters to be estimated.

Dividing both sides of equation 4 by X^2 yields

$$\frac{Var(\hat{X})}{X^2} = a + \frac{b}{X} \ , \qquad (5)$$

which states that the relative variance of the estimate is a linear function of the inverse of its expectation. The model shown in equation 5 is probably the most commonly used functional form for GVF modeling. NORC used it to estimate the GVFs for the 1997 SDR, and this is the model used for the 2003 GVF estimation.[4]

For each population subgroup, the parameters of the generalized variance function were estimated through an iterative weighted linear regression procedure using the direct point and variance estimates as input. Using weighted linear regression improves the reliability of the fitted model by assigning relatively smaller weights to less reliable direct-variance estimates and larger weights to more reliable direct-variance estimates.

The iterative weighted linear regression procedure involves four regression runs: (1) a weighted linear regression model of $[1/X]$ on the relative variance $Var(\hat{X})/X^2$, using as the initial regression weight the square of the inverse of the relative variance; (2) a second weighted regression of $[1/X]$on the relative variance, using as regression weight the square of the inverse of the predicted relative variance from the first regression model; (3) a third weighted regression of $[1/X]$on the relative variance, using as regression weight the square of the inverse of the predicted relative variance from the second regression model; and (4) a fourth weighted regression of $[1/X]$on the relative variance, using as regression weight the square of the inverse of the predicted relative variance from the third regression model. At the end of the fourth regression run, observations with an absolute standardized residual exceeding 3 are identified as outliers and are removed from consideration. After that, the four-step regression procedure is repeated on the remaining observations. This iterative process continues until all absolute standardized residuals are smaller than 3.

The estimated GVF parameters, along with relevant goodness-of-fit statistics for each model, are presented in appendix B. Note that estimated GVF parameters are

[4] In the 2001 GVF estimation, an additional restriction was applied to this model such that the relative variance is zero when the survey estimate is equal to the population control total T, where the values of T were derived from the population control totals that were used in ratio raking adjustment in 2001. This was done to avoid a situation where the estimated relative variance could be negative for large values of the estimate. This restriction forced the value of a to be equal to $(-b/T)$ and the model was thus reduced to a one-parameter model: $Var(\hat{X})/X^2 = b((1/X)-(1/T))$. For the 2003 SDR, however, NSF decided not to implement ratio adjustments to population control totals and thus the T are not available. For practical purposes, the two models should give very similar results.

available for 345 of the 352 subgroups or domains. The other 7 subgroups are either empty or have only one case, so direct variance estimation is not possible.

With the estimated generalized variance parameters, it is possible to approximate the variance (or standard error) for any 2003 SDR estimate. The following estimation formulas are for standard errors of totals, proportions, and differences.

Standard Errors of Estimated Totals. An estimator of the variance of an estimated total $\hat{X}$ can be obtained by evaluating the GVF at $\hat{X}$ and at a and b. The standard error of an estimated total can be derived using the following equation:

$$SE(X) = \sqrt{aX^2 + bX} \quad , \qquad (6)$$

where X is the estimate of the total and a and b are the generalized variance parameters.

Standard Errors of Estimated Proportions. If p represents a proportion based on the ratio of two estimated totals, where the numerator is a subset of the denominator, the standard error of p, $SE(p)$, can be approximated by using the following equation:

$$SE(p) = p\sqrt{\frac{SE(X)^2}{X^2} - \frac{SE(Y)^2}{Y^2}} \quad , \qquad (7)$$

where X and Y are estimated totals, $SE(X)$ and $SE(Y)$ are the corresponding standard error of X and Y derived from equation 6, and $p = 100(X/Y)$ is the estimated proportion. Equation 7 assumes that there is zero correlation between p and Y.

Standard Errors of Estimated Difference. The standard error of the difference between two estimated totals can be approximated by the following equation:

$$SE(X - Y) = \sqrt{SE(X)^2 + SE(Y)^2} \quad , \qquad (8)$$

where X and Y are estimated totals, and $SE(X)$ and $SE(Y)$ are the corresponding standard error of X and Y from equation 6.

Note that the estimated GVF parameters for some small domains are based on a small number of cases. The parameter estimates are for all domains, but the analyst is advised to use caution when using the GVF of very small domains.

Changes in the Detailed Statistical Tables

Tables for the 2003 SDR report more detailed field-of-doctorate and occupation classifications than did those for the 2001 SDR. In the 2003 tables, the field-of-doctorate variable "Biological, agricultural, and environmental life sciences" ("Biological and agricultural sciences" in 2001) includes seven subfields rather than the three reported in 2001. Under the heading "Physical sciences" ("Physical and related sciences" in 2001), separate subfields of "Astronomy/astrophysics" and "Physics" are reported. In 2001, these two subfields were combined into a single "Physics and astronomy" subfield.

The occupational classification in the 2003 tables differs in two major respects from the one used in the 2001 tables. "Biological, agricultural, and other life scientist," the classification identified as "Life and related scientists" in 2001, reports eight subclassifications, rather than the six reported in 2001. Non-S&E occupations are treated completely differently. Health-related occupations, S&E managers, S&E pre-college teachers, and S&E technicians/technologists have been reclassified under "Science and engineering-related occupations." As a result, all "Non-science and engineering occupations" are composed of clearly non-S&E occupations, such as those involving arts and humanities or social services.

Definitions and Explanations

Employer location. Survey question A11 includes location of the principal employer, and data were based primarily on responses to this question. Individuals not reporting place of employment were classified by their last mailing address.

Field of doctorate. The doctoral field is as specified by the respondent in the SED at the time of degree conferral. These codes were subsequently recoded to the field of study codes used in SESTAT questionnaires. (See appendix tables C-1 and C-2 for field-of-study codes.)

Involuntarily out-of-field rate. The involuntarily out-of-field rate is the percentage of employed individuals who reported working part-time exclusively because a suitable job was not available and/or reported working

in an area not related to the first doctoral degree (in their principal job), at least partially because a job in the doctoral field was not available.

Labor force participation rate. The labor force participation rate (R_{LF}) is the ratio (E + U) / P, where E (employed) + U (unemployed; those not-employed persons actively seeking work) = the total labor force, and P = population, defined as all science, engineering, and health doctorate holders under age 76 who were residing in the United States during the week of 1 October 2003 and who earned their doctorates from U.S. institutions.

Non-U.S. citizen, temporary resident. This citizenship status category does not include individuals who at the time they received their doctorate reported plans to leave the United States and thus were excluded from the sampling frame.

Occupation data. These data were derived from responses to several questions on the kind of work primarily performed by the respondent. The occupational classification of the respondent was based on his/her principal job held during the reference week—or last job held, if not employed in the reference week (survey question A21 or A5). Also used in the occupational classification was a respondent-selected job code (survey question A22 or A6). (See appendix table C-3 for a list of occupations.)

Race/ethnicity. American Indian/Alaska Native, Asian, black, Native Hawaiian/other Pacific Islander, and white refer to non-Hispanic individuals only. These data are from prior rounds of the SDR and the SED. The most recently reported race/ethnicity data were given precedence.

Salary. Median annual salaries are reported, rounded to the nearest $100 and computed for full-time employed scientists and engineers. For individuals employed by education institutions, no accommodation was made to convert academic-year salaries to calendar-year salaries. Users are advised that due to changes in the salary question since 1993, the 1995 through 2003 salary data are not strictly comparable with the 1993 salary data.

Sector of employment. Employment sector was a derived variable based on responses to survey questions A15 and A17. In the detailed tables, the category "Universities and 4-year colleges" includes 4-year colleges or universities, medical schools (including university-affiliated hospitals or medical centers), and university-affiliated research institutions. "Private-for-profit" includes those self-employed in business.

Unemployment rate. The unemployment rate (R_u) is the ratio U / (E + U), where U = unemployed (those not-employed persons actively seeking work) and E (employed) + U = the total labor force.

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TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
All fields	-0.000024	18.1464	0.8826	103	422.75	0.8072	0.8052	0.4456	29,915	0
Male	-0.000036	19.2334	0.8689	102	489.92	0.8305	0.8288	0.4199	20,484	0
Female	-0.000085	16.6988	0.7680	102	472.80	0.8254	0.8237	0.4263	9,431	0
American Indian/Alaska Native	-0.002704	19.0639	0.6634	97	825.73	0.8968	0.8957	0.2792	244	0
Asian	-0.000170	21.1387	0.9079	98	542.16	0.8496	0.8480	0.3762	4,701	0
Black	-0.000513	14.1247	0.5065	98	777.71	0.8901	0.8890	0.2907	1,609	0
Hispanic	-0.000491	11.3665	0.4141	97	753.59	0.8881	0.8869	0.2959	1,683	0
White	-0.000034	19.3993	0.8649	98	503.09	0.8398	0.8381	0.4049	21,584	0
Other/unknown race/ethnicity[a]	-0.006219	17.3240	0.7797	92	493.69	0.8458	0.8441	0.3217	94	0
2001–02 cohort	-0.000248	18.0064	0.7159	103	632.62	0.8623	0.8610	0.3313	2,461	0
Foreign born	-0.000027	15.3765	0.6987	99	484.33	0.8331	0.8314	0.4145	23,416	0
Science										
Total	-0.000032	18.7888	0.8439	101	495.70	0.8335	0.8318	0.4067	23,725	0
Male	-0.000049	19.9501	0.8222	100	588.70	0.8573	0.8558	0.3784	15,759	0
Female	-0.000102	17.4232	0.7449	100	547.06	0.8481	0.8465	0.3921	7,966	0
American Indian/Alaska Native	-0.002850	19.4780	0.6207	95	984.76	0.9146	0.9136	0.2474	209	1
Asian	-0.000261	20.4404	0.7862	96	675.88	0.8779	0.8766	0.3317	3,186	0
Black	-0.000736	14.5445	0.5187	96	786.32	0.8932	0.8921	0.2931	1,255	0
Hispanic	-0.000594	11.7313	0.4065	95	833.00	0.8996	0.8985	0.2745	1,366	0
White	-0.000042	19.8531	0.8012	96	614.03	0.8672	0.8658	0.3607	17,628	0
Other/unknown race/ethnicity[a]	-0.002496	14.5853	0.7059	89	426.97	0.8307	0.8288	0.3217	81	0
2001–02 cohort	-0.000366	18.4735	0.6554	101	794.45	0.8892	0.8881	0.2971	1,883	0
Foreign born	-0.000030	14.4136	0.6063	97	565.19	0.8574	0.8559	0.3686	19,321	1
Biological, agricultural, and environmental life sciences										
Total	-0.000103	18.9081	0.6838	96	764.63	0.8905	0.8894	0.3204	7,570	0
Male	-0.000153	19.1013	0.6498	95	864.09	0.9028	0.9018	0.3042	4,968	0
Female	-0.000338	18.6603	0.6292	95	879.56	0.9044	0.9033	0.3004	2,602	0
American Indian/Alaska Native	-0.008630	19.7755	0.5466	81	1,308.71	0.9458	0.9451	0.1885	56	4
Asian	-0.000777	21.6277	0.4654	91	2,159.69	0.9626	0.9621	0.1821	1,171	5
Black	-0.002646	13.2810	0.4744	91	783.78	0.8980	0.8969	0.2847	353	0
Hispanic	-0.001754	10.9322	0.3972	90	757.50	0.8980	0.8969	0.2646	458	2
White	-0.000149	21.3056	0.4410	91	2,333.96	0.9649	0.9644	0.1834	5,505	4
Other/unknown race/ethnicity[a]	0.004862	12.8266	0.9506	78	182.07	0.7055	0.7016	0.4208	27	0
2001–02 cohort	-0.001180	19.9993	0.6374	93	984.45	0.9162	0.9153	0.2536	609	1
Foreign born	-0.000109	15.8951	0.2670	92	3,545.21	0.9779	0.9777	0.1463	6,192	10
Agricultural/food sciences										
Total	-0.000831	19.7286	0.6355	96	963.76	0.9111	0.9102	0.2736	919	0
Male	-0.001044	20.8269	0.6009	94	1,201.08	0.9296	0.9288	0.2431	717	1
Female	-0.003947	16.8295	0.6471	94	676.45	0.8803	0.8790	0.3198	202	0
American Indian/Alaska Native	-0.052211	25.2737	0.7537	53	1,124.60	0.9591	0.9582	0.1221	8	3
Asian	-0.005960	21.5014	0.8178	89	691.33	0.8882	0.8869	0.3028	133	0
Black	0.002570	12.6131	0.9257	84	185.64	0.6936	0.6899	0.4449	46	0
Hispanic	0.015108	6.8460	0.6988	83	95.97	0.5613	0.5555	0.4200	66	6
White	-0.001182	20.8867	0.5122	90	1,662.83	0.9508	0.9503	0.2078	664	2
Other/unknown race/ethnicity[a]	0.703864	0.6983	0.0979	41	50.83	0.5658	0.5547	0.0732	2	0
2001–02 cohort	-0.008756	17.5839	0.7625	80	531.74	0.8721	0.8704	0.2866	56	0
Foreign born	-0.000998	17.5834	0.3843	91	2,093.71	0.9614	0.9610	0.1869	709	5
Biochemistry/biophysics										
Total	-0.000571	20.4577	0.6311	96	1,050.95	0.9187	0.9178	0.2527	1,152	1
Male	-0.000805	20.8332	0.6421	94	1,052.86	0.9204	0.9196	0.2494	782	1
Female	-0.001992	20.9311	0.5900	93	1,258.76	0.9333	0.9325	0.2284	370	1
American Indian/Alaska Native	-0.093168	22.5286	1.3343	59	285.09	0.8334	0.8305	0.3284	8	0

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
Asian	-0.003225	22.9599	0.4599	88	2,492.45	0.9681	0.9678	0.1563	228	4
Black	-0.004220	13.8126	0.9690	82	203.19	0.7175	0.7140	0.4359	45	0
Hispanic	-0.000292	10.6624	0.7440	80	205.40	0.7248	0.7212	0.4218	49	0
White	-0.000846	22.1574	0.5711	90	1,505.47	0.9454	0.9447	0.2066	818	1
Other/unknown race/ethnicity[a]	-0.158451	11.2974	1.1035	46	104.82	0.7043	0.6976	0.4275	4	0
2001–02 cohort	-0.007866	20.8719	0.5658	89	1,360.67	0.9406	0.9399	0.2034	79	1
Foreign born	-0.000635	16.8583	0.5915	91	812.33	0.9013	0.9001	0.2819	902	0
Cell/molecular biology										
Total	-0.000941	19.8156	0.5781	95	1,175.07	0.9267	0.9259	0.2388	755	0
Male	-0.001729	20.1599	0.4914	92	1,682.77	0.9492	0.9487	0.1976	402	0
Female	-0.002054	19.5002	0.5890	94	1,096.05	0.9233	0.9225	0.2460	353	1
American Indian/Alaska Native	0.733513	1.0146	0.2640	37	14.77	0.2968	0.2767	0.1328	2	0
Asian	-0.003853	21.2082	0.7605	86	777.64	0.9025	0.9014	0.2719	189	0
Black	-0.004735	10.3297	0.8403	76	151.11	0.6713	0.6668	0.4820	33	0
Hispanic	0.016312	5.9285	0.4598	74	166.22	0.7067	0.7024	0.3597	38	3
White	-0.001364	20.6042	0.4622	91	1,987.09	0.9581	0.9576	0.1809	493	2
Other/unknown race/ethnicity[a]	NA	NA	NA	NA	NA	NA	NA	NA	0	NA
2001–02 cohort	-0.006664	19.8190	0.6824	82	843.55	0.9134	0.9123	0.2359	83	0
Foreign born	-0.001125	17.2509	0.3341	90	2,666.39	0.9705	0.9702	0.1531	573	7
Environmental life sciences										
Total	-0.002027	19.3223	0.5490	94	1,238.85	0.9316	0.9308	0.2214	307	1
Male	-0.002761	20.8054	0.5686	93	1,339.10	0.9370	0.9363	0.2160	236	1
Female	-0.008385	16.3523	0.6217	90	691.92	0.8872	0.8859	0.2813	71	0
American Indian/Alaska Native	-0.035462	18.7061	0.4873	38	1,473.87	0.9775	0.9768	0.0573	3	2
Asian	-0.009787	19.2606	1.1275	83	291.83	0.7827	0.7801	0.3857	30	0
Black	0.094077	3.8216	0.3347	66	130.35	0.6777	0.6725	0.3192	10	2
Hispanic	-0.010599	9.6842	0.7765	74	155.53	0.6836	0.6792	0.4436	18	0
White	-0.002534	20.2788	0.5626	90	1,299.16	0.9366	0.9358	0.2180	246	0
Other/unknown race/ethnicity[a]	NA	NA	NA	NA	NA	NA	NA	NA	0	NA
2001–02 cohort	-0.019205	20.6850	0.9114	74	515.13	0.8774	0.8757	0.2761	29	0
Foreign born	-0.001463	12.2811	0.3524	89	1,214.51	0.9346	0.9338	0.2229	264	2
Microbiology										
Total	-0.001166	19.7318	0.7122	95	767.65	0.8919	0.8908	0.2961	595	0
Male	-0.001950	20.7136	0.5121	93	1,636.18	0.9495	0.9489	0.2077	372	4
Female	-0.003212	20.3837	0.6921	94	867.52	0.9041	0.9031	0.2708	223	0
American Indian/Alaska Native	-0.004403	3.2053	0.0071	43	205,609.43	0.9998	0.9998	0.0058	3	0
Asian	-0.008693	20.7136	0.7813	86	702.80	0.8932	0.8920	0.2905	86	0
Black	-0.013256	7.2894	0.1769	80	1,698.25	0.9631	0.9626	0.1262	33	13
Hispanic	0.001217	6.7827	0.4152	82	266.88	0.7806	0.7777	0.3023	36	5
White	-0.001689	21.8500	0.5428	90	1,620.38	0.9502	0.9496	0.2047	434	3
Other/unknown race/ethnicity[a]	0.240767	12.0613	1.6007	45	56.78	0.5690	0.5590	0.2577	3	0
2001–02 cohort	-0.005570	16.2041	0.8174	81	393.00	0.8326	0.8305	0.3191	42	0
Foreign born	-0.001040	13.8940	0.4752	90	854.92	0.9067	0.9056	0.2770	496	0
Zoology										
Total	-0.001012	20.6955	0.5539	95	1,396.00	0.9375	0.9369	0.2171	648	0
Male	-0.001388	22.1237	0.5672	94	1,521.37	0.9430	0.9424	0.2086	482	0
Female	-0.004192	19.0495	0.5232	91	1,325.80	0.9391	0.9384	0.2164	166	3
American Indian/Alaska Native	0.200674	11.2739	1.2388	51	82.82	0.6283	0.6207	0.2884	4	0
Asian	-0.011421	18.2548	0.8652	85	445.15	0.8428	0.8410	0.3402	56	0
Black	0.011861	9.5355	0.6766	73	198.63	0.7394	0.7357	0.3569	27	1
Hispanic	0.008649	6.9469	0.6198	79	125.64	0.6262	0.6212	0.4534	34	2
White	-0.001246	21.8312	0.4915	90	1,972.89	0.9582	0.9577	0.1766	525	2
Other/unknown race/ethnicity[a]	0.019624	24.0457	0.4414	39	2,967.68	0.9877	0.9874	0.0363	2	0

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
2001–02 cohort	-0.007804	21.0847	0.4108	79	2,633.72	0.9734	0.9730	0.1193	34	5
Foreign born	-0.000767	12.8290	0.2952	90	1,888.88	0.9579	0.9574	0.1877	576	5
Other biological sciences										
Total	-0.000242	19.7613	0.6249	96	1,000.13	0.9141	0.9132	0.2694	3,194	0
Male	-0.000369	20.4819	0.6188	95	1,095.74	0.9218	0.9209	0.2542	1,977	0
Female	-0.000633	18.5413	0.5397	95	1,180.39	0.9270	0.9262	0.2438	1,217	0
American Indian/Alaska Native	-0.012561	19.6665	0.5209	78	1,425.20	0.9513	0.9506	0.1682	28	3
Asian	-0.001836	22.4049	0.4063	91	3,041.57	0.9731	0.9728	0.1432	449	5
Black	-0.004038	12.1860	0.4713	88	668.68	0.8884	0.8871	0.2675	159	2
Hispanic	-0.003160	10.4085	0.4514	90	531.70	0.8594	0.8578	0.3115	217	1
White	-0.000338	22.1422	0.4609	91	2,307.80	0.9645	0.9641	0.1750	2,325	4
Other/unknown race/ethnicity[a]	0.034241	10.1309	1.0301	74	96.73	0.5733	0.5674	0.4963	16	0
2001–02 cohort	-0.002165	19.8978	0.6242	93	1,016.27	0.9178	0.9169	0.2410	286	0
Foreign born	-0.000232	15.2519	0.2990	92	2,601.67	0.9687	0.9684	0.1684	2,672	6
Computer and information sciences										
Total	-0.001350	19.6011	0.6592	94	884.27	0.9067	0.9057	0.2872	666	1
Male	-0.001922	23.4236	0.4831	93	2,350.64	0.9655	0.9651	0.1752	449	7
Female	-0.004282	9.7846	0.4040	93	586.53	0.8657	0.8642	0.3635	217	0
American Indian/Alaska Native	0.311583	9.6757	1.3262	40	53.23	0.5835	0.5725	0.1973	2	0
Asian	-0.004516	20.6604	0.6799	88	923.32	0.9166	0.9156	0.2663	213	2
Black	0.096744	2.4547	0.4198	82	34.19	0.3160	0.3068	0.5051	42	6
Hispanic	-0.017124	8.2028	0.7043	77	135.64	0.6439	0.6392	0.5665	38	0
White	-0.002338	20.3525	0.4463	90	2,079.73	0.9616	0.9612	0.1888	371	5
Other/unknown race/ethnicity[a]	NA	NA	NA	NA	NA	NA	NA	NA	0	NA
2001–02 cohort	-0.007261	18.1434	0.7796	83	541.57	0.8699	0.8683	0.3035	90	0
Foreign born	-0.002442	19.3157	0.3664	89	2,778.50	0.9713	0.9710	0.1605	378	5
Mathematics and statistics										
Total	-0.000587	21.5037	0.5914	95	1,322.31	0.9363	0.9356	0.2436	1,441	3
Male	-0.000775	23.8910	0.5099	94	2,195.03	0.9627	0.9623	0.1909	1,128	7
Female	-0.002925	18.3096	0.5186	94	1,246.52	0.9334	0.9326	0.2447	313	3
American Indian/Alaska Native	0.072745	19.3372	2.2611	61	73.14	0.5535	0.5459	0.4727	7	0
Asian	-0.003868	25.6403	0.4400	90	3,396.07	0.9764	0.9761	0.1519	247	6
Black	-0.001796	8.7823	0.6405	83	188.00	0.7015	0.6978	0.4504	74	1
Hispanic	-0.007288	12.6486	0.6879	87	338.06	0.7991	0.7967	0.3826	79	0
White	-0.000750	21.2547	0.5377	90	1,562.43	0.9484	0.9478	0.2116	1,029	3
Other/unknown race/ethnicity[a]	0.536491	1.7146	0.5633	51	9.26	0.1590	0.1418	0.3589	5	0
2001–02 cohort	-0.006369	22.2985	0.5009	88	1,981.53	0.9612	0.9607	0.1642	94	6
Foreign born	-0.000753	19.8621	0.3452	91	3,310.44	0.9761	0.9758	0.1498	1,054	8
Physical sciences										
Total	-0.000137	19.5575	0.7435	96	692.02	0.8804	0.8791	0.3422	5,831	0
Male	-0.000168	20.4105	0.7247	94	793.30	0.8961	0.8950	0.3182	4,727	0
Female	-0.000924	19.6504	0.4083	95	2,316.51	0.9646	0.9642	0.1907	1,104	8
American Indian/Alaska Native	-0.021973	20.5115	0.5109	79	1,612.02	0.9578	0.9572	0.1747	30	6
Asian	-0.001015	25.3372	0.4145	91	3,735.68	0.9785	0.9783	0.1413	932	7
Black	-0.004596	11.1054	0.4094	89	735.85	0.8975	0.8963	0.2720	184	3
Hispanic	-0.003313	11.7338	0.4541	89	667.57	0.8847	0.8834	0.3000	260	0
White	-0.000189	21.0925	0.5464	91	1,490.15	0.9454	0.9448	0.2328	4,403	3
Other/unknown race/ethnicity	0.011862	13.1586	0.9884	71	177.24	0.7198	0.7157	0.3840	22	0
2001–02 cohort	-0.001811	19.7031	0.6020	94	1,071.05	0.9217	0.9208	0.2418	355	1
Foreign born	-0.000158	16.9657	0.4530	92	1,402.91	0.9416	0.9409	0.2392	4,556	3
Astronomy/astrophysics										
Total	-0.003629	19.7643	0.6053	95	1,066.07	0.9214	0.9205	0.2543	195	2
Male	-0.004697	21.0226	0.6211	93	1,145.81	0.9279	0.9271	0.2447	155	2
Female	-0.014647	15.2660	0.6218	84	602.71	0.8802	0.8788	0.2953	40	0
American Indian/Alaska Native	0.539856	1.7374	0.4202	44	17.09	0.2893	0.2723	0.2119	3	0

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
Asian	-0.022489	23.0129	0.6104	71	1,421.25	0.9569	0.9562	0.1571	23	5
Black	-0.064310	3.6979	0.1682	53	483.33	0.9046	0.9027	0.2277	7	0
Hispanic	0.036168	4.0566	0.2896	63	196.18	0.7628	0.7589	0.2817	8	0
White	-0.004591	20.1668	0.5836	89	1,194.00	0.9328	0.9320	0.2330	152	1
Other/unknown race/ethnicity[a]	-0.469510	7.1533	0.1180	35	3,673.88	0.9911	0.9908	0.0419	2	0
2001–02 cohort	-0.022652	17.6397	0.7414	70	566.08	0.8928	0.8912	0.2418	19	0
Foreign born	-0.002681	12.1862	0.3905	90	973.94	0.9189	0.9179	0.2585	165	2
Chemistry, except biochemistry										
Total	-0.000264	19.3955	0.7343	96	697.66	0.8813	0.8800	0.3442	2,961	0
Male	-0.000340	20.3786	0.7297	94	779.83	0.8945	0.8933	0.3235	2,317	0
Female	-0.001494	20.5158	0.3813	95	2,894.60	0.9718	0.9715	0.1702	644	9
American Indian/Alaska Native	-0.042382	18.7751	0.8750	68	460.45	0.8746	0.8727	0.2892	14	0
Asian	-0.001782	24.1042	0.5197	89	2,151.45	0.9624	0.9620	0.1866	490	3
Black	-0.006552	12.8575	0.5708	87	507.46	0.8580	0.8563	0.3241	120	1
Hispanic	-0.006182	12.2667	0.5741	89	456.54	0.8399	0.8381	0.3618	138	0
White	-0.000384	21.7869	0.3907	91	3,109.88	0.9746	0.9743	0.1618	2,187	8
Other/unknown race/ethnicity[a]	0.055718	11.1837	1.0017	70	124.65	0.6470	0.6418	0.4058	12	0
2001–02 cohort	-0.003647	19.8705	0.6713	91	876.27	0.9087	0.9077	0.2611	170	1
Foreign born	-0.000306	17.3671	0.2993	92	3,368.09	0.9768	0.9765	0.1548	2,364	10
Earth/atmospheric/ocean sciences										
Total	-0.000809	18.5522	0.6329	96	859.12	0.9014	0.9003	0.2941	977	0
Male	-0.001025	19.7259	0.6105	94	1,043.97	0.9190	0.9181	0.2658	746	0
Female	-0.003719	13.5426	0.5952	94	517.77	0.8491	0.8475	0.3734	231	0
American Indian/Alaska Native	-0.084573	22.8041	0.8716	56	684.52	0.9319	0.9306	0.1939	7	4
Asian	-0.006206	17.1052	0.6295	86	738.31	0.8989	0.8977	0.2795	124	1
Black	-0.022911	5.9119	0.2624	67	507.46	0.8865	0.8847	0.2478	15	0
Hispanic	-0.002966	8.3201	0.6051	84	189.09	0.6975	0.6938	0.4653	52	0
White	-0.001068	20.5508	0.5233	90	1,542.30	0.9472	0.9466	0.2172	774	2
Other/unknown race/ethnicity[a]	0.555074	1.0828	0.3082	45	12.34	0.2230	0.2050	0.2942	5	0
2001–02 cohort	-0.009682	17.6635	0.8135	85	471.45	0.8503	0.8485	0.3365	68	0
Foreign born	-0.000794	14.7083	0.3684	90	1,594.01	0.9499	0.9493	0.2141	761	4
Physics										
Total	-0.000448	20.5253	0.7468	95	755.33	0.8904	0.8892	0.3125	1,698	0
Male	-0.000493	20.8922	0.7415	94	793.87	0.8961	0.8950	0.3044	1,509	0
Female	-0.004469	16.5094	0.5980	93	762.18	0.8944	0.8932	0.3002	189	1
American Indian/Alaska Native	-0.099621	23.0048	0.8939	66	662.29	0.9119	0.9105	0.2235	6	0
Asian	-0.002927	26.0959	0.4939	90	2,791.24	0.9708	0.9704	0.1551	295	4
Black	-0.011752	9.3381	0.4485	83	433.50	0.8426	0.8406	0.3241	42	0
Hispanic	-0.002484	11.2248	0.6889	80	265.48	0.7729	0.7700	0.3812	62	0
White	-0.000629	21.7754	0.5748	90	1,434.96	0.9441	0.9434	0.2229	1,290	3
Other/unknown race/ethnicity[a]	0.279766	3.6832	0.2806	43	172.29	0.8193	0.8145	0.1536	3	3
2001–02 cohort	-0.004684	20.2299	0.6731	86	903.22	0.9158	0.9148	0.2328	98	1
Foreign born	-0.000627	19.8682	0.3273	90	3,684.52	0.9793	0.9790	0.1404	1,266	10
Psychology										
Total	-0.000193	20.6429	0.6987	96	872.91	0.9028	0.9017	0.3077	4,136	0
Male	-0.000419	22.3267	0.5623	95	1,576.34	0.9466	0.9460	0.2311	2,040	4
Female	-0.000438	23.3069	0.3718	95	3,929.58	0.9791	0.9788	0.1481	2,096	9
American Indian/Alaska Native	0.000037	16.4603	1.0368	79	252.06	0.7683	0.7653	0.3690	62	1
Asian	-0.004538	15.7782	0.5947	90	703.99	0.8900	0.8887	0.2957	219	1
Black	-0.004902	21.2445	0.4329	90	2,408.39	0.9667	0.9663	0.1683	190	5
Hispanic	-0.003003	14.5142	0.4422	89	1,077.52	0.9261	0.9252	0.2345	219	1
White	-0.000246	23.2293	0.4375	91	2,819.74	0.9711	0.9707	0.1667	3,435	5
Other/unknown race/ethnicity[a]	0.057020	8.8875	0.9417	59	89.06	0.6140	0.6071	0.3769	11	1
2001–02 cohort	-0.001985	19.1577	0.5470	95	1,226.70	0.9302	0.9295	0.2325	365	1
Foreign born	-0.000077	7.8326	0.1298	92	3,638.67	0.9788	0.9785	0.1407	3,855	11

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
Social sciences										
Total	-0.000211	20.9866	0.7409	95	802.39	0.8961	0.8950	0.3079	4,081	0
Male	-0.000353	23.8695	0.7610	94	983.90	0.9145	0.9136	0.2774	2,447	0
Female	-0.000550	17.3581	0.3309	93	2,751.26	0.9711	0.9707	0.1720	1,634	9
American Indian/Alaska Native	-0.011298	21.7442	0.5417	82	1,611.08	0.9538	0.9532	0.1660	52	2
Asian	-0.002597	23.7543	0.5116	90	2,156.04	0.9629	0.9625	0.1790	404	5
Black	-0.002046	12.3590	0.4265	89	839.88	0.9081	0.9070	0.2618	412	2
Hispanic	-0.002782	10.4691	0.4319	90	587.66	0.8698	0.8683	0.3177	312	0
White	-0.000297	24.1571	0.5669	90	1,815.57	0.9553	0.9548	0.2023	2,885	3
Other/unknown race/ethnicity[a]	0.073687	7.8545	1.0417	71	56.86	0.4518	0.4438	0.5732	16	0
2001–02 cohort	-0.002055	19.4060	0.5247	94	1,367.83	0.9389	0.9382	0.2177	370	3
Foreign born	-0.000221	17.9760	0.3613	90	2,474.86	0.9687	0.9683	0.1751	3,286	8
Economics										
Total	-0.000824	23.4131	0.8585	95	743.83	0.8889	0.8877	0.3164	1,048	0
Male	-0.001093	25.4745	0.8753	94	846.96	0.9020	0.9010	0.2959	776	0
Female	-0.003213	16.3332	0.6170	92	700.80	0.8862	0.8849	0.3282	272	0
American Indian/Alaska Native	-0.088663	22.5797	0.9223	55	599.37	0.9188	0.9172	0.2178	7	0
Asian	-0.006152	24.9323	0.8154	87	935.01	0.9176	0.9166	0.2688	152	1
Black	-0.004282	10.9091	0.6979	86	244.34	0.7442	0.7411	0.4323	73	0
Hispanic	-0.000882	11.4209	0.7545	85	229.10	0.7388	0.7356	0.3781	61	2
White	-0.001186	26.0836	0.6886	90	1,434.84	0.9435	0.9428	0.2266	753	2
Other/unknown race/ethnicity[a]	0.588023	2.1602	0.4819	40	20.09	0.3459	0.3287	0.2135	2	0
2001–02 cohort	-0.007281	19.1124	0.9147	82	436.56	0.8451	0.8432	0.3253	72	0
Foreign born	-0.001132	23.2661	0.4607	90	2,550.02	0.9696	0.9692	0.1736	758	8
Political sciences										
Total	-0.000948	23.4096	0.6895	95	1,152.79	0.9268	0.9260	0.2474	863	2
Male	-0.001390	25.7171	0.7054	94	1,329.18	0.9359	0.9352	0.2293	571	1
Female	-0.002903	18.7270	0.4734	93	1,564.75	0.9473	0.9467	0.2100	292	4
American Indian/Alaska Native	0.019377	15.4170	1.5907	63	93.94	0.6063	0.5998	0.4828	10	0
Asian	-0.013347	25.5779	0.8171	85	979.90	0.9237	0.9227	0.2274	64	2
Black	-0.004235	14.2521	0.6384	87	498.35	0.8617	0.8599	0.2711	102	5
Hispanic	-0.008268	10.1770	0.5956	79	291.96	0.7913	0.7886	0.3742	60	0
White	-0.001230	25.1351	0.5267	89	2,277.29	0.9644	0.9640	0.1719	623	3
Other/unknown race/ethnicity[a]	-0.078988	5.4887	0.2901	48	358.07	0.8862	0.8837	0.1792	4	0
2001–02 cohort	-0.010053	20.3814	0.6086	87	1,121.52	0.9303	0.9295	0.2361	84	1
Foreign born	-0.000803	17.1865	0.4428	89	1,506.34	0.9472	0.9466	0.2103	733	3
Sociology										
Total	-0.000861	17.8861	0.6163	95	842.16	0.9006	0.8995	0.2849	871	0
Male	-0.001766	20.2101	0.5736	92	1,241.56	0.9338	0.9331	0.2359	466	2
Female	-0.001901	16.8120	0.6125	93	753.42	0.8922	0.8911	0.2995	405	0
American Indian/Alaska Native	-0.060108	16.2685	1.3803	58	138.92	0.7127	0.7076	0.4083	8	0
Asian	-0.003540	15.0376	1.1244	87	178.87	0.6805	0.6766	0.4798	67	1
Black	-0.004308	8.0801	0.3544	87	519.91	0.8609	0.8593	0.3050	118	1
Hispanic	-0.007511	6.1618	0.2770	85	495.01	0.8564	0.8547	0.3208	74	0
White	-0.001238	20.4698	0.4323	90	2,242.08	0.9639	0.9635	0.1756	600	4
Other/unknown race/ethnicity[a]	0.002224	4.8936	0.0611	50	6,411.78	0.9926	0.9924	0.0428	4	0
2001–02 cohort	-0.010339	16.0442	0.7656	88	439.12	0.8362	0.8343	0.3657	72	0
Foreign born	-0.000639	11.1547	0.2252	90	2,453.62	0.9684	0.9680	0.1687	729	8
Other social sciences										
Total	-0.000563	20.5021	0.6650	95	950.64	0.9109	0.9099	0.2625	1,299	0
Male	-0.001072	23.8745	0.6921	94	1,189.84	0.9282	0.9274	0.2303	634	0
Female	-0.001228	17.9948	0.3746	93	2,307.55	0.9645	0.9641	0.1736	665	6
American Indian/Alaska Native	0.011433	18.0296	0.9673	79	347.42	0.8225	0.8201	0.2819	27	2
Asian	-0.006162	20.4162	0.7502	90	740.71	0.8938	0.8926	0.2761	121	0
Black	-0.004245	11.0284	0.5269	86	438.08	0.8391	0.8372	0.3351	119	0
Hispanic	-0.003311	8.8323	0.4192	87	444.00	0.8425	0.8406	0.3078	117	2

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
White	-0.000811	23.2130	0.5234	90	1,967.15	0.9590	0.9586	0.1786	909	4
Other/unknown race/ethnicity[a]	0.440744	3.2954	0.8231	60	16.03	0.2165	0.2030	0.4762	6	0
2001–02 cohort	-0.004109	18.2276	0.4880	92	1,395.39	0.9419	0.9413	0.1995	142	4
Foreign born	-0.000529	15.5754	0.3444	90	2,044.70	0.9610	0.9605	0.1761	1,066	5
Engineering										
Total	-0.000180	22.6083	0.8217	96	757.05	0.8895	0.8884	0.3272	4,817	0
Male	-0.000203	23.3534	0.7964	95	859.80	0.9024	0.9013	0.3056	4,202	0
Female	-0.001517	16.9764	0.6192	95	751.56	0.8899	0.8887	0.3188	615	0
American Indian/Alaska Native	-0.027579	21.4929	0.8279	70	673.98	0.9120	0.9107	0.2396	20	3
Asian	-0.000667	27.6871	0.6243	91	1,966.91	0.9586	0.9581	0.1931	1,342	4
Black	-0.001593	13.7620	0.7617	90	326.39	0.7895	0.7871	0.3781	221	1
Hispanic	-0.004499	12.9924	0.5113	90	645.82	0.8837	0.8823	0.2963	215	3
White	-0.000304	24.0596	0.4900	90	2,411.39	0.9671	0.9667	0.1811	3,009	6
Other/unknown race/ethnicity[a]	0.024901	23.9509	1.8145	61	174.23	0.7470	0.7427	0.2956	10	0
2001–02 cohort	-0.001654	22.5603	0.6018	95	1,405.47	0.9392	0.9385	0.2135	399	2
Foreign born	-0.000309	21.8697	0.5440	91	1,616.37	0.9495	0.9489	0.2182	2,974	3
Aerospace/aeronautical/astronautical engineering										
Total	-0.002764	23.8775	0.7674	89	968.24	0.9176	0.9166	0.2371	200	0
Male	-0.003030	23.6834	0.7448	88	1,011.26	0.9233	0.9224	0.2246	184	2
Female	0.024450	13.0655	0.9212	73	201.16	0.7391	0.7355	0.3654	16	0
American Indian/Alaska Native	NA	NA	NA	NA	NA	NA	NA	NA	1	NA
Asian	-0.011892	26.6550	1.2500	79	454.69	0.8552	0.8533	0.3083	38	0
Black	0.126655	3.6687	0.8107	61	20.48	0.2609	0.2482	0.5757	11	1
Hispanic	0.173661	5.9271	0.8753	59	45.85	0.4458	0.4361	0.4292	6	0
White	-0.004506	24.5825	0.7666	85	1,028.29	0.9253	0.9244	0.2325	144	0
Other/unknown race/ethnicity[a]	NA	NA	NA	NA	NA	NA	NA	NA	0	NA
2001–02 cohort	-0.032526	22.5549	0.9623	63	549.36	0.9001	0.8984	0.2446	18	0
Foreign born	-0.004483	21.7242	0.7592	84	818.83	0.9100	0.9089	0.2634	142	1
Chemical engineering										
Total	-0.000979	22.0495	0.7713	94	817.26	0.8988	0.8977	0.2798	682	0
Male	-0.001192	22.7746	0.7573	93	904.36	0.9086	0.9076	0.2701	584	0
Female	-0.006609	18.0560	0.4744	88	1,448.77	0.9477	0.9470	0.1966	98	6
American Indian/Alaska Native	0.095104	9.6870	1.7116	53	32.03	0.3858	0.3737	0.5990	5	0
Asian	-0.003430	25.1623	0.6327	89	1,581.57	0.9507	0.9501	0.1967	183	5
Black	0.005902	9.0348	0.9389	75	92.60	0.5626	0.5565	0.5197	28	1
Hispanic	0.013443	8.7136	0.7425	82	137.74	0.6414	0.6368	0.4275	31	3
White	-0.001777	23.3493	0.7028	90	1,103.74	0.9262	0.9253	0.2439	435	0
Other/unknown race/ethnicity[a]	NA	NA	NA	NA	NA	NA	NA	NA	0	NA
2001–02 cohort	-0.012471	21.6942	0.7952	86	744.28	0.8986	0.8974	0.2669	55	0
Foreign born	-0.001710	20.9397	0.6435	89	1,058.86	0.9249	0.9240	0.2512	458	1
Civil engineering										
Total	-0.001572	24.6537	0.5673	95	1,888.92	0.9555	0.9550	0.1842	420	5
Male	-0.001750	25.2248	0.6067	94	1,728.71	0.9516	0.9510	0.1924	379	4
Female	-0.012219	17.9137	0.8178	87	479.81	0.8495	0.8477	0.3247	41	0
American Indian/Alaska Native	-0.098496	15.1263	1.8174	43	69.27	0.6282	0.6191	0.4028	3	0
Asian	-0.005696	28.0127	0.6560	86	1,823.31	0.9580	0.9574	0.1696	93	4
Black	0.018071	16.3507	1.1687	72	195.74	0.7394	0.7356	0.3552	22	1
Hispanic	-0.005003	10.5335	0.8318	71	160.36	0.6992	0.6948	0.4450	21	0
White	-0.002678	24.7463	0.7825	89	1,000.18	0.9200	0.9191	0.2478	279	0
Other/unknown race/ethnicity[a]	0.829862	0.9266	0.2913	39	10.12	0.2148	0.1936	0.1252	2	0
2001–02 cohort	-0.011496	20.6388	0.8755	76	555.72	0.8839	0.8823	0.2597	31	1
Foreign born	-0.003454	22.4963	0.4143	90	2,949.02	0.9733	0.9729	0.1516	240	7

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
Electrical/computer engineering										
Total	-0.000652	22.6929	0.8632	96	691.18	0.8803	0.8790	0.3386	1,355	0
Male	-0.000742	24.0369	0.8660	95	770.40	0.8923	0.8911	0.3201	1,167	0
Female	-0.003879	9.9816	0.4049	91	607.83	0.8723	0.8708	0.3388	188	0
American Indian/Alaska Native	0.021742	21.7314	1.3553	56	257.10	0.8264	0.8232	0.2438	5	0
Asian	-0.002134	26.3656	0.6544	90	1,623.07	0.9508	0.9502	0.2117	438	4
Black	0.006432	8.4719	0.7758	87	119.25	0.5896	0.5847	0.5148	72	2
Hispanic	-0.006486	9.8467	0.5839	83	284.37	0.7783	0.7756	0.3940	62	0
White	-0.001222	25.0941	0.5632	90	1,985.14	0.9603	0.9598	0.1984	776	6
Other/unknown race/ethnicity[a]	0.421428	3.2599	0.5188	39	39.48	0.5162	0.5031	0.2015	2	0
2001–02 cohort	-0.005111	23.5094	0.6272	89	1,404.85	0.9448	0.9442	0.1978	108	5
Foreign born	-0.001377	24.0713	0.5818	91	1,711.67	0.9532	0.9527	0.2129	774	5
Materials/metallurgical engineering										
Total	-0.001253	22.6196	0.6676	95	1,147.95	0.9258	0.9250	0.2297	501	1
Male	-0.001462	23.1809	0.6793	94	1,164.51	0.9275	0.9267	0.2278	430	1
Female	-0.009082	20.1071	0.7132	88	794.87	0.9024	0.9012	0.2661	71	0
American Indian/Alaska Native	-0.110168	22.1778	1.0308	44	462.90	0.9168	0.9148	0.1676	3	0
Asian	-0.003909	27.3769	0.7230	89	1,433.79	0.9428	0.9421	0.1973	144	0
Black	0.025115	6.3523	0.5148	63	152.24	0.7241	0.7194	0.3130	17	3
Hispanic	0.039364	9.0337	0.8807	74	105.22	0.5971	0.5914	0.4426	21	1
White	-0.002226	23.0614	0.5798	90	1,581.94	0.9490	0.9484	0.1920	314	3
Other/unknown race/ethnicity[a]	0.479533	10.1219	1.7051	44	35.24	0.4562	0.4433	0.2075	2	0
2001–02 cohort	-0.013738	23.4377	0.8866	78	698.80	0.9019	0.9006	0.2379	31	0
Foreign born	-0.002143	21.5929	0.6476	90	1,111.92	0.9298	0.9289	0.2350	321	4
Mechanical engineering										
Total	-0.001017	22.7577	0.7120	96	1,021.50	0.9157	0.9148	0.2532	643	0
Male	-0.001054	23.0028	0.7044	94	1,066.47	0.9206	0.9197	0.2433	595	0
Female	-0.009820	19.7250	0.9463	88	434.44	0.8348	0.8328	0.3361	48	0
American Indian/Alaska Native	NA	NA	NA	NA	NA	NA	NA	NA	1	NA
Asian	-0.003336	27.0113	0.5611	91	2,317.45	0.9658	0.9654	0.1610	203	7
Black	0.004155	11.2563	1.1330	76	98.70	0.5715	0.5657	0.5470	24	0
Hispanic	0.004654	10.1972	0.7853	77	168.60	0.7037	0.6995	0.3797	27	4
White	-0.001711	23.3274	0.6417	90	1,321.58	0.9376	0.9369	0.2147	386	0
Other/unknown race/ethnicity[a]	0.351461	8.7745	1.2138	39	52.26	0.5855	0.5743	0.1921	2	0
2001–02 cohort	-0.006533	20.7788	0.7190	84	835.12	0.9116	0.9105	0.2397	69	1
Foreign born	-0.001903	21.1689	0.4855	89	1,901.01	0.9582	0.9577	0.1788	377	4
Other engineering										
Total	-0.000761	24.7769	0.7455	95	1,104.69	0.9224	0.9215	0.2465	1,016	0
Male	-0.000906	25.8649	0.7333	94	1,244.22	0.9311	0.9304	0.2336	863	0
Female	-0.004536	19.7698	0.5176	90	1,458.92	0.9449	0.9443	0.1950	153	3
American Indian/Alaska Native	-0.012223	20.1471	0.0246	41	669,820.87	0.9999	0.9999	0.0026	2	0
Asian	-0.002668	28.5682	0.6841	89	1,744.00	0.9546	0.9540	0.1805	243	4
Black	0.030972	9.4154	0.9769	80	92.90	0.5468	0.5409	0.4945	47	1
Hispanic	-0.016149	14.3097	0.9696	85	217.83	0.7241	0.7208	0.4717	47	0
White	-0.001181	25.4077	0.5896	90	1,857.31	0.9557	0.9552	0.1868	675	2
Other/unknown race/ethnicity[a]	0.765964	2.4418	0.5683	42	18.46	0.3158	0.2987	0.1444	2	0
2001–02 cohort	-0.006459	21.3168	0.7621	89	782.48	0.8999	0.8988	0.2609	87	0
Foreign born	-0.001187	23.0981	0.5401	90	1,829.10	0.9556	0.9551	0.1898	662	3
Health										
Total	-0.000629	17.4113	0.6133	95	806.05	0.8966	0.8954	0.3113	1,373	0
Male	-0.001663	19.7304	0.6170	93	1,022.51	0.9191	0.9182	0.2711	523	1
Female	-0.001045	16.7579	0.5837	94	824.21	0.8996	0.8985	0.3079	850	0
American Indian/Alaska Native	0.019797	11.7617	1.0809	68	118.40	0.6421	0.6367	0.4622	15	0
Asian	-0.006341	21.0036	0.4752	90	1,953.89	0.9597	0.9592	0.1898	173	6
Black	-0.004887	8.6154	0.3734	85	532.22	0.8679	0.8663	0.3096	133	2
Hispanic	-0.005030	6.6158	0.3312	87	398.92	0.8244	0.8223	0.3531	102	0

TABLE B-1. Estimated generalized variance function parameters and relevant model fitting statistics

Field and demographic group	*a*	*b*	*SE(b)*	Direct estimates	*F*-statistic	R^2	Adjusted R^2	Root mean *SE*	Subgroup sample size	Outliers removed
White	-0.000899	19.6469	0.3482	90	3,182.95	0.9743	0.9740	0.1565	947	4
Other/unknown race/ethnicity[a]	0.300432	3.6115	0.4386	47	67.81	0.6011	0.5922	0.2484	3	0
2001–02 cohort	-0.004110	15.9899	0.5886	94	738.07	0.8892	0.8880	0.2998	179	0
Foreign born	-0.000588	13.4539	0.2033	90	4,381.48	0.9821	0.9818	0.1327	1,121	8

NA = not available.

[a] Includes Native Hawaiians/other Pacific Islanders and respondents choosing multiple races (excluding those selecting a Hispanic ethnicity).

NOTE: Race/ethnicity data are for all doctorate recipients, including temporary residents.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2003 Survey of Doctorate Recipients.

TABLE C-1. Comparison of science, engineering, and health doctoral fields of study used in SDR detailed statistical tables to fields used in the SESTAT and SED questionnaires

Detailed statistical tables		SESTAT questionnaires	SED questionnaire
Major field	Subfield		
Biological, agricultural, and environmental life sciences	Agricultural/food sciences	605 Animal sciences	005 Animal breeding/genetics
			007 Animal husbandry*
			010 Animal nutrition
			012 Dairy science
			014 Poultry science
			019 Animal sciences, other
		606 Food sciences/technology	043 Food engineering
			040 Food sciences*
			042 Food distribution*
			044 Food sciences, other
		607 Plant sciences	020 Agronomy/crop science
			025 Plant breeding/genetics
			030 Plant pathology (see also 120)
			032 Plant protection/pest management*
			039 Plant sciences, other
			050 Horticulture science
		608 Other agricultural sciences	046 Soil chemistry/microbiology
			045 Soil sciences*
			049 Soil sciences, other
			098 Agricultural sciences, general
			099 Agricultural sciences, other
	Biochemistry/biophysics	631 Biochemistry/biophysics	100 Biochemistry
			105 Biophysics
	Cell/molecular biology	634 Cell/molecular biology	136 Cell biology (see also 154)
			154 Molecular biology
	Microbiology	637 Microbiology	110 Bacteriology
			156 Microbiology/bacteriology*
			157 Microbiology
	Zoology	641 Zoology, general	148 Entomology
			189 Zoology, other
	Environmental life sciences	680 Environmental science studies	055 Fisheries science/management
			054 Fish and wildlife science*
			081 Environmental science
			580 Environmental science
		681 Forestry sciences	060 Wildlife*
			066 Forest biology
			065 Forestry science*
			068 Forest engineering
			070 Forest management
			072 Wood science and pulp/paper technology
			074 Conservation/renewable natural resources
			079 Forestry and related sciences, other
			080 Wildlife/range management
	Other biological sciences	632 Biology, general	198 Biological sciences, general
		633 Botany	120 Plant pathology (see also 030)
			125 Plant physiology
			129 Botany, other
		635 Ecology	139 Ecology
		636 Genetics, animal/plant	115 Plant genetics
			170 Genetics, human/animal
			171 Genetics*
		638 Nutritional sciences	163 Nutritional sciences
		639 Pharmacology, human/animal	180 Pharmacology, human/animal
		640 Physiology and pathology, human/animal	175 Pathology, human/animal
			185 Physiology, human/animal
			186 Animal/plant physiology*
		642 Other biological sciences	103 Biomedical sciences
			107 Biotechnology research
			130 Anatomy

TABLE C-1. Comparison of science, engineering, and health doctoral fields of study used in SDR detailed statistical tables to fields used in the SESTAT and SED questionnaires

Detailed statistical tables		SESTAT questionnaires	SED questionnaire
Major field	Subfield		
Biological, agricultural, and environmental life sciences, continued			133 Biometrics/biostatistics 140 Hydrobiology* 142 Developmental biology/embryology 145 Endocrinology 151 Biological immunology 160 Neuroscience 166 Parasitology 169 Toxicology 199 Biological sciences, other
Computer and information sciences	Computer and information sciences	D67 Computer/information sciences	400 Computer science 410 Information science/systems 419 Computer/information sciences, other
Mathematics and statistics	Mathematics and statistics	841 Applied mathematics	420 Applied mathematics
		842 Mathematics, general	498 Mathematics, general
		843 Operations research	363 Operations research 465 Operations research 930 Operations research
		844 Statistics	450 Mathematical statistics (see also 690) 690 Statistics (see also 450)
		845 Other mathematics	425 Algebra 430 Analysis/functional analysis 435 Geometry 440 Logic 445 Number theory 455 Topology 460 Computing theory/practice 499 Mathematics, other
Physical sciences	Astronomy/astrophysics	871 Astronomy/astrophysics	500 Astronomy 505 Astrophysics 506 Astronomy/astrophysics*
	Chemistry, except biochemistry	873 Chemistry	520 Analytical 521 Agricultural/food 522 Inorganic 524 Nuclear 526 Organic 528 Medicinal/pharmaceutical 530 Physical 532 Polymer 534 Theoretical 538 Chemistry, general 539 Chemistry, other
	Earth/atmospheric/ocean sciences	872 Atmospheric sciences/meteorology	510 Atmospheric physics/chemistry 512 Atmospheric dynamics 514 Meteorology 518 Atmospheric sciences/meteorology, general 519 Atmospheric sciences/meteorology, other
		875 Geology	540 Geology 548 Mineralogy, petrology 549 Mineralogy/petrology/geological chemistry* 550 Stratigraphy/sedimentation 554 Applied geology 555 Applied geology/geological engineering 552 Geomorphology/glacial geology
		876 Geological sciences, other	542 Geochemistry 544 Geophysics, seismology 545 Geophysics, solid earth* 546 Paleontology

TABLE C-1. Comparison of science, engineering, and health doctoral fields of study used in SDR detailed statistical tables to fields used in the SESTAT and SED questionnaires

Detailed statistical tables		SESTAT questionnaires	SED questionnaire
Major field	Subfield		
Physical sciences, continued			547 Fuel technology/petroleum engineering*
			558 Geological and related sciences, general
			559 Geological and related sciences, other
		877 Oceanography	590 Oceanography
	Physics	878 Physics	560 Acoustics
			561 Chemical and atomic/molecular
			562 Electron physics*
			563 Electromagnetism*
			564 Elementary particle
			565 Biophysics (see 105)*
			566 Fluids
			567 Mechanics*
			568 Nuclear
			569 Optics
			570 Plasma/high-temperature
			572 Polymer
			573 Thermal*
			574 Solid state/low-temperature
			576 Applied*
			578 Physics, general
			579 Physics, other
	Physical sciences, other	D87 Physical sciences, other	585 Hydrology/water resources
			595 Marine sciences
			599 Physical sciences, other
Psychology	Psychology	704 Educational psychology	618 Educational (see also 822)
			822 Educational psychology
		891 Clinical psychology	600 Clinical
		892 Counseling	609 Counseling
		893 Experimental psychology	615 Experimental
		894 General psychology	648 Psychology, general
		895 Industrial/organizational psychology	621 Industrial/organizational
		896 Social psychology	639 Social
		897 Other psychology	603 Cognitive psychology/psycholinguistics
			606 Comparative
			612 Developmental/child
			613 Human/individual and family development
			616 Experimental/comparative psychology/physiology*
			619 Human engineering*
			620 Family/marriage counseling
			624 Personality
			627 Physiological/psychobiology
			630 Psychometrics
			633 Quantitative
			636 School
			649 Psychology, other
Social sciences	Economics	923 Economics	666 Economics
			668 Econometrics
		601 Agriculture, economics	000 Agricultural economics
			002 Agricultural business/management
	Political sciences	927 International relations	674 International relations/affairs
		928 Political science/government	678 Political science/government
			679 Political science/public administration*
		902 Public policy studies	682 Public policy analysis
	Sociology	929 Sociology	686 Sociology
	Other social sciences	620 Area/ethnic studies	652 Area studies
			770 American studies
		771 Linguistics	729 Linguistics

TABLE C-1. Comparison of science, engineering, and health doctoral fields of study used in SDR detailed statistical tables to fields used in the SESTAT and SED questionnaires

Detailed statistical tables		SESTAT questionnaires	SED questionnaire
Major field	Subfield		
Social sciences, continued		921 Anthropology/archeology	650 Anthropology 773 Archeology
		922 Criminology	658 Criminology
		924 Geography	670 Geography
		925 History of science	710 History/philosophy of science/technology
		930 Other social sciences	662 Demography/population studies 694 Urban affairs/studies 698 Social sciences, general 699 Social sciences, other
Engineering	Aerospace/aeronautical/ astronautical engineering	721 Aerospace, aeronautical, astronautical	300 Aerospace/aeronautical/astronautical
	Chemical engineering	725 Chemical	312 Chemical
	Civil engineering	726 Civil	315 Civil
	Electrical/computer engineering	727 Computer/systems	321 Computer 372 Systems
		728 Electrical/electronics/communications	318 Communications 322 Electrical* 323 Electronics* 324 Electrical/electronics
	Materials/metallurgical engineering	734 Materials, including ceramics/textiles	309 Ceramic science 342 Materials science 369 Polymer/plastics 375 Textile*
		736 Metallurgical	348 Metallurgical
	Mechanical engineering	735 Mechanical	345 Mechanical
	Other engineering	722 Agricultural	303 Agricultural
		724 Bioengineering/biomedical	306 Bioengineering/biomedical
		729 Engineering sciences/mechanics/ physics	327 Engineering mechanics 330 Engineering physics 333 Engineering science
		730 Environmental	336 Environmental health engineering
		731 General	398 Engineering, general
		733 Industrial	339 Industrial/manufacturing
		737 Mining/minerals	351 Mining/mineral
		738 Naval architecture/marine engineering	354 Naval architecture/marine engineering*
		739 Nuclear	357 Nuclear
		740 Petroleum	366 Petroleum
		741 Other engineering	360 Ocean 399 Engineering, other
Health	Health	781 Audio/speech pathology	200 Speech/language pathology, audiology
		782 Health services administration	212 Health systems/services administration
		786 Medicine (e.g., dentistry, optometry, osteopathic, podiatry, veterinary)	205 Dentistry* 225 Medical/surgery* 235 Optometry/ophthalmology* 250 Veterinary medicine
		787 Nursing (4 years or longer program)	230 Nursing
		788 Pharmacy	240 Pharmacy
		789 Physical therapy and other rehabilitation/therapeutic services	245 Rehabilitation/therapeutic services
		790 Public health (including environmental health/epidemiology)	210 Environmental health 211 Environmental toxicology* 215 Public health (see also 133) 219 Public health/epidemiology* 220 Epidemiology

TABLE C-1. Comparison of science, engineering, and health doctoral fields of study used in SDR detailed statistical tables to fields used in the SESTAT and SED questionnaires

Detailed statistical tables			
Major field	Subfield	SESTAT questionnaires	SED questionnaire
Health, continued		791 Other health/medical sciences	222 Exercise physiology/science, kinesiology
			298 Health sciences, general
			224 Hospital administration*
			299 Health sciences, other

* Doctoral field dropped or replaced and no longer used in the Survey of Earned Doctorates.

SED = Survey of Earned Doctorates.

SESTAT = Scientists and Engineers Statistical Data System, http://sestat.nsf.gov.

SDR = Survey of Doctorate Recipients.

TABLE C-2. Doctoral fields of study used in the SDR questionnaire, by field label and code

Agricultural business and production
- 601 Agricultural economics (also see 655, 923)
- 602 Other agricultural business/production

Agricultural sciences
- 605 Animal sciences
- 606 Food sciences/technology (also see 638)
- 607 Plant sciences (also see 633)
- 608 Other agricultural sciences

610 Architecture/environmental design (for architectural engineering, see 723)

Biological and life sciences
- 631 Biochemistry/biophysics
- 632 Biology, general
- 633 Botany (also see 607)
- 634 Cell/molecular biology
- 635 Ecology
- 636 Genetics, animal/plant
- 637 Microbiological sciences/immunology
- 638 Nutritional sciences (also see 606)
- 639 Pharmacology, human/animal (also see 788)
- 640 Physiology and pathology, human/animal
- 641 Zoology, general
- 642 Other biological sciences

Business management and administrative services
- 651 Accounting
- 652 Actuarial science
- 653 Business administration/management
- 654 Business, general
- 655 Business/managerial economics (also see 601, 923)
- 656 Business marketing/marketing management
- 657 Financial management
- 658 Marketing research
- 843 Operations research
- 659 Other business management/administrative services

Communications
- 661 Communications, general
- 662 Journalism
- 663 Other communications

Computer and information sciences
- 671 Computer/information sciences, general
- 672 Computer programming
- 673 Computer science (also see 727)
- 674 Computer systems analysis
- 675 Data processing
- 676 Information services/systems
- 677 Other computer/information sciences

Conservation and natural resources
- 680 Environmental science/studies
- 681 Forestry sciences
- 682 Other natural resources/conservation

690 Criminal justice/protective services (also see 922)

Education
- 701 Education administration
- 702 Computer teacher education
- 703 Counselor education/guidance
- 704 Educational psychology

TABLE C-2. Doctoral fields of study used in the SDR questionnaire, by field label and code

705 Elementary teacher education
706 Mathematics teacher education
707 Physical education/coaching
708 Preschool/kindergarten/early childhood teacher education
709 Science teacher education
710 Secondary teacher education
712 Social science teacher education
711 Special education
713 Other education

Engineering
721 Aerospace/aeronautical/astronautical engineering
722 Agricultural engineering
723 Architectural engineering
724 Bioengineering/biomedical engineering
725 Chemical engineering
726 Civil engineering
727 Computer/systems engineering
728 Electrical/electronics/communications engineering
731 Engineering, general
729 Engineering sciences/mechanics/physics
730 Environmental engineering
732 Geophysical/geological engineering
733 Industrial/manufacturing engineering (also see 752)
734 Materials engineering, including ceramics/textiles
735 Mechanical engineering
736 Metallurgical engineering
737 Mining/minerals engineering
738 Naval architecture/marine engineering
739 Nuclear engineering
740 Petroleum engineering
741 Other engineering

Engineering-related technologies
751 Electrical/electronics technologies
752 Industrial production technologies
753 Mechanical engineering-related technologies
754 Other engineering-related technologies

Languages, linguistics, literature, and letters
760 English language/literature/letters
771 Linguistics
772 Other foreign languages/literature

Health and related sciences
781 Audiology/speech pathology
782 Health services administration
783 Health/medical assistants
784 Health/medical technologies
785 Medical preparatory programs (e.g., pre-dentistry, pre-medical, pre-veterinary)
786 Medicine (e.g., dentistry, optometry, osteopathic, podiatry, veterinary)
787 Nursing (4 years or longer program)
788 Pharmacy (also see 639)
789 Physical therapy and other rehabilitation/therapeutic services
790 Public health (Including environmental health/epidemiology)
791 Other health/medical sciences

800 Home economics
810 Law/prelaw/legal studies
820 Liberal arts/general studies
830 Library science

TABLE C-2. Doctoral fields of study used in the SDR questionnaire, by field label and code

Mathematics and statistics
- 841 Applied mathematics (also see 843, 652)
- 842 Mathematics, general
- 843 Operations research
- 844 Statistics
- 845 Other mathematics

850 Parks/recreation/leisure/fitness studies

Philosophy, religion, and theology
- 861 Philosophy of science
- 862 Other philosophy/religion/theology

Physical sciences
- 871 Astronomy/astrophysics
- 872 Atmospheric sciences/meteorology
- 631 Biochemistry/biophysics
- 873 Chemistry except biochemistry
- 874 Earth sciences
- 875 Geology
- 876 Geological sciences, other
- 877 Oceanography
- 878 Physics
- 879 Other physical sciences

Psychology
- 891 Clinical psychology
- 892 Counseling
- 704 Educational psychology
- 893 Experimental psychology
- 894 General psychology
- 895 Industrial/organizational psychology
- 896 Social psychology
- 897 Other psychology

Public affairs
- 901 Public administration
- 902 Public policy studies
- 903 Other public affairs

910 Social work

Social sciences and history
- 921 Anthropology/archaeology
- 620 Area/ethnic studies
- 922 Criminology (also see 690)
- 923 Economics (also see 601, 655)
- 924 Geography
- 925 History of science
- 926 History, other
- 927 International relations
- 928 Political science/government
- 929 Sociology
- 930 Other social sciences

Visual and performing arts
- 941 Dramatic arts
- 942 Fine arts, all fields
- 943 Music, all fields
- 944 Other visual/performing arts

995 Other fields (not listed)

SDR = Survey of Doctorate Recipients.

TABLE C-3. SDR occupational taxonomy by broad, intermediate, and SDR categories

Broad occupation category	Intermediate occupation category	Survey of Doctorate Recipients	
		Label	Code
Computer and mathematical scientists	Computer and information scientists	Computer and information scientists, research	051
		Computer support specialists	053
		Computer systems analysts	054
		Database administrators	055
		Network and computer systems administrators	056
		Network systems and data communication analysts	057
		Other computer and information science occupations	058
		Computer engineers, software	088
	Mathematical scientists	Mathematicians	172
		Operations research analysts, modeling	173
		Statisticians	174
		Other mathematical scientists	176
	Postsecondary teachers, computer and math sciences	Postsecondary teachers, computer science	276
		Postsecondary teachers, mathematics	286
Life scientists	Agricultural and food scientists	Agricultural and food scientists	021
	Biological and medical scientists	Biochemists and biophysicists	022
		Biological scientists	023
		Medical scientists, except practitioners	025
		Other biological and life scientists	027
	Environmental life scientists	Forestry and conservation scientists	024
	Postsecondary teachers, life sciences	Postsecondary teachers, agriculture	271
		Postsecondary teachers, biological science	273
		Postsecondary teachers, medical science	287
		Other postsecondary teachers, natural science	297
Physical scientists	Chemists, except biochemists	Chemists, except biochemists	193
	Earth scientists, geologists, and oceanographers	Atmospheric and space scientists	192
		Geologists	194
		Oceanographers	195
	Physicists and astronomers	Astronomers	191
		Physicists	196
	Other physical scientists	Other physical and related scientists	198
	Postsecondary teachers, physical sciences	Postsecondary teachers, chemistry	275
		Postsecondary teachers, earth/environmental/marine sciences	277
		Postsecondary teachers, physics	289
Social scientists	Economists	Economists	232
	Political scientists	Political and related scientists	235
	Psychologists	Psychologists	236
	Sociologists and anthropologists	Anthropologists	231
		Sociologists	237
	Other social scientists	Other social scientists	238
	Postsecondary teachers, social sciences	Postsecondary teachers, economics	278
		Postsecondary teachers, political science	290
		Postsecondary teachers, psychology	291
		Postsecondary teachers, sociology	293
		Postsecondary teachers, other social sciences	298
Engineers	Aerospace and related engineers	Aerospace and related engineers	082
	Chemical engineers	Chemical engineers	085
	Civil and architectural engineers	Civil and architectural engineers	086
	Electrical engineers	Computer engineers, hardware	087
		Electrical and electronics engineers	089
	Industrial engineers	Industrial engineers	091
	Mechanical engineers	Mechanical engineers	094
	Other engineers	Agricultural engineers	083
		Bioengineers and biomedical engineers	084
		Environmental engineers	090
		Marine engineers or naval architects	092
		Materials and metallurgical engineers	093
		Mining and geological engineers	095
		Nuclear engineers	096
		Petroleum engineers	097

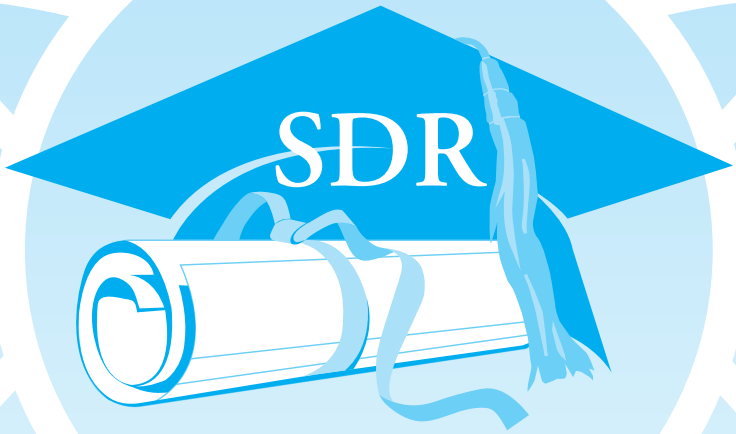
TABLE C-3. SDR occupational taxonomy by broad, intermediate, and SDR categories

Broad occupation category	Intermediate occupation category	Survey of Doctorate Recipients	
		Label	Code
		Sales engineers	098
		Other engineers	099
	Postsecondary teachers, engineering	Postsecondary teachers, engineering	280
Science and engineering related occupations	Health-related occupations	Diagnosing and treating health practitioners	111
		Registered nurses, pharmacists, dieticians, etc.	112
		Health technologists and technicians	113
		Other health occupations	114
		Postsecondary teachers, health specialty	296
	Science and engineering managers	Computer and information systems managers	142
		Engineering managers	143
		Medical and health services managers	144
		Natural and social sciences managers	145
	Science and engineering precollege teachers	Teachers, secondary–computer, math, or science	253
		Teachers, secondary–social sciences	254
	Science and engineering technicians and technologists	Technologists/technicians in the biological/life sciences	026
		Computer programmers	052
		Electrical, industrial, mechanical technologists/technicians	100
		Drafting occupations	101
		Surveying/mapping engineers technicians	102
		Other engineers technologists/technicians	103
		Surveyors	104
		Technologists/technicians in mathematical sciences	175
		Technologists/technicians in physical scientists	197
	Other science and engineering related occupations	Architects	081
		Actuaries	171
Nonscience and engineering occupations	Nonscience and engineering managers	Top-level managers, executives, administrators	141
		Education administrators	146
		Other mid-level managers	147
	Management-related occupations	Accountants, auditors, other financial specialists	151
		Personnel, training, and labor-relations specialists	152
		Other management-related occupations	153
	Nonscience and engineering precollege and other teachers	Teachers, pre-K and kindergarten	251
		Teachers, elementary school	252
		Teachers, secondary–other subjects	255
		Teachers, special education	256
		Teachers, other precollegiate education	257
		Other teachers and instructors	300
	Nonscience and engineering postsecondary teachers	Postsecondary teachers, art/drama/music	272
		Postsecondary teachers, business/commerce/marketing	274
		Postsecondary teachers, education	279
		Postsecondary teachers, English	281
		Postsecondary teachers, foreign language	282
		Postsecondary teachers, history	283
		Postsecondary teachers, physical education	288
		Postsecondary teachers, other non-science and engineering	299
	Social services occupations	Clergy and other religious workers	040
		Counselor, educational and vocational	070
		Social workers	240
	Sales and marketing occupations	Sales/marketing - insurance, securities, real estate and business services	200
		Sales occupations - commodities, except retail	201
		Sales occupations - retail	202
		Other marketing and sales occupations	203
	Art and humanities occupations	Artists, editors, entertainers, public relations, writers	010
		Historians, except science and technology	233
	Other nonscience and engineering occupations	Accounting clerks and bookkeepers	031
		Secretaries, receptionists, and typists	032
		Other administrative	033
		Farmers, foresters, and fishermen	110
		Lawyers and judges	120

TABLE C-3. SDR occupational taxonomy by broad, intermediate, and SDR categories

Broad occupation category	Intermediate occupation category	Survey of Doctorate Recipients	
		Label	Code
		Librarians, archivists, and curators	130
		Protective service workers	222
		Food preparation and service workers	221
		Other service occupations, except health	223
		Construction trades, miners, and well-drillers	401
		Mechanics and repairers	402
		Precision production occupations	403
		Operators and related occupations	404
		Transportation and material-moving occupations	405
		Other occupations	500

SESTAT = Scientists and Engineers Statistical Data System, http://sestat.nsf.gov.



2003
Survey of Doctorate Recipients

Conducted by
the National Opinion Research Center
at the University of Chicago for:

National Science Foundation

The information is solicited under the authority of the National Science Foundation Act of 1950, as amended, and the Confidential Information Protection and Statistical Efficiency Act of 2002. These laws require that the survey sponsors (the National Science Foundation and the National Institutes of Health) treat all information you provided as confidential. The information you provide will be used only for research and statistical purposes by the survey sponsors, their contractors, and collaborating researchers for the purpose of analyzing data and preparing scientific reports and articles. Any information publicly released (such as statistical summaries) will be in a form that does not personally identify you. Your response is voluntary and failure to provide some or all of the requested information will not in any way adversely affect you. Actual time to complete the questionnaire may vary depending on your circumstances but on the average, it will take about 25 minutes. If you have any comments on the time required for this survey, please send them to the National Science Foundation, 4201 Wilson Boulevard, Suite 295, Arlington, VA 22230, Attention: NSF Reports Clearance Officer.

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Approval Expires: 11/30/2004

- **Thank you for taking the time to complete this questionnaire.**
- **If you have any questions, please call us toll free at 1-800-685-1663 or e-mail us at SDR@norc.uchicago.edu. Our mailing address is: 2003 Survey of Doctorate Recipients, c/o NORC, 1 North State Street, 16th Floor, Chicago, IL 60602-3305.**
- **Results of the Survey of Doctorate Recipients can be found on the National Science Foundation's Web site at http://www.nsf.gov/sbe/srs/cdse.**
- **An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for this survey is 3145-0020.**
- **Follow all appropriate skip instructions after marking a box. If no skip instruction is provided, you should continue to the next question.**

Part A - Employment Situation

A1. **Were you working for pay or profit during the week of October 1, 2003?**

This includes being self-employed, on a postdoctoral appointment, or on any type of paid or unpaid temporary leave.

Use an X to mark your answer.

1 ☐ Yes → ***Go to question A7***
2 ☐ No

A2. *(If No)* **Did you look for work during the four weeks preceding October 1, 2003? This would be between September 3rd and October 1st.**

1 ☐ Yes
2 ☐ No

A3. **What were your reasons for not working during the week of October 1?**

Mark (X) all that apply.

1 ☐ Retired → Year retired ☐☐☐☐
2 ☐ On layoff from a job
3 ☐ Student
4 ☐ Family responsibilities
5 ☐ Chronic illness or permanent disability
6 ☐ Suitable job not available
7 ☐ Did not need or want to work
8 ☐ Other – *Specify*

A4. **Prior to the week of October 1, 2003, when did you last work for pay or profit?**

0 ☐ ← ***Mark (X) this box if you never worked for pay or profit and then go to page 10, question D1***

LAST WORKED Month ☐☐ Year ☐☐☐☐

A5. **What kind of work were you doing on this last job — that is, what was your occupation? Please be as specific as possible, including any area of specialization.**

Example: College professor - Electrical engineering

A6. **Using the JOB CATEGORY list on pages 16-17, choose the code that <u>best</u> describes the work you were doing on this last job.**

CODE ☐☐☐ → ***Go to page 7, question A40***

A7. *(If you worked during week of October 1st)* **Counting <u>all</u> jobs held during the week of October 1, 2003, did you <u>usually</u> work . . .**

1 ☐ A total of 35 or more hours per week → ***Go to page 2, question A10***
2 ☐ Fewer than 35 hours per week

A8. *(If you worked fewer than 35 hours)* **During the week of October 1, did you want to work a full-time work week of 35 or more hours?**

1 ☐ Yes
2 ☐ No

A9. **For which of the following reasons were you working for less than 35 hours during the week of October 1?**

Mark (X) all that apply.

1 ☐ Retired or semi-retired → Year retired ____

2 ☐ On layoff from a job

3 ☐ Student

4 ☐ Family responsibilities

5 ☐ Chronic illness or permanent disability

6 ☐ Suitable job not available

7 ☐ Did not need or want to work

8 ☐ Other – *Specify*

_____

Go to question A11

A10. *(If you worked for 35 or more hours)* **Although you were working during the week of October 1, had you previously retired from any position?**

Examples of retirement include mandatory retirement, early retirement, or voluntary retirement.

Year retired

1 ☐ Yes → ____

2 ☐ No

Principal Employer

A11. **Who was your principal employer during the week of October 1, 2003?**

If you had more than one job, report the one for which you worked the most hours that week.

If your employer had more than one location, report the location where you usually worked.

Employer Name

Department/Division

Street

City/Town

State

ZIP Code

A12. **What was that employer's main business or industry; that is, what did that employer make or do?**

If your principal employer had more than one type of business, report the type of business primarily performed at the location where you work.

Example: Production of microprocessor chips

EMPLOYER'S MAIN BUSINESS

A13. **Counting all locations where this employer operates, how many people work for your principal employer? Your best estimate is fine.**

Mark (X) one answer.

1 ☐ 10 or fewer employees
2 ☐ 11 - 24 employees
3 ☐ 25 - 99 employees
4 ☐ 100 - 499 employees
5 ☐ 500 - 999 employees
6 ☐ 1,000 - 4,999 employees
7 ☐ 5,000 - 24,999 employees
8 ☐ 25,000+ employees

A14. **Did your principal employer come into being as a new business within the past 5 years?**

1 ☐ Yes
2 ☐ No

A15. **Which one of the following best describes your principal employer during the week of October 1?**

Mark (X) one answer.

1 ☐ SELF-EMPLOYED in own NOT INCORPORATED business, professional practice or farm
2 ☐ SELF-EMPLOYED in own INCORPORATED business, professional practice or farm
3 ☐ A PRIVATE FOR-PROFIT organization or individual working for wages, salary or commissions
4 ☐ A PRIVATE NOT-FOR-PROFIT, tax-exempt, or charitable organization
5 ☐ Local GOVERNMENT (e.g., city, county)
6 ☐ State GOVERNMENT
7 ☐ U.S. military service, active duty or Commissioned Corps (e.g., USPHS, NOAA)
8 ☐ U.S. GOVERNMENT (e.g., civilian employee)
9 ☐ Other – *Specify*

A16. **Was your principal employer an educational institution?**

1 ☐ Yes
2 ☐ No → ***Go to page 4, question A21***

A17. *(If Yes)* **Was the educational institution where you worked a . . .**

Mark (X) one answer.

1 ☐ Preschool, elementary, middle, or secondary school or system → ***Go to page 4, question A21***
2 ☐ Two-year college, community college, or technical institute
3 ☐ Four-year college or university, other than a medical school
4 ☐ Medical school (including university-affiliated hospital or medical center)
5 ☐ University-affiliated research institute
6 ☐ Other – *Specify*

A18. **During the week of October 1, 2003, what type of academic position(s) did you hold at this institution?**

Mark (X) all that apply.

1 ☐ President, Provost or Chancellor (any level)
2 ☐ Dean (any level), department head or chair
3 ☐ Research faculty, scientist, associate or fellow
4 ☐ Teaching faculty
5 ☐ Adjunct faculty
6 ☐ Postdoc (e.g., postdoctoral fellow or associate)
7 ☐ Research assistant
8 ☐ Teaching assistant
9 ☐ Other – *Specify*

A19. What was your faculty rank?

Mark (X) one answer.

1 ☐ Not applicable: no ranks designated at this institution
2 ☐ Not applicable: no ranks designated for my position
3 ☐ Professor
4 ☐ Associate Professor
5 ☐ Assistant Professor
6 ☐ Instructor
7 ☐ Lecturer
8 ☐ Other – *Specify*

A20. What was your tenure status?

Mark (X) one answer.

1 ☐ Not applicable: no tenure system at this institution
2 ☐ Not applicable: no tenure system for my position
3 ☐ Tenured
4 ☐ On tenure track but not tenured
5 ☐ Not on tenure track

Principal Job

A21. What kind of work were you doing on your principal job held during the week of October 1, 2003 — that is, what was your occupation? Please be as specific as possible, including any area of specialization.

Example: College professor - Electrical engineering

A22. Using the JOB CATEGORY list on pages 16-17, choose the code that best describes the work you were doing on your principal job during the week of October 1.

CODE ___

A23. Did your duties on this job require the technical expertise of a bachelor's degree or higher in . . .

Mark (X) Yes or No for each item.

		Yes	No
1	Engineering, computer science, math, or the natural sciences	1 ☐	2 ☐
2	The social sciences	1 ☐	2 ☐
3	Some other field (e.g., health, business, or education) – *Specify*	1 ☐	2 ☐

A24. Was this job a "postdoc?"

A "postdoc" is a temporary position awarded in academe, industry, or government primarily for gaining additional education and training in research.

1 ☐ Yes

2 ☐ No → ***Go to question A27***

A25. *(If Yes)* **What were your reasons for taking this postdoc?**

Mark (X) Yes or No for each item.

		Yes	No
1	Additional training in PhD field	1 ☐	2 ☐
2	Training in an area outside of PhD field	1 ☐	2 ☐
3	Work with a specific person or place	1 ☐	2 ☐
4	Other employment not available	1 ☐	2 ☐
5	Postdoc generally expected for career in this field	1 ☐	2 ☐
6	Some other reason – *Specify*	1 ☐	2 ☐

_____

A26. Which <u>two</u> reasons in question A25 were your <u>most</u> important reasons for taking this postdoc?

Enter number of appropriate reason from question A25 above.

1 ____ <u>Most</u> important reason

2 ____ <u>Second most</u> important reason
(Enter "0" if no second reason)

A27. During what month and year did you start this job (that is, your principal job held during the week of October 1, 2003)?

	Month	Year
JOB STARTED	☐☐	☐☐☐☐

A28. To what extent was your work on your principal job related to your first U.S. doctoral degree? Was it . . .

Mark (X) one answer.

1 ☐ Closely related
2 ☐ Somewhat related → ***Go to page 6, question A31***
3 ☐ Not related

A29. *(If Not related)* **Did these factors influence your decision to work in an area <u>outside the field of your first U.S. doctoral degree</u>?**

Mark (X) Yes or No for each item.

		Yes	No
1	Pay, promotion opportunities	1 ☐	2 ☐
2	Working conditions (e.g., hours, equipment, working environment)	1 ☐	2 ☐
3	Job location	1 ☐	2 ☐
4	Change in career or professional interests	1 ☐	2 ☐
5	Family-related reasons (e.g., children, spouse's job moved)	1 ☐	2 ☐
6	Job in doctoral degree field not available	1 ☐	2 ☐
7	Some other reason – *Specify*	1 ☐	2 ☐

_____

A30. Which <u>two</u> factors in question A29 were your <u>most</u> important reasons for working in an area outside the field of your first U.S. doctoral degree?

Enter number of appropriate reason from question A29 above.

1 ____ <u>Most</u> important reason

2 ____ <u>Second most</u> important reason
(Enter "0" if no second reason)

A31. The next question is about your work activities on your principal job. Which of the following work activities occupied at least 10 percent of your time during a typical work week on this job?

Mark (X) Yes or No for each item.

		Yes	No
1	Accounting, finance, contracts	1 ☐	2 ☐
2	Basic research – study directed toward gaining scientific knowledge primarily for its own sake	1 ☐	2 ☐
3	Applied research – study directed toward gaining scientific knowledge to meet a recognized need	1 ☐	2 ☐
4	Development – using knowledge gained from research for the production of materials, devices	1 ☐	2 ☐
5	Design of equipment, processes, structures, models	1 ☐	2 ☐
6	Computer applications, programming, systems development	1 ☐	2 ☐
7	Employee relations – including recruiting, personnel development, internal training	1 ☐	2 ☐
8	Managing or supervising people or projects	1 ☐	2 ☐
9	Production, operations, maintenance (e.g., chip production, operating lab equipment)	1 ☐	2 ☐
10	Professional services (e.g., health care, counseling, financial services, legal services)	1 ☐	2 ☐
11	Sales, purchasing, marketing, customer service, public relations	1 ☐	2 ☐
12	Quality or productivity management	1 ☐	2 ☐
13	Teaching	1 ☐	2 ☐
14	Other – *Specify*	1 ☐	2 ☐

_____

A32. On which two activities in question A31 did you work the most hours during a typical week on this job?

Enter number of appropriate activity from question A31 above.

1 ☐☐ Activity most hours

2 ☐☐ Activity second most hours
(Enter "0" if no second most)

A33. Did you supervise the work of others as part of your principal job held during the week of October 1?

Mark "Yes" if you assigned duties to workers and recommended or initiated personnel actions such as hiring, firing or promoting.

Teachers should not count students.

1 ☐ Yes

2 ☐ No → ***Go to question A35***

A34. *(If Yes)* **How many people did you typically . . .**

		Number Supervised
1	Supervise directly?	_____
	(If none, enter "0")	
2	Supervise through subordinate supervisors?	_____
	(If none, enter "0")	

A35. Thinking about your principal job held during the week of October 1, please rate your satisfaction with that job's . . .

Mark (X) one answer for each item.

		Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
1	Salary	1 ☐	2 ☐	3 ☐	4 ☐
2	Benefits	1 ☐	2 ☐	3 ☐	4 ☐
3	Job security	1 ☐	2 ☐	3 ☐	4 ☐
4	Job location	1 ☐	2 ☐	3 ☐	4 ☐
5	Opportunities for advancement	1 ☐	2 ☐	3 ☐	4 ☐
6	Intellectual challenge	1 ☐	2 ☐	3 ☐	4 ☐
7	Level of responsibility	1 ☐	2 ☐	3 ☐	4 ☐
8	Degree of independence	1 ☐	2 ☐	3 ☐	4 ☐
9	Contribution to society	1 ☐	2 ☐	3 ☐	4 ☐

A36. **How would you rate your overall satisfaction with your principal job held during the week of October 1?**

Mark (X) one answer.

1 ☐ Very satisfied
2 ☐ Somewhat satisfied
3 ☐ Somewhat dissatisfied
4 ☐ Very dissatisfied

A37. **Before deductions, what was your basic annual salary on this job as of the week of October 1, 2003?**

Do not include bonuses, overtime or additional compensation for summertime teaching or research.

If you are not salaried, please estimate your earned income, excluding business expenses.

$ ☐☐☐,☐☐☐.00
ANNUAL SALARY OR EARNED INCOME

A38. **During a typical week on this job, how many hours did you usually work?**

NUMBER OF HOURS PER WEEK _____

A39. **Upon how many weeks was your salary based?**

Include paid vacation and sick leave.

NUMBER OF WEEKS PER YEAR _____

A40. **Thinking back now to 2002, was any of your work during 2002 supported by contracts or grants from the U.S. government?**

0 ☐ ← ***Mark (X) this box if you did not work in 2002 and then go to page 8, question B1***

FEDERAL EMPLOYEES: Please answer "No".

Mark (X) one answer.

1 ☐ Yes
2 ☐ No → ***Go to question A42***
3 ☐ Don't know → ***Go to question A42***

A41. *(If Yes)* **Which Federal agencies or departments were supporting your work?**

Mark (X) all that apply.

1 ☐ Agriculture Department (USDA)
2 ☐ Defense Department (DOD)
3 ☐ Department of Education (including NCES, OERI, FIPSE, FIRST)
4 ☐ Energy Department (DOE)
5 ☐ Environmental Protection Agency (EPA)
6 ☐ Health and Human Services Department (excluding NIH)
7 ☐ National Aeronautics and Space Administration (NASA)
8 ☐ National Institutes of Health (NIH)
9 ☐ National Science Foundation (NSF)
10 ☐ Transportation Department (DOT)
11 ☐ Other – *Specify* ▽

_____

12 ☐ DON'T KNOW SOURCE AGENCY

A42. **Counting all jobs held in 2002, what was your total earned income for 2002, before deductions?**

Include all wages, salaries, bonuses, overtime, commissions, consulting fees, net income from businesses, summertime teaching or research, postdoctoral appointment, or other work associated with scholarships.

$ ☐☐☐,☐☐☐.00
TOTAL 2002 EARNED INCOME

Part B - Past Employment

B1. **Were you working for pay or profit during both of these time periods — the week of April 15, 2001, and the week of October 1, 2003?**

1 ☐ Yes

2 ☐ No → ***Go to question C1 on this page***

B2. *(If Yes)* **During these two time periods — the week of April 15, 2001, and the week of October 1, 2003 — were you working for . . .**

Mark (X) one answer.

1 ☐ Same employer and same job → ***Go to question C1 on this page***

2 ☐ Same employer but different job

3 ☐ Different employer but same job

4 ☐ Different employer and different job

B3. *(If Different)* **Why did you change your employer or your job?**

Mark (X) Yes or No for each item.

		Yes	No
1	Pay, promotion opportunities	1 ☐	2 ☐
2	Working conditions (e.g., hours, equipment, working environment)	1 ☐	2 ☐
3	Job location	1 ☐	2 ☐
4	Change in career or professional interests	1 ☐	2 ☐
5	Family-related reasons (e.g., children, spouse's job moved)	1 ☐	2 ☐
6	School-related reasons (e.g., returned to school, completed a degree)	1 ☐	2 ☐
7	Laid off or job terminated (includes company closings, mergers, buyouts, grant or contract ended)	1 ☐	2 ☐
8	Retired	1 ☐	2 ☐
9	Some other reason – *Specify*	1 ☐	2 ☐

_____

Part C - Other Work-Related Experiences

C1. **Since October 1998, how many . . .**

		Number
1	Papers have you (co)authored for presentation at regional, national or international conferences? *(Do not count presentations of the same work more than once)*	_____ *(If none, enter "0")*
2	Articles, (co)authored by you, have been accepted for publication in a refereed professional journal?	_____ *(If none, enter "0")*
3	Books or monographs, (co)authored by you, have been published or accepted for publication?	_____ *(If none, enter "0")*

C2. **Since October 1998, have you been named as an inventor on any application for a U.S. patent?**

1 ☐ Yes

2 ☐ No → ***Go to page 9, question C4***

C3. *(If Yes)* **Since October 1998 . . .**

		Number
1	How many applications for U.S. patents have named you as an inventor?	_____
2	How many U.S. patents have been granted to you as an inventor?	_____ *(If none, enter "0")*
3	How many of the patents recorded as granted (in category 2 above) have resulted in commercialized products or processes or have been licensed?	_____ *(If none, enter "0")*

C4. **During the past year, did you attend any professional society or association meetings or professional conferences?**

Include regional, national, or international meetings.

1 ☐ Yes
2 ☐ No

C5. **To how many regional, national or international professional societies or associations do you currently belong?**

NUMBER _____
(If none, enter "0")

C6. **During the past year, did you take any work-related training, such as workshops or seminars?**

Do not include professional meetings unless you attended a special training session conducted at the meeting/conference.

Do not include college coursework for which you were enrolled as a student.

1 ☐ Yes
2 ☐ No → ***Go to question C10***

C7. *(If Yes)* **During the past year, in which of the following areas did you receive training?**

Mark (X) Yes or No for each item.

		Yes	No
1	Management or supervisor training	1 ☐	2 ☐
2	Training in your occupational field	1 ☐	2 ☐
3	General professional training (e.g., public speaking, business writing, word processing, spreadsheet use, etc.)	1 ☐	2 ☐
4	Other work-related training – *Specify*	1 ☐	2 ☐

_____

C8. **For which of the following reasons did you take training during the past year?**

Mark (X) Yes or No for each item.

		Yes	No
1	To facilitate a change in your occupational field	1 ☐	2 ☐
2	To gain further skills or knowledge in your occupational field	1 ☐	2 ☐
3	For licensure or certification	1 ☐	2 ☐
4	To increase opportunities for promotion, advancement, or higher salary	1 ☐	2 ☐
5	To learn skills or knowledge needed for a recently acquired position	1 ☐	2 ☐
6	Required or expected by employer	1 ☐	2 ☐
7	Other – *Specify*	1 ☐	2 ☐

_____

C9. **What was your most important reason from question C8 for taking training?**

Enter number of appropriate reason from question C8 above.

MOST IMPORTANT REASON _____

C10. **When thinking about a job, how important is each of the following factors to you . . .**

Mark (X) one answer for each item.

		Very Important	Somewhat Important	Somewhat Unimportant	Not Important At All
1	Salary	1 ☐	2 ☐	3 ☐	4 ☐
2	Benefits	1 ☐	2 ☐	3 ☐	4 ☐
3	Job security	1 ☐	2 ☐	3 ☐	4 ☐
4	Job location	1 ☐	2 ☐	3 ☐	4 ☐
5	Opportunities for advancement	1 ☐	2 ☐	3 ☐	4 ☐
6	Intellectual challenge	1 ☐	2 ☐	3 ☐	4 ☐
7	Level of responsibility	1 ☐	2 ☐	3 ☐	4 ☐
8	Degree of independence	1 ☐	2 ☐	3 ☐	4 ☐
9	Contribution to society	1 ☐	2 ☐	3 ☐	4 ☐

Part D - Recent Educational Experiences

D1. Between April 2001 and October 2003, did you complete another degree, such as a Master's or another doctorate?

1 ☐ Yes
2 ☐ No → ***Go to question D8***

D2. *(If Yes)* **What type of degree did you earn?**

If you completed more than one degree, mark the level for the highest degree awarded.

Mark (X) one answer.

1 ☐ Bachelor's degree (e.g., BS, BA, AB)
2 ☐ Master's degree (e.g., MS, MA, MBA)
3 ☐ Doctorate (e.g., PhD, DSc, EdD, etc.)
4 ☐ Other professional degree (e.g., JD, LLB, MD, DDS, etc.) – *Specify*

5 ☐ Other – *Specify*

D3. What was the primary field of study for this degree?

PRIMARY FIELD OF STUDY

D4. In what month and year was this degree awarded?

	Month	Year
DEGREE AWARDED		2 0 0

D5. From which academic institution did you receive this degree?

College or University Name

Department

City/Town

State/Foreign Country

D6. For which of the following reasons did you obtain this degree?

Mark (X) Yes or No for each item.

		Yes	No
1	To gain further education before beginning a career	1 ☐	2 ☐
2	To prepare for graduate school or further education	1 ☐	2 ☐
3	To change your academic or occupational field	1 ☐	2 ☐
4	To gain <u>further</u> skills or knowledge in your academic or occupational field	1 ☐	2 ☐
5	For licensure or certification	1 ☐	2 ☐
6	To increase opportunities for promotion, advancement or higher salary	1 ☐	2 ☐
7	Required or expected by employer	1 ☐	2 ☐
8	For leisure or personal interest	1 ☐	2 ☐
9	Other – *Specify*	1 ☐	2 ☐

D7. Were <u>any</u> of your school-related costs for your completed degree paid for by an employer?

1 ☐ Yes
2 ☐ No

D8. <u>During the week of October 1, 2003</u>, were you enrolled in or taking courses at a college or university?

1 ☐ Yes
2 ☐ No → ***Go to page 11, question E1***

D9. *(If Yes)* **Were you taking courses or enrolled as . . .**

Mark (X) one answer.

1 ☐ A full-time student in a degree program
2 ☐ A part-time student in a degree program
3 ☐ Not enrolled in a degree program, but taking courses

D10. Toward what degree were you working?

If you were working toward more than one degree, mark the level for the highest degree.

Mark (X) one answer.

0 ☐ No specific degree → ***Go to question D12***

1 ☐ Bachelor's degree (e.g., BS, BA, AB)

2 ☐ Master's degree (e.g., MS, MA, MBA)

3 ☐ Doctorate (e.g., PhD, DSc, EdD, etc.)

4 ☐ Other professional degree (e.g., JD, LLB, MD, DDS, etc.) – *Specify*

5 ☐ Other – *Specify*

D11. What was the primary field of study for this degree?

PRIMARY FIELD OF STUDY

D12. For which of the following reasons were you taking courses or enrolled?

Mark (X) Yes or No for each item.

		Yes	No
1	To gain further education before beginning a career	1 ☐	2 ☐
2	To prepare for graduate school or further education	1 ☐	2 ☐
3	To change your academic or occupational field	1 ☐	2 ☐
4	To gain <u>further</u> skills or knowledge in your academic or occupational field	1 ☐	2 ☐
5	For licensure or certification	1 ☐	2 ☐
6	To increase opportunities for promotion, advancement or higher salary	1 ☐	2 ☐
7	Required or expected by employer	1 ☐	2 ☐
8	For leisure or personal interest	1 ☐	2 ☐
9	Other – *Specify*	1 ☐	2 ☐

D13. Were <u>any</u> of your school-related costs for taking courses paid for by an employer?

1 ☐ Yes

2 ☐ No

Part E - Demographic Information

E1. On October 1, 2003, were you . . .

Mark (X) one answer.

1 ☐ Married

2 ☐ Living in a marriage-like relationship

3 ☐ Widowed

4 ☐ Separated

5 ☐ Divorced

6 ☐ Never married

→ ***Go to page 12, question E4***

E2. *(If Married or Living in a marriage-like relationship)* **During the week of October 1, was your spouse or partner working for pay or profit at a full-time or part-time job?**

1 ☐ Yes, full-time

2 ☐ Yes, part-time

3 ☐ No → ***Go to page 12, question E4***

E3. *(If Yes)* **Did your spouse's or partner's duties on this job require the technical expertise of a bachelor's degree or higher in . . .**

Mark (X) Yes or No for each item.

		Yes	No
1	Engineering, computer science, math, or the natural sciences	1 ☐	2 ☐
2	The social sciences	1 ☐	2 ☐
3	Some other field (e.g., health, business, or education) – *Specify*	1 ☐	2 ☐

E4. **On October 1, 2003, did you have <u>any children</u> living with you as part of your family?**

Only count children who lived with you at least 50 percent of the time.

1 ☐ Yes
2 ☐ No → ***Go to question E6***

E5. *(If Yes)* **How many of these children living with you as part of your family were . . .**

If no children in a category, enter "0."

		Number of Children
1	Under age 2	
2	Aged 2-5	
3	Aged 6-11	
4	Aged 12-18	
5	Aged 19 or older	

E6. **On October 1, 2003, were you living in the United States, Puerto Rico, or other U.S. territories, or were you living in another country?**

1 ☐ United States, Puerto Rico, or other U.S. territories
2 ☐ Another country

E7. **On October 1, 2003, were you a . . .**

1 ☐ U.S. citizen
2 ☐ Non-U.S. citizen → ***Go to question E9***

E8. *(If U.S. citizen)* **Were you a U.S. citizen . . .**

Mark (X) one answer.

1 ☐ Born in the United States, Puerto Rico, or other U.S. territories
2 ☐ Born abroad of American parent(s)
→ ***Go to page 13, question E16***

3 ☐ By naturalization → ***Go to page 13, question E12***

E9. *(If Non-U.S. citizen)* **Were you a non-U.S. citizen . . .**

1 ☐ With a Permanent U.S. Resident Visa (Green Card)

OBTAINED IN Year ____ → ***Go to page 13, question E11***

2 ☐ With a Temporary U.S. Resident Visa

E10. *(If a Temporary U.S. Resident Visa Holder)* **On October 1, 2003, did you hold a visa issued . . .**

Mark (X) one answer.

1 ☐ For temporary work (e.g., H-1B, L-1A, L-1B, etc.)
2 ☐ For study or training (e.g., F-1, J-1, H-3, etc.)
3 ☐ To you as the dependent of another person (e.g., F-2, H-4, J-2, K-2, L-2, etc.)
4 ☐ For any other reason – *Specify visa type*

E11. *(If Non-U.S. citizen)* **Of which country are you a citizen?**

COUNTRY

E12. **In what year did you first come to the United States for six months or longer?**

YEAR

E13. **What kind of visa did you hold when you first came to the United States for six months or longer?**

Mark (X) one answer.

1 ☐ Permanent U.S. Resident Visa (Green Card)

2 ☐ Temporary U.S. Resident Visa for temporary work (e.g., H-1B, L-1A, L-1B, etc.)

3 ☐ Temporary U.S. Resident Visa for study or training (e.g., F-1, J-1, H-3, etc.)

4 ☐ Temporary U.S. Resident Visa as the dependent of another person (e.g., F-2, H-4, J-2, K-2, L-2, etc.)

5 ☐ Other Temporary U.S. Resident Visa – *Specify visa type*

E14. **Which factors were important in your decision to first come to the United States for six months or longer?**

Mark (X) Yes or No for each item.

		Yes	No
1	Family-related reasons	1 ☐	2 ☐
2	Educational opportunities in the United States	1 ☐	2 ☐
3	Job or economic opportunities	1 ☐	2 ☐
4	Scientific or professional infrastructure in my field	1 ☐	2 ☐
5	Other – *Specify*	1 ☐	2 ☐

E15. **Which <u>two</u> factors in question E14 were the <u>most</u> important reasons in your decision to come to the United States?**

Enter number of appropriate reason from question E14 above.

1 ____ <u>Most</u> important reason

2 ____ <u>Second most</u> important reason *(Enter "0" if no second reason)*

E16. **Are you a citizen of more than one country?**

1 ☐ Yes

2 ☐ No

E17. **What is your birthdate?**

Month ____ Day ____ Year **19** ____

The next several questions are designed to help us better understand the career paths of individuals with different physical abilities.

E18. What is the USUAL degree of difficulty you have with . . .

Mark (X) one answer for each item.

	None	Slight	Moderate	Severe	Unable to Do
1 SEEING words or letters in ordinary newsprint (with glasses/contact lenses if you usually wear them)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2 HEARING what is normally said in conversation with another person (with hearing aid, if you usually wear one)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3 WALKING without human or mechanical assistance or using stairs	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4 LIFTING or carrying something as heavy as 10 pounds, such as a bag of groceries	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

E19. 0 ☐ ← **Mark (X) this box if you answered "None" to <u>all the activities</u> in question E18, and go to question E21.**

E20. What is the earliest age at which you <u>first</u> began experiencing <u>any</u> difficulties in <u>any</u> of these areas?

AGE ____ OR 0 ☐ ← SINCE BIRTH

E21. In case we need to clarify some of the information you have provided, please list a phone number and an e-mail address where you can be reached.

Daytime Phone Number ___ - ___ - ____
Area Code Number

Evening Phone Number ___ - ___ - ____
Area Code Number

E-mail Address _____@_____

E22. Since we are interested in how education and employment change over time, we may be recontacting you in 2005. To help us contact you, please provide the name and contact information for two people who are likely to know where you can be reached. <u>Do not include someone who lives in your household</u>.

As with all the information provided in this questionnaire, complete confidentiality will be provided. These people will only be contacted if we have trouble contacting you in 2005.

First Name	MI	Last Name

Number and Street

City/Town	State	ZIP Code

Country (if outside of U.S.)

___ - ___ - ____
Area Code Number

First Name	MI	Last Name

Number and Street

City/Town	State	ZIP Code

Country (if outside of U.S.)

___ - ___ - ____
Area Code Number

E23. PLEASE TURN TO THE BACK COVER FOR THE LAST QUESTION (E24).

JOB CATEGORY LIST

(PAGES 16-17)

JOB CATEGORY

If you cannot find the code that best describes your job, use the "OTHER" code under the most appropriate broad category. If none of the codes fit your job, use Code 500.

010 **Artists, Broadcasters, Editors, Entertainers, Public Relations Specialists, Writers**

Biological/Life Scientists
021 Agricultural and food scientists
022 Biochemists and biophysicists
023 Biological scientists (e.g., botanists, ecologists, zoologists)
024 Forestry and conservation scientists
025 Medical scientists (excluding practitioners)
026 Technologists and technicians in the biological/life sciences
027 OTHER biological and life scientists

Clerical/Administrative Support Occupations
031 Accounting clerks and bookkeepers
032 Secretaries, receptionists, typists
033 OTHER administrative (e.g., record clerks, telephone operators)

040 **Clergy and Other Religious Workers**

Computer Occupations *(Also see 173)*
*** Computer engineers *(See 087, 088 under Engineers)*
051 Computer and information scientists, research
052 Computer programmers (business, scientific, process control)
053 Computer support specialists
054 Computer system analysts
055 Database administrators
056 Network and computer systems administrators
057 Network systems and data communications analysts
058 OTHER computer and information science occupations

*** **Consultants** *(Select the code that comes closest to your usual area of consulting)*

070 **Counselors** (Educational, vocational, mental health, and substance abuse) *(Also see 236)*

Engineers and Architects
081 Architects
*** Engineers *(Also see 100-104)*
082 Aeronautical, aerospace, and astronautical engineers
083 Agricultural engineers
084 Bioengineers and biomedical engineers
085 Chemical engineers
086 Civil, including architectural and sanitary engineers
087 Computer engineers - hardware
088 Computer engineers - software
089 Electrical and electronics engineers
090 Environmental engineers
091 Industrial engineers

Engineers *(Continued)* *(Also see 100-104)*
092 Marine engineers and naval architects
093 Materials and metallurgical engineers
094 Mechanical engineers
095 Mining and geological engineers
096 Nuclear engineers
097 Petroleum engineers
098 Sales engineers
099 OTHER engineers

Engineering Technologists, Technicians, and Surveyors
100 Electrical, electronic, industrial, and mechanical technicians
101 Drafting occupations, including computer drafting
102 Surveying and mapping technicians
103 OTHER engineering technologists and technicians
104 Surveyors, cartographers, photogrammetrists

110 **Farmers, Foresters and Fishermen**

Health Occupations
111 Diagnosing/treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)
112 Registered nurses, pharmacists, dieticians, therapists, physician assistants
236 Psychologists, including clinical *(Also see 070)*
113 Health technologists and technicians (e.g., dental hygienists, health record technologist/technicians, licensed practical nurses, medical or laboratory technicians, radiological technicians)
114 OTHER health occupations

120 **Lawyers, Judges**

130 **Librarians, Archivists, Curators**

*** **Managers/Supervisors, First Line** *(Select the code that comes closest to the field you manage)*

Managers, Top-Level Executives, Administrators *(People who manage other managers)*
141 Top-level managers, executives, administrators (e.g., CEO/COO/CFO, president, district manager, general manager, legislator, chancellor, provost)

Managers, Other *(Also see 151-153)*
142 Computer and information systems managers
143 Engineering managers
144 Medical and health services managers
145 Natural sciences managers
146 Education administrators (e.g., registrar, dean, principal)
147 OTHER mid-level managers

JOB CATEGORY (Continued)

Management-Related Occupations
(Also see 141-147)

151 Accountants, auditors, and other financial specialists
152 Personnel, training, and labor relations specialists
153 OTHER management related occupations

Mathematical Scientists

171 Actuaries
172 Mathematicians
173 Operations research analysts, including modeling
174 Statisticians
175 Technologists/technicians in the mathematical sciences
176 OTHER mathematical scientists

Physical Scientists

191 Astronomers
192 Atmospheric and space scientists
193 Chemists, except biochemists
194 Geologists, including earth scientists
195 Oceanographers
196 Physicists
197 Technologists and technicians in the physical sciences
198 OTHER physical scientists

*** **Research Associates/Assistants** *(Select the code that comes closest to your field)*

Sales and Marketing Occupations

200 Insurance, securities, real estate, and business services
201 Sales occupations - commodities except retail (e.g., industrial machinery/equipment/supplies, medical and dental equipment/supplies)
202 Sales occupations – retail (e.g., furnishings, clothing, motor vehicles, cosmetics)
203 OTHER marketing and sales occupations

Service Occupations, Except Health
(Also see 111-114)

221 Food preparation and services (e.g., cooks, waitresses, bartenders)
222 Protective services (e.g., fire fighters, police, guards, wardens, park rangers)
223 OTHER service occupations, except health (e.g., probation officers, human services workers)

Social Scientists

231 Anthropologists
232 Economists
233 Historians
235 Political scientists
236 Psychologists, including clinical *(Also see 070)*
237 Sociologists
238 OTHER social scientists

240 **Social Workers**

Teachers and Professors

*** Precollegiate Teachers
251 Pre-Kindergarten and kindergarten
252 Elementary
253 Secondary - computer, math, or sciences
254 Secondary - social sciences
255 Secondary - other subjects
256 Special education - primary and secondary
257 OTHER precollegiate area

*** Postsecondary Professors
271 Agriculture
272 Art, Drama, and Music
273 Biological Sciences
274 Business, Commerce and Marketing
275 Chemistry
276 Computer Science
277 Earth, Environmental, and Marine Sciences
278 Economics
279 Education
280 Engineering
281 English
282 Foreign Languages
283 History
286 Mathematics and Statistics
287 Health and Related Sciences
288 Physical Education
289 Physics
290 Political Science
291 Psychology
293 Sociology
297 OTHER Natural Sciences
298 OTHER Social Sciences
299 OTHER Postsecondary fields

300 OTHER teachers and instructors (e.g., private tutors, dance or flying instructors, martial arts instructors)

Other Professions

401 Construction and extraction occupations
402 Installation, maintenance, and repair occupations
403 Precision/production occupations (e.g., metal workers, woodworkers, butchers, bakers, assemblers, printing occupations, tailors, shoemakers, photographic process)
405 Transportation and material moving occupations

500 **OTHER OCCUPATIONS (Not Listed)**

E24. **How would you like to complete future rounds of this survey?**

Mark (X) one answer.

1 ☐ A questionnaire sent in the mail

2 ☐ A questionnaire that you can fill out on the World Wide Web

3 ☐ A telephone interview

4 ☐ No preference

THANK YOU FOR COMPLETING THE QUESTIONNAIRE.

Please return the completed form in the envelope provided.

If you cannot find the envelope and want another, call 1-800-685-1663, or you may request an envelope at the NORC 2003 Survey of Doctorate Recipients Website. Follow the "Request an Envelope" link at www.norc.uchicago.edu/sdr.htm.

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COMMENTS ABOUT THIS SURVEY