

Doctoral Scientists and Engineers: 2001 Profile Tables

Detailed Statistical Tables

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INTRODUCTION

These profile tables complement the data tables in *Characteristics of Doctoral Scientists and Engineers in the United States: 2001*, which report results from the 2001 Survey of Doctorate Recipients (SDR). Together, these reports continue a series on the demographic and employment profile of doctoral scientists and engineers in the United States.

The *Characteristics* report series presents general employment and demographic characteristics of people who have received doctorates in science or engineering, whereas the profile tables presented here provide a more detailed picture of employed doctoral scientists and engineers. These profiles include reasons for making certain choices in employment situations; work-related activities; and special-module data collected in 2001, such as publications and patenting activities and level of satisfaction with various job attributes reported by doctoral scientists and engineers.

The National Science Foundation and the National Institutes of Health sponsored the 2001 survey. It is the fifteenth 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. From its inception, the SDR has been used to estimate the number of U.S. residents who hold research doctorates from U.S.

institutions in science and engineering and to characterize their demographic and employment patterns.

The SDR is a longitudinal panel survey of individuals who have received doctorates in science or engineering fields. The sampling frame for the SDR is the Doctorate Records File (DRF), a census of all research doctorates earned in the United States since 1920. The SDR sample for 2001 was 40,000. The data in these tables focus on those doctorate recipients who earned their degrees in science or engineering fields from U.S. institutions before June 2000, were age 75 or younger, and resided in the United States in April 2001. The estimated size of this population is 656,500.

For more information on the survey methodology, see Section II of *Characteristics of Doctoral Scientists and Engineers in the United States: 2001*. For further information, please contact:

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DOCTORAL SCIENTISTS AND ENGINEERS: 2001 PROFILE

LIST OF TABLES

<i>Table</i>	<i>Page</i>
1. Distribution of doctoral scientists and engineers, by field of doctorate: 2001	5
2. Demographic characteristics of doctoral scientists and engineers, by field of doctorate: 2001	6
3. Demographic characteristics of doctoral scientists and engineers, by years since doctorate: 2001	7
4. Labor force status of doctoral scientists and engineers, by field of doctorate: 2001	8
5. Reasons for not working as reported by doctoral scientists and engineers, by age: 2001	9
6. Reasons for working part-time as reported by doctoral scientists and engineers, by age: 2001	10
7. Employment status of doctoral scientists and engineers, by field of doctorate and sex: 2001	11
8. Retired doctoral scientists and engineers, by field of doctorate and age: 2001	12
9. Employment sector of doctoral scientists and engineers, by field of doctorate: 2001	13
10. Employer characteristics of doctoral scientists and engineers, by field of doctorate: 2001	14
11. Relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate: 2001	15
12. Most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 2001	16
13. Primary or secondary work activity of doctoral scientists and engineers, by years since doctorate: 2001	17
14. Principal occupation of doctoral scientists and engineers, by employment sector: 2001	18
15. Principal occupation of doctoral scientists and engineers, by years since doctorate: 2001	19
16. Federal Government support status of doctoral scientists and engineers who were working in 2000, by field of doctorate: 2001	20
17. Federal Government support status of doctoral scientists and engineers who were working in 2000, by employment sector: 2001	21
18. Federal agencies and departments supporting work of doctoral scientists and engineers who were working in 2000: 2001	22

<i>Table</i>	<i>Page</i>
19. Academically employed doctoral scientists and engineers, by field of doctorate and faculty rank: 2001	23
20. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and faculty rank: 2001	24
21. Academically employed doctoral scientists and engineers, by field of doctorate and tenure status: 2001	25
22. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and tenure status: 2001	26
23. Primary reason for holding postdoc for doctoral scientists and engineers, by selected field of doctorate: 2001	27
24. Second job status of doctoral scientists and engineers, by employment sector of principal job: 2001	28
25. Relationship between work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 2001	29
26. Employment changes by doctoral scientists and engineers since 1999, by field of doctorate: 2001	30
27. Reasons for changing employer and/or job since 1999 for employed doctoral scientists and engineers, by field of doctorate: 2001	31
28. Professional society or association membership of doctoral scientists and engineers, by field of doctorate: 2001	32
29. Work-related training activities of doctoral scientists and engineers, by field of doctorate: 2001	33
30. Continuing education of doctoral scientists and engineers between April 1999 and April 2001, by field of doctorate: 2001	34
31. Most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate: 2001	35
32. Factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 2001	36
33. Areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 2001	37
34. Top two areas of the doctoral program in which recent doctorate recipients would have liked more training, by field of doctorate: 2001	38
35. Level of overall satisfaction with the doctoral program by recent doctoral recipients, by field of doctorate: 2001	39

<i>Table</i>	<i>Page</i>
36. Level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001	40
37. Importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001	42
38. Number of articles, papers and books authored by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate and employment sector: 2001	44
39. Number of articles, papers and books authored by academically employed doctoral scientists and engineers between April 1995 and April 2001, by faculty rank and tenure status: 2001	45
40. Patent activities by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate: 2001	46

Table 1. Distribution of doctoral scientists and engineers, by field of doctorate: 2001

Field of doctorate	Number	Percent
Total.....	656,500	100
Sciences.....	543,600	83
Computer and mathematical sciences.....	40,800	6
Computer/information sciences.....	11,200	2
Mathematical sciences.....	29,600	5
Biological and agricultural sciences.....	161,200	25
Agricultural/food sciences.....	19,900	3
Biological sciences.....	135,300	21
Environmental life sciences.....	6,100	1
Health sciences.....	23,700	4
Physical and related sciences.....	131,700	20
Chemistry except biochemistry.....	68,400	10
Earth/atmospheric/ocean sciences.....	19,200	3
Physics and astronomy.....	44,100	7
Social sciences.....	87,600	13
Economics.....	24,900	4
Political and related sciences.....	19,300	3
Sociology.....	16,100	3
Other social sciences.....	27,400	4
Psychology.....	98,600	15
Engineering.....	113,000	17
Aerospace/aeronautical engineering.....	4,600	1
Chemical engineering.....	16,000	2
Civil engineering.....	10,200	2
Electrical/computer engineering.....	30,500	5
Materials/metallurgical engineering.....	11,800	2
Mechanical engineering.....	14,300	2
Other engineering.....	25,700	4

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 2. Demographic characteristics of doctoral scientists and engineers, by field of doctorate: 2001

Demographic characteristic	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number).....	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
Year of doctorate:	Percent								
Pre-1970.....	14	S	19	14	5	22	11	10	15
1970-1979.....	23	S	30	23	17	24	28	24	21
1980-1984.....	12	9	9	13	12	11	14	16	9
1985-1989.....	13	17	9	13	14	12	13	15	12
1990-1992.....	9	17	8	9	12	8	8	10	10
1993-1994.....	7	14	6	7	9	6	6	6	8
1995-1996.....	7	13	6	7	10	6	6	7	9
1997-1998.....	8	15	7	8	11	6	7	7	9
1999-2000.....	7	13	7	8	11	6	7	7	8
Sex:									
Male.....	75	83	85	71	44	87	69	52	93
Female.....	25	17	15	29	56	14	31	48	7
Race/ethnicity:									
White ¹	80	65	79	82	82	81	84	90	67
Black.....	2	S	S	2	5	1	5	4	2
Asian/Pacific Islander.....	15	31	17	13	10	15	8	3	30
Hispanic.....	3	S	3	3	3	2	3	3	2
American Indian/Alaskan Native.....	--	S	S	S	S	S	S	S	S
Age:									
Under 35.....	9	15	10	9	6	9	6	7	11
35-39.....	13	24	12	14	9	13	9	11	16
40-44.....	14	22	10	14	12	14	12	12	16
45-49.....	15	19	11	17	17	13	14	17	13
50-54.....	15	13	13	14	23	12	18	20	10
55-59.....	14	6	17	13	16	14	18	16	12
60-64.....	10	S	15	9	9	12	12	8	11
65-75.....	12	S	12	11	9	15	13	10	11
Citizenship status:									
U.S. citizen.....	91	78	88	92	93	92	92	98	84
Native born.....	85	74	83	88	90	84	89	95	70
Naturalized.....	15	26	17	12	10	16	11	5	30
Non-U.S. citizen.....	9	23	12	8	7	8	8	2	16
Permanent U.S. resident.....	71	74	63	71	68	71	76	78	70
Temporary U.S. resident.....	29	26	38	29	32	29	24	S	30

¹ 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 500

S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from a U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 3. Demographic characteristics of doctoral scientists and engineers, by years since doctorate: 2001

Demographic characteristic	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total (number).....	656,500	121,600	193,800	155,300	185,800
Sex:	Percent				
Male.....	75	63	67	75	90
Female.....	25	37	33	25	10
Race/ethnicity:					
White ¹	80	67	75	86	90
Black.....	2	4	3	3	1
Asian/Pacific Islander.....	15	25	19	10	7
Hispanic.....	3	4	3	2	1
American Indian/Alaskan Native.....	--	S	--	S	--
Citizenship status:					
U.S. citizen.....	91	73	90	98	99
Non-U.S. citizen.....	9	27	11	2	1

¹ 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 500.

S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 4. Labor force status of doctoral scientists and engineers, by field of doctorate: 2001

Labor force status	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number).....	656,500	40,800	161,200	23,700	131,700	87,600	98,600	113,000
	Percent							
Employed full-time ¹	81	84	82	82	79	79	75	84
Employed part-time ¹	7	6	5	8	5	8	15	4
Unemployed, seeking work.....	1	1	1	S	1	1	1	2
Retired.....	9	7	9	7	12	10	6	9
Not employed, not seeking work.....	2	1	3	S	2	2	3	2

¹ Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the nearest whole number. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 5. Reasons for not working as reported by doctoral scientists and engineers, by age: 2001

Reasons for not working	All ages	Under 65	65-75
Total not employed (number).....	81,700	36,500	45,200
		Percent	
Retired.....	74	46	97
On layoff.....	4	9	S
Student.....	3	6	S
Family responsibilities.....	10	21	2
Ill or disabled.....	6	10	2
Suitable job not available.....	7	13	2
No need or desire to work.....	13	19	9
Other reason.....	3	5	1

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 6. Reasons for working part-time as reported by doctoral scientists and engineers, by age: 2001

Reason for working part-time	All ages	Under 65	65-75
Total employed part-time (number).....	46,500	35,200	11,400
		Percent	
Retired or semi-retired.....	36	21	83
Student.....	2	2	S
Family responsibilities.....	29	37	5
Ill/disabled.....	4	5	S
Suitable full-time job not available.....	14	16	8
No need or desire for full-time work.....	41	43	34
Other reason.....	8	9	5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 7. Employment status of doctoral scientists and engineers, by field of doctorate and sex: 2001

Employment status and sex	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total in labor force (number).....	582,500	37,300	142,400	21,500	113,200	77,200	89,600	101,300
	Percent							
Employed full-time ¹	91	92	93	91	92	89	82	94
Employed part-time ¹	8	7	6	9	6	9	17	4
Unemployed, seeking work.....	1	1	1	S	2	1	1	2
Male (number).....	433,200	31,600	101,200	9,200	97,600	53,000	46,900	93,600
	Percent							
Employed full-time ¹	93	93	94	94	93	91	90	94
Employed part-time ¹	6	6	5	6	6	8	10	4
Unemployed, seeking work.....	1	S	1	S	2	1	S	2
Female (number).....	149,200	5,600	41,200	12,200	15,600	24,200	42,600	7,700
	Percent							
Employed full-time ¹	84	87	89	88	89	86	74	91
Employed part-time ¹	14	12	10	11	9	12	25	8
Unemployed, seeking work.....	1	S	1	S	S	S	S	S

¹ Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 8. Retired doctoral scientists and engineers, by field of doctorate and age: 2001

Age	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total retired (number).....	60,400	3,000	14,500	1,700	16,200	8,700	6,200	10,200
Age group:	Percent							
Under 65.....	27	34	24	33	27	25	28	32
65-75.....	73	66	76	67	73	75	72	68

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 9. Employment sector of doctoral scientists and engineers, by field of doctorate: 2001

Employment sector	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Education institution.....	46	36	60	55	58	37	65	40	28
Industry.....	45	60	34	35	34	53	24	50	65
Government.....	10	S	6	11	8	10	11	10	8

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 10. Employer characteristics of doctoral scientists and engineers, by field of doctorate: 2001

Employer characteristic	Field of doctorate								
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering	
Total employed (number).....	574,900	36,700	140,800	21,400	111,300	76,200	88,900	99,600	
Employer size:				Percent					
Under 10 employees.....	10	5	7	9	7	8	28	7	
10-24 employees.....	3	3	3	S	2	2	3	4	
25-99 employees.....	5	4	5	4	5	3	4	6	
100-499 employees.....	10	12	9	8	11	11	10	9	
500-999 employees.....	5	5	4	4	5	6	6	4	
1,000-4,999 employees.....	11	11	12	11	12	11	8	12	
5,000 or more employees.....	57	61	61	62	59	59	40	59	
Employer a new business within past 5 years?									
Yes.....	7	9	6	5	7	4	7	11	
No.....	93	91	94	95	93	96	93	89	

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 11. Relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate: 2001

Relationship between principal job and doctoral degree	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Closely related.....	68	73	65	69	78	57	73	82	62
Somewhat related.....	24	24	26	24	17	32	20	14	30
Not related.....	8	S	8	7	4	11	7	4	8

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 12. Most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 2001

Most important reason	Field of doctorate								
	All fields	Sciences							Engineering
		All sciences	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social and related sciences	Psychology	
Total reporting working outside doctoral degree field (number).....	44,000	35,800	2,500	10,500	900	12,700	5,300	3,800	8,200
					Percent				
Pay/promotion opportunities.....	25	24	27	23	S	26	20	24	27
Working conditions.....	5	5	S	6	S	4	S	S	S
Job location.....	5	5	S	S	S	6	S	S	S
Change in career or professional interest.....	34	33	34	36	S	31	32	34	37
Family-related reasons.....	7	8	S	8	S	7	S	S	S
Job in doctoral field not available.....	21	22	22	19	S	25	25	18	17
Other reason.....	3	3	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 13. Primary or secondary work activity of doctoral scientists and engineers, by years since doctorate: 2001

Primary or secondary work activity	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed (number).....	574,900	116,800	185,300	144,800	128,000
			Percent		
Applied research.....	36	45	36	32	29
Basic research.....	25	31	25	22	22
Development.....	13	15	14	12	11
Design.....	7	9	7	6	6
Teaching.....	32	27	31	32	38
Management, sales, and administration ¹	38	27	37	44	40
Computer applications.....	12	18	13	10	9
Professional services.....	17	13	17	19	16
Other activities ²	5	4	5	6	7

¹ Category includes: accounting, finance, contracts; employee relations including recruiting, personnel, development, and training; managing, supervising; sales, purchasing, marketing, customer service, public relations; and quality or productivity management.

² Category includes: production operations, maintenance, and other activity.

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 14. Principal occupation of doctoral scientists and engineers, by employment sector: 2001

Principal occupation	Employment sector							
	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit ¹	Self-employed	Private not-for-profit	Federal Government	State/local government
Total employed (number).....	574,900	245,100	18,000	198,400	30,400	28,400	38,100	16,600
					Percent			
Science and engineering occupations.....	74	82	61	69	71	64	79	65
Computer and information scientists.....	6	3	S	12	3	3	3	S
Mathematical scientists.....	4	6	5	2	S	3	4	S
Life and related scientists.....	19	27	12	12	5	14	25	12
Physical and related scientists.....	13	13	14	13	4	9	21	10
Social and related scientists.....	8	14	7	2	3	6	8	6
Psychologists.....	12	10	21	6	49	21	5	27
Engineers.....	13	9	S	22	6	7	13	6
Non-science and engineering occupations.....	26	18	39	31	29	36	22	35
Top/mid-level managers, administrators, etc.....	13	7	10	20	6	22	15	23
Other non-S&E occupations.....	12	11	29	12	23	15	6	13

¹ 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 15. Principal occupation of doctoral scientists and engineers, by years since doctorate: 2001

Principal occupation	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed (number).....	574,900	116,800	185,300	144,800	128,000
	Percent				
Science and engineering occupations.....	74	82	76	71	70
Computer and information scientists.....	6	8	7	5	4
Mathematical scientists.....	4	4	4	3	5
Life and related scientists.....	19	22	20	18	16
Physical and related scientists.....	13	12	13	12	15
Social and related scientists.....	8	9	8	9	8
Psychologists.....	12	10	12	13	10
Engineers.....	13	16	14	10	13
Non-science and engineering occupations.....	26	19	24	29	30
Top/mid-level managers, administrators, etc.....	13	6	11	17	18
Other non-S&E occupations.....	12	13	13	12	12

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

**Table 16. Federal Government support status of doctoral scientists and engineers who were working in 2000,
by field of doctorate: 2001**

Support status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 2000 (number).....	596,200	11,100	26,900	145,600	22,000	116,900	79,200	91,500	103,000
					Percent				
Received government support.....	29	22	26	38	29	32	21	20	30
No government support.....	71	78	74	62	71	68	79	80	70

NOTES: Total employed in 2000 includes those who were not employed in 2001. Data are based on a question that asked of those who worked in 2000 whether any of the work during that year was supported by contracts or grants from the U.S. government. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

**Table 17. Federal Government support status of employed doctoral scientists and engineers who were working in 2000,
by employment sector: 2001**

Support status	Total	Employment sector in 2001							
		Universities and 4-year colleges	Other educational institutions	Private for-profit ¹	Self-employed	Private not-for-profit	Federal Government	State and local government	Not working in 2001
Total employed in 2000 (number).....	596,200	243,500	17,700	196,900	30,100	28,300	37,900	16,500	25,300
		Percent							
Received government support.....	29	46	11	17	11	47	NA	36	18
No government support.....	71	54	89	83	89	53	NA	64	82

¹ 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: NA = not applicable.

NOTES: Total employed in 2000 includes those who were not employed in 2001. Data are based on a question that asked of those who worked in 2000 whether any of the work during that year was supported by contracts or grants from the U.S. government. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 18. Federal agencies and departments supporting work of doctoral scientists and engineers who were working in 2000: 2001

Federal agency or department	All fields
Total that received Federal Government support in 2000 (number).....	174,400
	Percent
Agriculture Department.....	8
Defense Department (DoD).....	20
Department of Education (includes NCES, OERI, FIPSE, FIRST).....	3
Energy Department (DOE).....	12
Environmental Protection Agency (EPA).....	5
Health and Human Services Department (excluding NIH).....	9
National Aeronautics and Space Administration (NASA).....	9
National Institutes of Health (NIH).....	33
National Science Foundation (NSF).....	21
Transportation Department (DOT).....	3
Other.....	10
Don't know source agency.....	2

NOTES: Data are based on a question that asked of those who worked in 2000 whether any of the work during that year was supported by contracts or grants from the U.S. government and the agencies or departments that supported the work. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 19. Academically employed doctoral scientists and engineers, by field of doctorate and faculty rank: 2001

Faculty rank	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	254,600	3,800	15,500	75,700	12,100	39,500	49,000	31,500	27,500
	Percent								
Professor.....	35	21	45	31	25	37	40	33	41
Associate professor.....	21	45	25	19	28	17	24	20	23
Assistant professor.....	19	24	16	19	30	15	20	21	18
Instructor, lecturer, adjunct faculty.....	7	S	8	7	6	7	7	8	5
Not applicable at institution.....	2	S	S	1	S	5	2	3	3
Not applicable for position.....	15	S	5	23	11	19	7	16	11

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 20. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and faculty rank: 2001

Sex and faculty rank	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed in academe (number).....	254,600	53,600	78,100	61,400	61,500
			Percent		
Professor.....	35	2	13	54	73
Associate professor.....	21	5	37	26	11
Assistant professor.....	19	44	28	4	2
Instructor, lecturer, adjunct faculty.....	7	10	8	5	6
Not applicable at institution.....	2	2	2	2	2
Not applicable for position.....	15	37	13	9	6
Male (number).....	182,000	31,700	49,600	46,100	54,700
			Percent		
Professor.....	41	2	15	58	74
Associate professor.....	21	5	39	25	11
Assistant professor.....	16	45	26	4	2
Instructor, lecturer, adjunct faculty.....	6	9	6	4	5
Not applicable at institution.....	2	2	3	2	2
Not applicable for position.....	13	37	12	8	6
Female (number).....	72,600	21,900	28,500	15,300	6,800
			Percent		
Professor.....	19	2	10	43	63
Associate professor.....	22	4	34	29	13
Assistant professor.....	26	42	30	7	S
Instructor, lecturer, adjunct faculty.....	10	11	11	8	10
Not applicable at institution.....	2	3	2	S	S
Not applicable for position.....	20	38	14	11	9

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 21. Academically employed doctoral scientists and engineers, by field of doctorate and tenure status: 2001

Tenure status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	254,600	3,800	15,500	75,700	12,100	39,500	49,000	31,500	27,500
	Percent								
Tenured.....	50	54	67	41	41	49	58	45	57
On tenure track.....	16	28	13	15	25	14	17	14	17
Not on tenure track.....	12	S	10	16	14	12	8	13	9
No tenure system at institution.....	6	S	S	6	5	7	4	7	6
No tenure for position.....	17	S	9	23	15	19	12	21	11

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 22. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and tenure status: 2001

Sex and tenure status	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed in academe (number).....	254,600	53,600	78,100	61,400	61,500
			Percent		
Tenured.....	50	4	43	71	78
On tenure track.....	16	35	24	4	1
Not on tenure track.....	12	23	12	8	6
No tenure system at institution.....	6	6	6	6	5
No tenure for position.....	17	33	16	11	10
Male (number).....	182,000	31,700	49,600	46,100	54,700
			Percent		
Tenured.....	55	3	46	74	79
On tenure track.....	14	38	24	3	1
Not on tenure track.....	10	23	10	7	6
No tenure system at institution.....	5	6	6	5	5
No tenure for position.....	15	31	14	10	10
Female (number).....	72,600	21,900	28,500	15,300	6,800
			Percent		
Tenured.....	35	4	37	62	69
On tenure track.....	19	32	22	5	S
Not on tenure track.....	16	23	16	11	8
No tenure system at institution.....	6	6	5	7	S
No tenure for position.....	23	36	19	15	16

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 23. Primary reason for holding postdoc for doctoral scientists and engineers,
by selected field of doctorate: 2001

Reason	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number).....	21,900	12,900	9,000
Primary reason for holding postdoc:	Percent		
Additional training in field.....	21	20	22
Training out of field.....	12	12	12
Work with specific person or place.....	21	19	25
No other employment available.....	12	11	13
Postdoc generally expected for career in this field.....	30	34	24
Other reason.....	5	5	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Postdoc is a temporary position awarded in academe, industry or government primarily for gaining additional education and training in research. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 24. Second job status of doctoral scientists and engineers, by employment sector of principal job: 2001

Second job status and occupation	Employment sector of principal job							
	All sectors	Universities and 4-year colleges	Other educational institutions	Private for-profit ¹	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed (number).....	574,900	245,100	18,000	198,400	30,400	28,400	38,100	16,600
	Percent							
Held second job.....	13	15	30	7	14	19	9	25
No second job.....	87	85	71	93	86	81	91	75
Total holding second job (number).....	73,900	36,800	5,300	14,300	4,300	5,500	3,600	4,100
	Percent							
Occupation of second job:								
Science and engineering occupations.....	62	62	66	54	55	72	68	67
Computer and information scientists.....	4	4	S	8	S	S	S	S
Mathematical scientists.....	3	3	S	S	S	S	S	S
Life and related scientists.....	9	11	11	6	S	11	S	S
Physical and related scientists.....	6	6	S	7	S	S	S	S
Social and related scientists.....	9	11	S	4	S	S	S	S
Psychologists.....	22	16	34	15	34	45	17	45
Engineers.....	8	9	S	13	S	S	S	S
Non-science and engineering occupation.....	39	38	34	46	45	28	32	34
Top/mid-level managers, administrators, etc.....	5	5	S	7	S	S	S	S
Other non-S&E occupations.....	34	33	31	38	41	25	28	30

¹ 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 25. Relationship between work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 2001

Relationship	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total holding second job (number).....	73,900	3,500	13,300	4,200	8,700	12,600	21,900	9,800
	Percent							
Closely related.....	66	64	53	66	45	67	83	63
Somewhat related.....	19	24	26	22	24	19	11	21
Not related.....	15	S	21	12	31	14	7	16

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 26. Employment changes by doctoral scientists and engineers since 1999, by field of doctorate: 2001

Employment change	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 2001 (number).....	574,900	36,700	140,800	21,400	111,300	76,200	88,900	99,600
	Percent							
Not employed in 1999.....	4	3	4	4	3	4	3	4
No change since 1999.....	73	71	73	70	73	76	78	68
Change in employer and job.....	11	12	12	14	12	9	8	14
Change in employer only.....	5	7	5	5	5	5	5	6
Change in job only.....	7	7	7	7	7	6	5	8

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 27. Reasons for changing employer and/or job since 1999 for employed doctoral scientists and engineers, by field of doctorate: 2001

Reasons	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total changing employer and/or job (number).....	133,500	9,600	32,700	5,600	26,400	14,900	16,500	27,700
	Percent							
Pay or promotion opportunities.....	59	56	62	57	58	53	61	57
Working conditions.....	34	33	32	37	32	37	41	32
Job location.....	25	23	26	26	26	25	27	22
Change in career.....	34	34	33	34	34	32	27	42
Family-related reasons.....	12	8	14	16	11	13	16	10
School-related reasons.....	12	13	14	15	11	12	14	9
Laid off or job terminated.....	19	19	18	17	21	20	18	17
Retired.....	4	S	3	S	5	6	4	4
Other reason.....	2	S	2	S	3	S	S	2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 28. Professional society or association membership of doctoral scientists and engineers, by field of doctorate: 2001

Number of memberships	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number).....	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
	Percent								
None.....	21	28	27	20	10	22	22	17	24
One.....	22	24	25	19	17	27	16	23	25
Two.....	24	29	24	23	25	24	22	24	23
Three.....	15	12	13	16	18	14	18	16	14
Four or more.....	18	7	12	22	30	13	22	20	13

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 29. Work-related training activities of doctoral scientists and engineers, by field of doctorate: 2001

Training areas and reasons for taking training	Field of doctorate								
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering	
Total (number).....	656,500	40,800	161,200	23,700	131,700	87,600	98,600	113,000	
				Percent					
Taken work-related training in the past year.....	53	42	52	68	45	48	71	51	
Did not take work-related training.....	47	58	48	32	55	52	29	49	
Total taking training (number).....	346,600	17,300	83,900	16,200	59,400	41,900	69,900	58,000	
Type of training:				Percent					
Management/supervisor training.....	27	20	30	28	30	25	18	34	
Training in occupational field.....	80	78	78	84	77	71	91	78	
General professional training.....	21	23	24	23	22	26	15	22	
Other work-related training.....	9	7	9	11	9	11	6	7	
Most important reason for taking training:									
To change occupational field.....	3	3	3	S	3	2	2	3	
Further skills in occupational field.....	67	70	70	66	67	69	64	68	
Licensure/certification.....	8	S	5	13	3	4	24	3	
Increase opportunities.....	4	5	4	5	5	5	2	6	
Learn skills for new position.....	7	9	7	6	8	7	3	9	
Required or expected by employer.....	9	10	9	7	13	10	4	10	
Other reasons.....	2	S	2	S	2	4	2	2	

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 30. Continuing education of doctoral scientists and engineers between April 1999 and April 2001, by field of doctorate: 2001

Continuing education	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (Number).....	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
Courses taken:	Percent								
Took courses.....	5	S	4	6	6	5	4	5	6
Did not take courses.....	95	97	96	94	94	96	96	95	95
Total taking courses (Number).....	33,100	S	1,200	9,500	1,400	5,900	3,400	5,100	6,200
Reasons for taking courses ¹ :	Percent								
Gain further education before career.....	29	S	S	37	S	29	20	25	24
Prepare for graduate school.....	2	S	S	S	S	S	S	S	S
Change academic or occupational field.....	34	S	S	39	S	38	26	27	37
Gain further skills or knowledge.....	59	S	61	60	74	54	63	60	58
Licensure or certification.....	21	S	S	27	S	18	19	26	15
Increase opportunities for advancement.....	45	S	46	49	55	46	38	35	49
Required or expected by employer.....	14	S	S	17	S	13	15	11	12
Leisure or personal interest.....	48	S	54	43	49	45	54	55	44
Other reason.....	2	S	S	S	S	S	S	S	S
School-related costs:									
Employer paid costs.....	44	S	49	41	46	46	39	34	55
Employer did not pay cost.....	56	S	51	59	54	55	61	66	45
Degree/certificate status:									
Completed degree/certificate.....	16	S	S	18	S	12	S	11	19
Did not complete degree/certificate.....	84	S	84	82	76	88	88	89	82

¹ Percentage may sum to more than 100 because multiple answers are allowed.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding.

Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from U.S. institutions and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 31. Most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate: 2001

Resource and length of time	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients holding a career path job (number).....	40,200	3,000	10,000	2,200	6,200	5,100	6,100	7,600
Most important job search resource:	Percent							
Faculty or advisor.....	25	24	30	33	29	21	16	22
Informal channels through colleagues or friends.....	26	22	20	25	25	25	40	26
Professional meetings and/or journals.....	13	S	16	S	S	20	13	9
Other resource ¹	37	44	34	31	38	34	32	43
Length of time between completion of first doctoral degree and first career path job:								
Less than 1 month ²	72	82	68	74	76	75	70	72
1-6 months.....	20	S	23	S	19	18	22	19
7-12 months.....	5	S	5	S	S	S	S	S
More than 12 months.....	3	S	S	S	S	S	S	S

¹ 'Other resource' includes professional recruiter, college/department placement office, electronic postings, newspapers, direct contact with company, and other.

² Includes those who already held a career path job before completion of doctoral degree.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. 'Career path job' is defined as a job that helps further one's career plans or a job in a field where one wants to make a career. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 32. Factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 2001

Factors limiting career path job search	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients seeking or holding a career path job (number).....	41,800	3,000	10,400	2,300	6,500	5,400	6,200	7,900
Factors that somewhat or greatly limited career path job search:	Percent							
Family responsibilities.....	41	37	42	52	39	38	37	42
Spouse's career or employment.....	38	37	42	46	36	37	38	34
Debt from undergraduate or graduate degree(s).....	19	18	19	S	15	18	34	14
Desire to not relocate.....	38	32	31	47	37	39	51	39
Suitable job not available.....	33	26	33	33	34	38	33	32
Other.....	3	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. 'Career path job' is defined as a job that helps further one's career plans or a job in a field where one wants to make a career. Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 33. Areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 2001

Areas of doctoral training	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	48,200	1,500	2,000	12,200	2,700	7,600	6,200	6,900	9,100
					Percent				
General problem solving skills.....	97	96	98	98	96	99	92	96	99
Subject matter knowledge.....	96	98	95	98	97	94	97	97	96
Oral communication skills.....	90	93	86	93	92	91	84	93	87
Teaching skills.....	72	72	82	71	73	72	75	76	64
Collaboration and teamwork skills.....	82	83	75	85	86	87	67	87	81
Quantitative skills.....	92	95	86	89	96	97	85	93	95
Writing skills.....	92	93	77	92	93	89	93	96	91
Computer skills.....	87	99	82	88	88	90	82	77	94
Research integrity/ethics.....	94	91	86	93	96	94	93	98	93
Establishing contacts with colleagues in field.....	77	76	81	79	83	74	73	78	75
Management or administrative skills.....	44	47	27	49	49	41	37	46	45

NOTES: Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 34. Top two areas of the doctoral program in which recent doctoral recipients would have liked more training, by field of doctorate: 2001

Areas of doctoral training	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	48,200	3,500	12,200	2,700	7,600	6,200	6,900	9,100
Additional training desired (number).....	38,100	2,500	10,000	2,000	5,800	5,100	5,600	7,200
	Percent							
General problem solving skills.....	7	S	9	S	S	S	S	10
Subject matter knowledge.....	15	S	13	S	20	13	16	12
Oral communication skills.....	15	S	13	S	17	13	S	25
Teaching skills.....	23	S	26	26	20	26	27	19
Collaboration and teamwork skills.....	14	S	14	S	13	22	S	15
Quantitative skills.....	10	S	12	S	S	23	12	S
Writing skills.....	15	S	19	S	19	12	S	14
Computer skills.....	17	S	20	S	19	16	19	11
Research integrity/ethics.....	4	S	S	S	S	S	S	S
Establishing contacts with colleagues in field.....	29	32	25	S	28	33	35	28
Management or administrative skills.....	31	26	31	36	28	15	38	37

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 35. Level of overall satisfaction with doctoral program by recent doctoral recipients, by field of doctorate: 2001

Level of overall satisfaction with doctoral program	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	48,200	1,500	2,000	12,200	2,700	7,600	6,200	6,900	9,100
	Percent								
Very satisfied.....	58	57	71	54	62	55	51	64	61
Somewhat satisfied.....	35	40	S	37	31	37	39	32	34
Very/somewhat dissatisfied.....	7	S	S	9	S	8	10	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 36. Level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001

Job attributes and level of satisfaction	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Salary:									
Very satisfied.....	31	36	30	28	27	34	30	30	33
Somewhat satisfied.....	49	48	50	49	51	50	47	47	52
Somewhat dissatisfied.....	15	13	15	16	16	12	15	17	12
Very dissatisfied.....	6	S	6	7	6	4	7	7	3
Benefits:									
Very satisfied.....	39	41	39	39	39	41	42	37	38
Somewhat satisfied.....	45	48	48	44	47	46	41	37	50
Somewhat dissatisfied.....	11	9	8	11	10	10	11	16	10
Very dissatisfied.....	5	S	4	6	5	3	6	10	3
Job security:									
Very satisfied.....	47	47	56	45	47	45	57	48	43
Somewhat satisfied.....	35	40	31	36	38	36	28	35	41
Somewhat dissatisfied.....	12	12	9	12	10	14	8	12	12
Very dissatisfied.....	6	S	5	7	6	6	7	6	4
Job location:									
Very satisfied.....	55	55	56	55	55	53	54	58	53
Somewhat satisfied.....	32	31	32	32	33	34	31	29	34
Somewhat dissatisfied.....	11	12	10	11	10	11	11	10	10
Very dissatisfied.....	3	S	2	3	2	3	3	3	2
Opportunity for advancement:									
Very satisfied.....	27	31	26	28	27	25	29	30	25
Somewhat satisfied.....	44	49	50	44	44	45	41	41	47
Somewhat dissatisfied.....	21	17	19	20	21	21	20	21	22
Very dissatisfied.....	8	S	6	9	8	9	10	8	7
Intellectual challenge:									
Very satisfied.....	54	52	47	59	55	50	53	61	49
Somewhat satisfied.....	33	35	37	31	32	36	33	29	38
Somewhat dissatisfied.....	10	11	14	8	11	11	12	8	11
Very dissatisfied.....	3	S	S	2	S	3	3	2	3
Level of responsibility:									
Very satisfied.....	52	47	45	55	53	47	53	64	44
Somewhat satisfied.....	38	43	45	35	35	41	37	29	43
Somewhat dissatisfied.....	9	9	9	8	10	10	8	6	11
Very dissatisfied.....	2	S	S	2	S	2	3	1	2

See explanatory information and SOURCE at end of table.

Table 36. Level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001

Job attributes and level of satisfaction	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
					Percent				
Degree of independence:									
Very satisfied.....	66	66	64	66	67	61	69	75	60
Somewhat satisfied.....	27	27	31	26	27	31	24	19	32
Somewhat dissatisfied.....	6	6	5	6	5	6	5	4	6
Very dissatisfied.....	2	S	S	2	S	2	2	2	2
Contribution to society:									
Very satisfied.....	53	38	44	57	64	45	55	68	42
Somewhat satisfied.....	38	49	45	36	32	44	37	26	46
Somewhat dissatisfied.....	7	10	9	6	4	8	6	5	10
Very dissatisfied.....	2	S	2	1	S	3	2	1	2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 37. Importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001

Job attributes and level of importance	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
					Percent				
Salary:									
Very important.....	45	43	43	43	48	42	43	52	46
Somewhat important.....	52	54	52	54	49	55	53	45	51
Somewhat unimportant.....	3	S	3	3	S	3	3	2	2
Not important at all.....	1	S	S	1	S	1	1	1	1
Benefits:									
Very important.....	49	39	47	51	59	48	51	48	45
Somewhat important.....	46	55	48	45	37	47	43	43	50
Somewhat unimportant.....	3	S	4	2	3	3	3	6	3
Not important at all.....	2	S	S	1	S	1	2	3	1
Job security:									
Very important.....	47	36	49	51	51	47	51	47	41
Somewhat important.....	45	52	45	43	43	46	40	45	49
Somewhat unimportant.....	6	10	5	4	4	6	6	7	8
Not important at all.....	2	S	S	2	S	2	3	2	3
Job location:									
Very important.....	50	48	51	51	53	47	52	52	49
Somewhat important.....	44	46	45	44	43	47	42	42	46
Somewhat unimportant.....	5	5	4	4	3	5	4	5	5
Not important at all.....	1	S	S	1	S	1	1	1	1
Opportunity for advancement:									
Very important.....	41	42	36	46	45	40	40	32	46
Somewhat important.....	47	46	50	45	45	49	47	49	44
Somewhat unimportant.....	9	10	10	6	8	8	10	14	8
Not important at all.....	3	S	4	2	3	3	4	5	3
Intellectual challenge:									
Very important.....	79	81	74	80	83	78	83	82	77
Somewhat important.....	20	19	24	19	16	22	17	18	22
Somewhat unimportant.....	1	S	S	1	S	1	1	S	1
Not important at all.....	0	S	S	S	S	S	S	S	S
Level of responsibility:									
Very important.....	48	43	32	51	55	44	47	53	47
Somewhat important.....	45	50	54	44	39	48	44	42	46
Somewhat unimportant.....	6	7	11	5	5	7	7	4	6
Not important at all.....	1	S	3	1	S	2	2	1	1

See explanatory information and SOURCE at end of table.

Table 37. Importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001

Job attributes and level of importance	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
					Percent				
Degree of independence:									
Very important.....	73	71	66	73	81	69	80	81	66
Somewhat important.....	25	27	30	25	18	29	19	18	31
Somewhat unimportant.....	2	S	3	1	S	2	1	1	3
Not important at all.....	0	S	S	S	S	S	S	S	S
Contribution to society:									
Very important.....	54	42	41	59	69	43	64	68	43
Somewhat important.....	39	46	50	37	30	48	32	29	48
Somewhat unimportant.....	5	10	7	4	S	8	3	3	8
Not important at all.....	1	S	2	1	S	1	1	1	1

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 38. Number of articles, papers and books authored by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate and employment sector: 2001

Field of doctorate and employment sector	Total number	Number of articles						Number of papers						Number of books					
		None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number
		Percent						Percent						Percent					
All doctoral scientists and engineers.....	656,500	44	17	16	11	12	4.4	35	15	18	15	17	6.4	81	15	3	1	0	0.4
Field of doctorate:																			
Computer and information sciences.....	11,200	44	24	16	10	5	2.8	27	19	18	17	19	7.2	84	13	S	S	S	0.3
Mathematical sciences.....	29,600	47	19	15	10	9	3.6	42	18	18	13	10	3.9	86	12	S	S	S	0.3
Biological and agricultural sciences.....	161,200	32	15	20	16	18	6.4	29	14	19	18	20	7.5	79	15	4	1	S	0.5
Health sciences.....	23,700	35	19	17	14	15	5.3	27	13	20	18	23	8.0	75	18	5	S	S	0.6
Physical and related sciences.....	131,700	45	16	15	11	14	5.1	38	15	17	14	17	6.5	87	11	2	0	S	0.3
Social sciences.....	87,600	44	21	17	11	7	3.1	30	15	19	19	17	5.8	67	25	7	1	S	0.8
Psychology.....	98,600	61	15	10	7	7	2.7	50	14	13	10	14	4.9	84	13	3	1	S	0.3
Engineering.....	113,000	49	19	15	9	8	3.5	33	16	20	14	17	6.7	86	12	2	S	S	0.3
Employment sector:																			
Education institution.....	263,000	25	17	20	18	21	7.3	18	13	19	21	29	10.1	72	21	5	1	0	0.6
Industry.....	257,200	56	19	14	7	5	2.3	44	18	19	12	8	3.8	88	10	2	1	0	0.3
Government.....	54,600	41	18	15	13	14	4.9	30	13	17	18	22	7.4	82	14	4	S	S	0.4
Not working.....	81,700	74	13	7	3	2	1.3	69	13	10	4	3	1.6	89	9	1	S	S	0.2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 39. Number of articles, papers and books authored by academically employed doctoral scientists and engineers between April 1995 and April 2001, by faculty rank and tenure status: 2001

Faculty rank and tenure status	Total number	Number of articles						Number of papers						Number of books					
		None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number
Total academically employed		Percent						Percent						Percent					
doctoral scientists and engineers.....	254,600	23	17	20	18	22	7.6	16	13	19	22	30	10.4	72	21	5	1	0	0.7
Faculty rank:																			
Full professor.....	89,200	22	15	17	16	31	10.5	16	11	17	20	37	13.5	63	26	8	2	1	1.0
Associate professor.....	54,000	21	16	20	19	23	7.4	14	11	18	23	34	10.9	71	22	6	2	S	0.6
Assistant professor.....	48,700	17	19	25	23	17	6.2	10	12	21	27	32	9.8	76	20	3	S	S	0.4
Instructor/lecturer.....	9,300	42	19	21	11	8	3.3	36	17	23	15	10	4.3	80	16	S	S	S	0.4
Adjunct and other faculty.....	8,500	46	20	17	9	7	3.1	33	21	19	15	13	5.2	84	14	S	S	S	0.3
Rank not applicable.....	44,900	26	18	25	19	12	5.0	20	17	23	23	18	6.8	82	14	3	S	S	0.4
Tenure status:																			
Tenured.....	126,400	22	15	18	17	28	9.2	15	11	18	21	35	12.3	66	25	7	2	S	0.8
On tenure track.....	40,300	13	18	25	24	20	6.9	7	11	19	28	35	10.9	75	21	3	S	S	0.5
Not on tenure track.....	30,700	24	18	23	19	16	6.0	17	14	24	22	22	8.3	77	17	5	S	S	0.5
Tenure not applicable.....	57,300	31	19	21	16	13	5.2	24	16	20	20	20	7.1	80	15	4	1	S	0.5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 40. Patent activities by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate: 2001

Patent activities	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total doctoral scientists and engineers (number).....	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
					Percent				
Named as inventor.....	15	27	6	15	6	23	1	1	29
Not named as inventor.....	85	73	94	85	94	77	99	99	71
Total named on patent applications (number).....	95,600	3,000	1,800	24,700	1,300	29,900	900	1,400	32,600
					Percent				
Number of patent applications:									
1-2.....	53	49	60	66	73	46	76	67	48
3-10.....	39	46	30	31	S	44	S	S	43
More than 10.....	8	S	S	4	S	10	S	S	9
Number of patents granted:									
None.....	26	39	37	33	S	21	S	38	24
1-2.....	45	42	41	48	53	43	S	53	46
3-10.....	24	S	S	18	S	30	S	S	26
More than 10.....	5	S	S	S	S	8	S	S	5
Total with patents granted (number).....	70,900	1,800	1,100	16,500	900	24,000	S	900	25,100
					Percent				
Number of products or licenses:									
None.....	45	36	S	52	S	44	S	S	42
1-2.....	39	41	S	38	S	38	S	S	40
More than 3.....	16	S	S	10	S	18	S	S	18

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

LIST OF STANDARD ERROR TABLES

<i>Table</i>	<i>Page</i>
1a. Standard errors on distribution of doctoral scientists and engineers, by field of doctorate: 2001	50
2a. Standard errors on demographic characteristics of doctoral scientists and engineers, by field of doctorate: 2001	51
3a. Standard errors on demographic characteristics of doctoral scientists and engineers, by years since doctorate: 2001	52
4a. Standard errors on labor force status of doctoral scientists and engineers, by field of doctorate: 2001	53
5a. Standard errors on reasons for not working as reported by doctoral scientists and engineers, by age: 2001	54
6a. Standard errors on reasons for working part-time as reported by doctoral scientists and engineers, by age: 2001	55
7a. Standard errors on employment status of doctoral scientists and engineers, by field of doctorate and sex: 2001	56
8a. Standard errors on retired doctoral scientists and engineers, by field of doctorate and age: 2001	57
9a. Standard errors on employment sector of doctoral scientists and engineers, by field of doctorate: 2001	58
10a. Standard errors on employer characteristics of doctoral scientists and engineers, by field of doctorate: 2001	59
11a. Standard errors on relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate: 2001	60
12a. Standard errors on most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 2001	61
13a. Standard errors on primary or secondary work activity of doctoral scientists and engineers, by years since doctorate: 2001	62
14a. Standard errors on principal occupation of doctoral scientists and engineers, by employment sector: 2001	63
15a. Standard errors on principal occupation of doctoral scientists and engineers, by years since doctorate: 2001	64
16a. Standard errors on Federal Government support status of doctoral scientists and engineers who were working in 2000, by field of doctorate: 2001	65

<i>Table</i>	<i>Page</i>
17a. Standard errors on Federal Government support status of doctoral scientists and engineers who were working in 2000, by employment sector: 2001	66
18a. Standard errors on Federal agencies and departments supporting work of doctoral scientists and engineers who were working in 2000: 2001	67
19a. Standard errors on academically employed doctoral scientists and engineers, by field of doctorate and faculty rank: 2001	68
20a. Standard errors on academically employed doctoral scientists and engineers, by years since doctorate, sex, and faculty rank: 2001	69
21a. Standard errors on academically employed doctoral scientists and engineers, by field of doctorate and tenure status: 2001	70
22a. Standard errors on academically employed doctoral scientists and engineers, by years since doctorate, sex, and tenure status: 2001	71
23a. Standard errors on primary reason for holding postdoc for doctoral scientists and engineers, by selected field of doctorate: 2001	72
24a. Standard errors on second job status of doctoral scientists and engineers, by employment sector of principal job: 2001	73
25a. Standard errors on relationship between work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 2001	74
26a. Standard errors on employment changes by doctoral scientists and engineers since 1999, by field of doctorate: 2001	75
27a. Standard errors on reasons for changing employer and/or job since 1999 for doctoral scientists and engineers, by field of doctorate: 2001	76
28a. Standard errors on professional society or association membership of doctoral scientists and engineers, by field of doctorate: 2001	77
29a. Standard errors on work-related training activities of doctoral scientists and engineers, by field of doctorate: 2001	78
30a. Standard errors on continuing education of doctoral scientists and engineers between April 1999 and April 2001, by field of doctorate: 2001	79
31a. Standard errors on most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate: 2001	80
32a. Standard errors on factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 2001	81

<i>Table</i>	<i>Page</i>
33a. Standard errors on areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 2001	82
34a. Standard errors on top two areas of the doctoral program in which recent doctorate recipients would have liked more training, by field of doctorate: 2001	83
35a. Standard errors on level of overall satisfaction with the doctoral program by recent doctoral recipients, by field of doctorate: 2001	84
36a. Standard errors on level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001	85
37a. Standard errors on importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001	87
38a. Standard errors on number of articles, papers and books authored by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate and employment sector: 2001	89
39a. Standard errors on number of articles, papers and books authored by academically employed doctoral scientists and engineers between April 1995 and April 2001, by faculty rank and tenure status: 2001	90
40a. Standard errors on patent activities by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate: 2001	91

**Table 1a. Standard errors on distribution of doctoral scientists and engineers,
by field of doctorate: 2001**

Field of doctorate	Number	Percent
Total.....	837.1	N/A
Sciences.....	731.5	0.1
Computer and mathematical sciences.....	249.2	0.0
Computer/information sciences.....	125.7	0.0
Mathematical sciences.....	269.1	0.0
Biological and agricultural sciences.....	401.8	0.1
Agricultural/food sciences.....	374.5	0.1
Biological sciences.....	290.8	0.0
Environmental life sciences.....	312.7	0.0
Health sciences.....	121.0	0.0
Physical and related sciences.....	386.9	0.1
Chemistry except biochemistry.....	238.3	0.0
Earth/atmospheric/ocean sciences.....	117.6	0.0
Physics and astronomy.....	254.4	0.0
Social sciences.....	468.5	0.1
Economics.....	328.8	0.0
Political and related sciences.....	454.1	0.1
Sociology.....	375.2	0.1
Other social sciences.....	587.4	0.1
Psychology.....	218.6	0.0
Engineering.....	410.7	0.1
Aerospace/aeronautical engineering.....	357.4	0.1
Chemical engineering.....	597.4	0.1
Civil engineering.....	439.7	0.1
Electrical/computer engineering.....	317.9	0.0
Materials/metallurgical engineering.....	496.1	0.1
Mechanical engineering.....	610.2	0.1
Other engineering.....	652.1	0.1

KEY: N/A= Not applicable

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 2a. Standard errors on demographic characteristics of doctoral scientists and engineers, by field of doctorate: 2001

Demographic characteristic	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number).....	837.1	125.7	269.1	401.8	121.0	386.9	468.5	218.6	410.7
Year of doctorate:	Percent								
Pre-1970.....	0.1	S	0.6	0.2	0.3	0.3	0.4	0.2	0.4
1970-1979.....	0.1	S	0.8	0.3	0.6	0.4	0.6	0.3	0.4
1980-1984.....	0.0	0.7	0.4	0.2	0.5	0.2	0.3	0.3	0.3
1985-1989.....	0.0	1.0	0.5	0.2	0.6	0.2	0.3	0.3	0.2
1990-1992.....	0.0	0.9	0.5	0.2	0.4	0.2	0.3	0.2	0.2
1993-1994.....	0.0	0.7	0.4	0.2	0.4	0.1	0.2	0.2	0.2
1995-1996.....	0.0	0.8	0.4	0.1	0.4	0.1	0.2	0.2	0.2
1997-1998.....	0.0	0.7	0.4	0.1	0.4	0.1	0.2	0.2	0.2
1999-2000.....	0.0	0.6	0.3	0.1	0.4	0.1	0.2	0.2	0.1
Sex:									
Male.....	0.1	0.4	0.3	0.1	0.4	0.1	0.2	0.2	0.1
Female.....	0.1	0.4	0.3	0.1	0.4	0.1	0.2	0.2	0.1
Race/ethnicity:									
White ¹	0.2	1.2	0.8	0.3	0.6	0.3	0.4	0.3	0.4
Black.....	0.1	S	S	0.1	0.3	0.1	0.2	0.1	0.1
Asian/Pacific Islander.....	0.2	1.4	0.9	0.3	0.6	0.3	0.3	0.2	0.4
Hispanic.....	0.1	S	0.4	0.1	0.3	0.1	0.2	0.2	0.2
American Indian/Alaskan Native.....	--	S	S	S	S	S	S	S	S
Age:									
Under 35.....	0.1	1.1	0.6	0.2	0.6	0.2	0.3	0.2	0.3
35-39.....	0.1	1.3	0.7	0.3	0.7	0.3	0.4	0.3	0.4
40-44.....	0.1	1.5	0.7	0.3	0.7	0.3	0.4	0.3	0.3
45-49.....	0.2	1.3	0.7	0.3	0.8	0.3	0.5	0.4	0.4
50-54.....	0.1	1.2	0.8	0.3	0.8	0.3	0.6	0.4	0.3
55-59.....	0.2	0.9	0.7	0.3	0.9	0.4	0.6	0.3	0.5
60-64.....	0.1	S	0.6	0.3	0.7	0.3	0.5	0.3	0.4
65-75.....	0.1	S	0.6	0.2	0.7	0.4	0.4	0.3	0.4
Citizenship status:									
U.S. citizen.....	0.1	1.4	0.6	0.2	0.5	0.3	0.4	0.2	0.4
Native born.....	0.1	1.5	0.8	0.3	0.5	0.3	0.4	0.2	0.4
Naturalized.....	0.1	1.5	0.8	0.3	0.5	0.3	0.4	0.2	0.4
Non-U.S. citizen.....	0.1	1.4	0.6	0.2	0.5	0.3	0.4	0.2	0.4
Permanent U.S. resident.....	0.9	3.5	3.9	1.9	4.2	2.0	2.3	4.5	1.5
Temporary U.S. resident.....	0.9	3.5	3.9	1.9	4.2	2.0	2.3	S	1.5

¹ 'Other' race included with 'White.'

KEY: -- = Estimate is less than 0.5 percent and estimated weighted cases >=500.

S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients.

**Table 3a. Standard errors on demographic characteristics of doctoral scientists and engineers,
by years since doctorate: 2001**

Demographic characteristic	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total (number).....	837.1	332.7	492.4	334.1	423.2
Sex:			Percent		
Male.....	0.1	0.3	0.2	0.3	0.1
Female.....	0.1	0.3	0.2	0.3	0.1
Race/ethnicity:					
White ¹	0.2	0.5	0.3	0.3	0.3
Black.....	0.1	0.2	0.2	0.1	0.1
Asian/Pacific Islander.....	0.2	0.4	0.3	0.3	0.2
Hispanic.....	0.1	0.2	0.2	0.1	0.1
American Indian/Alaskan Native.....	--	S	--	S	--
Citizenship status:					
U.S. citizen.....	0.1	0.4	0.3	0.2	0.1
Non-U.S. citizen.....	0.1	0.4	0.3	0.2	0.1

¹ 'Other' race included with 'White.'

KEY: -- = Estimate is less than 0.5 percent and estimated weighted cases >=500.

S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 4a. Standard errors on labor force status of doctoral scientists and engineers, by field of doctorate: 2001

Labor force status	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number).....	837.1	249.2	401.8	121.0	386.9	468.5	218.6	410.7
				Percent				
Employed full-time ¹	0.2	0.8	0.4	1.0	0.5	0.6	0.6	0.5
Employed part-time ¹	0.2	0.6	0.3	0.9	0.3	0.5	0.5	0.3
Unemployed, seeking work.....	0.1	0.3	0.1	S	0.1	0.2	0.1	0.2
Retired.....	0.2	0.5	0.3	0.6	0.4	0.5	0.3	0.4
Not employed, not seeking work.....	0.1	0.3	0.2	S	0.2	0.2	0.3	0.2

¹ Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTES: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 5a. Standard errors on reasons for not working as reported by doctoral scientists and engineers, by age: 2001

Reasons for not working	All ages	Under 65	65-75
Total not employed (number).....	1,193.0	867.4	861.7
		Percent	
Retired.....	0.6	1.2	0.4
On layoff.....	0.3	0.7	S
Student.....	0.2	0.5	S
Family responsibilities.....	0.5	0.9	0.4
Ill or disabled.....	0.4	0.7	0.3
Suitable job not available.....	0.4	0.9	0.4
No need or desire to work.....	0.5	0.9	0.6
Other reason.....	0.3	0.6	0.3

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 6a. Standard errors on reasons for working part-time as reported by doctoral scientists and engineers, by age: 2001

Reason for working part-time	All ages	Under 65	65-75
Total employed part-time (number).....	990.2	884.5	504.4
		Percent	
Retired or semi-retired.....	1.1	1.1	1.7
Student.....	0.3	0.4	S
Family responsibilities.....	1.0	1.2	1.1
Ill/disabled.....	0.4	0.5	S
Suitable full-time job not available.....	0.8	1.0	1.3
No need or desire for full-time work.....	1.2	1.4	2.0
Other reason.....	0.6	0.7	1.0

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 7a. Standard errors on employment status of doctoral scientists and engineers,
by field of doctorate and sex: 2001

Employment status and sex	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total in labor force (number).....	1,341.8	337.9	675.5	209.1	626.6	638.2	482.9	590.1
	Percent							
Employed full-time ¹	0.2	0.7	0.3	1.0	0.4	0.5	0.6	0.4
Employed part-time ¹	0.2	0.6	0.3	0.9	0.3	0.5	0.6	0.4
Unemployed, seeking work.....	0.1	0.3	0.1	S	0.2	0.2	0.1	0.2
Male (number).....	1,130.5	318.9	569.2	161.1	594.6	553.4	319.4	565.6
	Percent							
Employed full-time ¹	0.2	0.7	0.4	1.1	0.4	0.7	0.7	0.4
Employed part-time ¹	0.2	0.7	0.3	1.1	0.4	0.6	0.6	0.4
Unemployed, seeking work.....	0.1	S	0.2	S	0.2	0.2	S	0.2
Female (number).....	592.2	143.8	335.8	165.0	250.2	272.2	355.8	166.5
	Percent							
Employed full-time ¹	0.4	1.9	0.7	1.4	1.1	1.1	1.0	1.4
Employed part-time ¹	0.4	1.8	0.7	1.4	1.0	1.0	1.0	1.2
Unemployed, seeking work.....	0.1	S	0.3	S	S	S	S	S

¹ Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 8a. Standard errors on retired doctoral scientists and engineers, by field of doctorate and age: 2001

Age	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total retired (number).....	1,001.5	226.4	449.9	149.3	502.6	406.5	322.5	428.0
Age group:	Percent							
Under 65.....	0.9	3.7	1.6	5.2	1.6	2.4	2.4	2.6
65-75.....	0.9	3.7	1.6	5.2	1.6	2.4	2.4	2.6

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 9a. Standard errors on employment sector of doctoral scientists and engineers, by field of doctorate: 2001

Employment sector	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1,388.1	144.5	337.9	705.2	214.5	655.7	653.4	480.4	590.8
	Percent								
Education institution.....	0.3	1.9	1.4	0.6	1.7	0.7	0.9	0.8	0.7
Industry.....	0.3	2.0	1.4	0.6	1.7	0.6	0.8	0.9	0.8
Government.....	0.2	S	0.7	0.4	0.9	0.5	0.6	0.5	0.4

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 10a. Standard errors on employer characteristics of doctoral scientists and engineers, by field of doctorate: 2001

Employer characteristic	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1,388.1	339.0	705.2	214.5	655.7	653.4	480.4	590.8
Employer size:	Percent							
Under 10 employees.....	0.2	0.6	0.3	0.9	0.4	0.5	0.8	0.4
10-24 employees.....	0.1	0.4	0.2	S	0.2	0.3	0.3	0.3
25-99 employees.....	0.1	0.5	0.3	0.5	0.3	0.3	0.3	0.3
100-499 employees.....	0.2	0.9	0.4	0.8	0.5	0.6	0.4	0.4
500-999 employees.....	0.1	0.5	0.3	0.6	0.3	0.5	0.4	0.3
1,000-4,999 employees.....	0.2	0.8	0.4	1.0	0.4	0.6	0.5	0.5
5,000 or more employees.....	0.3	1.3	0.6	1.5	0.8	0.9	0.8	0.8
Employer a new business within past 5 years?								
Yes.....	0.2	0.7	0.3	0.7	0.4	0.4	0.4	0.5
No.....	0.2	0.7	0.3	0.7	0.4	0.4	0.4	0.5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 11a. Standard errors on relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate, 2001

Relationship between principal job and doctoral degree	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1,388.1	144.5	337.9	705.2	214.5	655.7	653.4	480.4	590.8
					Percent				
Closely related.....	0.3	2.0	1.4	0.6	1.4	0.8	0.9	0.7	0.8
Somewhat related.....	0.3	1.9	1.1	0.6	1.2	0.7	0.9	0.6	0.7
Not related.....	0.2	S	0.9	0.3	0.7	0.5	0.5	0.3	0.5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 12a. Standard errors on most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 2001

Most important reason	Field of doctorate								
	All fields	Sciences							Engineering
		All sciences	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social and related sciences	Psychology	
Total reporting working outside doctoral degree field (number).....	1,041.2	966.8	238.6	481.9	145.8	512.9	406.5	306.2	448.2
	Percent								
Pay/promotion opportunities.....	1.0	1.0	4.6	1.9	S	2.0	3.0	3.4	2.4
Working conditions.....	0.5	0.6	S	1.2	S	0.9	S	S	S
Job location.....	0.6	0.6	S	S	S	1.0	S	S	S
Change in career or professional interest.....	1.0	1.1	4.5	2.3	S	1.9	3.4	4.1	2.7
Family-related reasons.....	0.6	0.6	S	1.3	S	0.9	S	S	S
Job in doctoral field not available.....	0.9	1.1	3.7	1.9	S	1.8	3.0	3.3	1.9
Other reason.....	0.4	0.4	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 13a. Standard errors on primary or secondary work activity of doctoral scientists and engineers, by years since doctorate: 2001

Primary or secondary work activity	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed (number).....	1,388.1	455.9	668.4	516.4	1,002.7
			Percent		
Applied research.....	0.3	0.7	0.5	0.7	0.7
Basic research.....	0.3	0.5	0.5	0.5	0.6
Development.....	0.2	0.5	0.4	0.5	0.5
Design.....	0.2	0.4	0.3	0.3	0.3
Teaching.....	0.3	0.5	0.5	0.6	0.7
Management, sales, and administration ¹	0.3	0.5	0.5	0.6	0.8
Computer applications.....	0.2	0.5	0.4	0.4	0.4
Professional services.....	0.2	0.5	0.4	0.5	0.5
Other activities ²	0.2	0.3	0.2	0.3	0.4

¹ Category includes: accounting, finance, contracts; employee relations including recruiting, personnel, development, and training; managing, supervising; sales, purchasing, marketing, customer service, public relations; and quality or productivity management.

² Category includes: production operations, maintenance, and other activity.

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 14a. Standard errors on principal occupation of doctoral scientists and engineers, by employment sector: 2001

Principal occupation	Employment sector							
	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit ¹	Self-employed	Private not-for-profit	Federal Government	State/local government
Total employed (number).....	1,388.1	1,953.0	665.2	1,553.5	798.8	742.1	872.9	647.1
					Percent			
Science and engineering occupations.....	0.3	0.4	2.0	0.5	1.3	1.3	1.0	1.7
Computer and information scientists.....	0.1	0.2	S	0.3	0.4	0.5	0.4	S
Mathematical scientists.....	0.1	0.2	0.8	0.1	S	0.4	0.5	S
Life and related scientists.....	0.2	0.4	1.2	0.3	0.6	1.0	1.0	1.3
Physical and related scientists.....	0.2	0.3	1.2	0.3	0.5	0.8	1.0	1.2
Social and related scientists.....	0.1	0.3	0.9	0.2	0.6	0.6	0.7	0.9
Psychologists.....	0.1	0.3	1.6	0.2	1.2	1.2	0.5	1.8
Engineers.....	0.2	0.3	S	0.4	0.8	0.8	0.9	0.9
Non-science and engineering occupations.....	0.3	0.4	2.0	0.5	1.3	1.3	1.0	1.7
Top/mid-level managers, administrators, etc.....	0.2	0.3	1.1	0.4	0.7	1.2	0.9	1.5
Other non-S&E occupations.....	0.2	0.3	1.8	0.4	1.3	1.0	0.6	1.2

¹ 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 15a. Standard errors on principal occupation of doctoral scientists and engineers, by years since doctorate: 2001

Principal occupation	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed (number).....	1,388.1	455.9	668.4	516.4	1,002.7
	Percent				
Science and engineering occupations.....	0.3	0.5	0.4	0.6	0.7
Computer and information scientists.....	0.1	0.3	0.3	0.3	0.3
Mathematical scientists.....	0.1	0.2	0.2	0.2	0.2
Life and related scientists.....	0.2	0.4	0.4	0.4	0.4
Physical and related scientists.....	0.2	0.3	0.3	0.4	0.4
Social and related scientists.....	0.1	0.3	0.2	0.3	0.3
Psychologists.....	0.1	0.3	0.3	0.4	0.3
Engineers.....	0.2	0.4	0.3	0.3	0.4
Non-science and engineering occupations.....	0.3	0.5	0.4	0.6	0.7
Top/mid-level managers, administrators, etc.....	0.2	0.3	0.4	0.5	0.5
Other non-S&E occupations.....	0.2	0.4	0.3	0.4	0.5

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 16a. Standard errors on Federal Government support status of doctoral scientists and engineers who were working in 2000, by field of doctorate: 2001

Support status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 2000 (number).....	1,315.3	132.5	312.9	623.8	210.9	638.4	616.0	428.7	580.7
					Percent				
Received government support.....	0.3	1.8	1.3	0.6	1.5	0.7	0.8	0.7	0.7
No government support.....	0.3	1.8	1.3	0.6	1.5	0.7	0.8	0.7	0.7

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 17a. Standard errors on Federal Government support status of doctoral scientists and engineers who were working in 2000 by employment sector: 2001

Support status	Total	Employment sector in 2001								
		Universities and 4-year colleges	Other educational institutions	Private for-profit ¹	Self-employed	Private not-for-profit	Federal Government	State and local government	Not working in 2001	
Total employed in 2000 (number).....	1,315.3	1,975.0	654.9	1,553.5	784.0	736.5	874.9	645.9	808.0	
				Percent						
Received government support.....	0.3	0.5	1.2	0.4	1.0	1.4	NA	1.9	1.3	
No government support.....	0.3	0.5	1.2	0.4	1.0	1.4	NA	1.9	1.3	

¹ 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: NA = not applicable.

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 18a. Standard errors on Federal agencies and departments supporting work of doctoral scientists and engineers who were working in 2000: 2001

Federal agency or department	All fields
Total that received Federal Government support in 2000 (number).....	1,758.0
	Percent
Agriculture Department.....	0.3
Defense Department (DoD).....	0.5
Department of Education (includes NCES, OERI, FIPSE, FIRST).....	0.2
Energy Department (DOE).....	0.4
Environmental Protection Agency (EPA).....	0.2
Health and Human Services Department (excluding NIH).....	0.3
National Aeronautics and Space Administration (NASA).....	0.3
National Institutes of Health (NIH).....	0.5
National Science Foundation (NSF).....	0.5
Transportation Department (DOT).....	0.2
Other.....	0.4
Don't know source agency.....	0.1

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 19a. Standard errors on academically employed doctoral scientists and engineers,
by field of doctorate and faculty rank: 2001

Faculty rank	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	1,957.0	217.0	430.2	884.2	355.6	740.1	786.7	768.5	754.9
					Percent				
Professor.....	0.5	2.7	1.9	0.8	1.8	1.0	1.1	1.2	1.4
Associate professor.....	0.4	3.5	1.7	0.7	1.7	0.9	1.0	1.1	1.2
Assistant professor.....	0.3	3.0	1.3	0.6	1.9	0.8	0.8	1.1	1.0
Instructor, lecturer, adjunct faculty.....	0.2	S	1.0	0.4	0.9	0.6	0.6	0.7	0.6
Not applicable at institution.....	0.1	S	S	0.2	S	0.4	0.3	0.5	0.4
Not applicable for position.....	0.3	S	0.8	0.7	1.2	0.9	0.6	1.0	0.7

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

**Table 20a. Standard errors on academically employed doctoral scientists and engineers,
by years since doctorate, sex, and faculty rank: 2001**

Sex and faculty rank	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed in academe (number).....	1,957.0	725.0	953.8	964.3	1,023.7
	Percent				
Professor.....	0.5	0.3	0.6	1.1	1.0
Associate professor.....	0.4	0.4	0.8	0.8	0.7
Assistant professor.....	0.3	0.9	0.7	0.4	0.3
Instructor, lecturer, adjunct faculty.....	0.2	0.7	0.4	0.5	0.5
Not applicable at institution.....	0.1	0.3	0.2	0.3	0.3
Not applicable for position.....	0.3	0.9	0.5	0.6	0.5
Male (number).....	1,660.3	601.5	770.2	870.7	945.1
	Percent				
Professor.....	0.6	0.4	0.8	1.3	1.1
Associate professor.....	0.5	0.6	1.0	1.0	0.7
Assistant professor.....	0.3	1.2	0.8	0.4	0.3
Instructor, lecturer, adjunct faculty.....	0.3	0.8	0.5	0.5	0.5
Not applicable at institution.....	0.2	0.4	0.3	0.4	0.4
Not applicable for position.....	0.4	1.2	0.7	0.7	0.5
Female (number).....	965.7	486.8	628.0	479.5	333.2
	Percent				
Professor.....	0.7	0.5	0.9	1.8	2.9
Associate professor.....	0.7	0.5	1.4	1.7	2.1
Assistant professor.....	0.7	1.3	1.2	0.9	S
Instructor, lecturer, adjunct faculty.....	0.5	1.0	0.9	1.1	1.9
Not applicable at institution.....	0.2	0.5	0.4	S	S
Not applicable for position.....	0.6	1.2	0.9	1.3	1.6

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 21a. Standard errors on academically employed doctoral scientists and engineers,
by field of doctorate and tenure status: 2001

Tenure status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	1,957.0	217.0	430.2	884.2	355.6	740.1	786.7	768.5	754.9
	Percent								
Tenured.....	0.4	3.5	1.7	0.8	2.1	1.2	1.0	1.3	1.5
On tenure track.....	0.3	3.0	1.2	0.6	1.6	0.8	0.7	0.8	1.1
Not on tenure track.....	0.3	S	1.1	0.7	1.4	0.8	0.7	0.9	0.8
No tenure system at institution.....	0.2	S	S	0.4	0.9	0.6	0.4	0.7	0.7
No tenure for position.....	0.3	S	1.1	0.7	1.6	1.0	0.8	1.1	0.8

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 22a. Standard errors on academically employed doctoral scientists and engineers,
by years since doctorate, sex, and tenure status: 2001

Sex and tenure status	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed in academe (number).....	1,957.0	725.0	953.8	964.3	1,023.7
			Percent		
Tenured.....	0.4	0.4	0.8	1.0	0.9
On tenure track.....	0.3	0.8	0.7	0.4	0.2
Not on tenure track.....	0.3	0.9	0.6	0.5	0.5
No tenure system at institution.....	0.2	0.5	0.4	0.5	0.5
No tenure for position.....	0.3	0.9	0.6	0.7	0.7
Male (number).....	1,660.3	601.5	770.2	870.7	945.1
			Percent		
Tenured.....	0.5	0.4	1.0	1.1	0.9
On tenure track.....	0.3	1.1	0.8	0.4	0.3
Not on tenure track.....	0.4	1.1	0.6	0.6	0.5
No tenure system at institution.....	0.3	0.7	0.5	0.6	0.5
No tenure for position.....	0.4	1.2	0.7	0.7	0.6
Female (number).....	965.7	486.8	628.0	479.5	333.2
			Percent		
Tenured.....	0.8	0.6	1.3	1.9	2.8
On tenure track.....	0.6	1.3	1.1	0.7	S
Not on tenure track.....	0.6	1.2	1.0	1.2	1.4
No tenure system at institution.....	0.4	0.7	0.6	1.1	S
No tenure for position.....	0.7	1.4	1.1	1.4	2.4

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 23a. Standard errors on primary reason for holding postdoc for doctoral scientists and engineers, by selected field of doctorate: 2001

Reason	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number).....	513.0	397.9	372.2
Primary reason for holding postdoc:		Percent	
Additional training in field.....	1.2	1.6	2.0
Training out of field.....	1.0	1.3	1.6
Work with specific person or place.....	1.2	1.6	2.0
No other employment available.....	1.0	1.3	1.4
Postdoc generally expected for career in this field.....	1.5	1.9	2.3
Other reason.....	0.7	0.9	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 24a. Standard errors on second job status of doctoral scientists and engineers, by employment sector of principal job: 2001

Second job status and occupation	Employment sector of principal job							
	All sectors	Universities and 4-year colleges	Other educational institutions	Private for-profit ¹	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed (number).....	1,388.1	1,953.0	665.2	1,553.5	798.8	742.1	872.9	647.1
	Percent							
Held second job.....	0.2	0.4	1.7	0.3	0.9	1.1	0.8	1.6
No second job.....	0.2	0.4	1.7	0.3	0.9	1.1	0.8	1.6
Total holding second job (number).....	1,204.4	929.7	350.0	599.3	303.3	358.9	303.5	296.7
	Percent							
Occupation of second job:								
Science and engineering occupations.....	0.9	1.2	3.5	2.0	3.7	2.8	4.4	3.5
Computer and information scientists.....	0.4	0.6	S	1.0	S	S	S	S
Mathematical scientists.....	0.3	0.4	S	S	S	S	S	S
Life and related scientists.....	0.5	0.8	2.1	1.0	S	2.1	S	S
Physical and related scientists.....	0.5	0.6	S	1.0	S	S	S	S
Social and related scientists.....	0.5	0.8	S	0.8	S	S	S	S
Psychologists.....	0.8	1.1	3.0	1.5	3.7	3.2	3.1	3.9
Engineers.....	0.5	0.8	S	1.4	S	S	S	S
Non-science and engineering occupation.....	0.9	1.2	3.5	2.0	3.7	2.8	4.4	3.5
Top/mid-level managers, administrators, etc.....	0.4	0.6	S	1.1	S	S	S	S
Other non-S&E occupations.....	0.9	1.2	3.5	2.2	3.6	2.6	4.0	3.4

¹ "Private-for-profit" includes "other" sector, not shown separately due to too few cases.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 25a. Standard errors on relationship between work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 2001

Relationship	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total holding second job (number).....	1,204.4	267.6	554.6	253.3	456.4	535.0	690.6	525.0
	Percent							
Closely related.....	1.0	4.0	2.2	3.6	2.6	2.3	1.3	2.3
Somewhat related.....	0.8	3.3	1.8	3.2	2.3	1.9	1.1	2.0
Not related.....	0.7	S	1.8	2.7	2.4	1.6	0.8	1.8

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 26a. Standard errors on employment changes by doctoral scientists and engineers since 1999, by field of doctorate: 2001

Employment change	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 2001 (number).....	1,388.1	339.0	705.2	214.5	655.7	653.4	480.4	590.8
	Percent							
Not employed in 1999.....	0.1	0.4	0.2	0.5	0.3	0.3	0.3	0.3
No change since 1999.....	0.3	1.2	0.5	1.6	0.6	0.7	0.6	0.7
Change in employer and job.....	0.2	0.8	0.4	1.1	0.4	0.5	0.4	0.5
Change in employer only.....	0.1	0.6	0.3	0.8	0.3	0.3	0.4	0.4
Change in job only.....	0.2	0.7	0.3	0.8	0.3	0.4	0.4	0.4

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 27a. Standard errors on reasons for changing employer and/or job since 1999 for employed doctoral scientists and engineers, by field of doctorate: 2001

Reasons	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total changing employer and/or job (number).....	1,592.4	421.4	755.3	323.4	639.0	511.8	562.5	712.4
	Percent							
Pay or promotion opportunities.....	0.6	2.3	1.2	3.0	1.2	2.0	1.9	1.5
Working conditions.....	0.6	2.6	1.3	3.0	1.4	1.9	1.9	1.3
Job location.....	0.5	2.2	1.2	2.5	1.2	1.8	1.7	1.1
Change in career.....	0.6	2.3	1.1	2.8	1.5	2.0	1.6	1.4
Family-related reasons.....	0.4	1.3	0.8	2.2	1.0	1.3	1.4	0.7
School-related reasons.....	0.4	1.4	0.8	1.9	0.8	1.2	1.2	0.8
Laid off or job terminated.....	0.5	1.9	1.0	2.6	1.1	1.5	1.5	1.2
Retired.....	0.3	S	0.5	S	0.8	1.2	0.8	0.6
Other reason.....	0.2	S	0.3	S	0.5	S	S	0.4

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 28a. Standard errors on professional society or association membership of doctoral scientists and engineers, by field of doctorate: 2001

Number of memberships	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number).....	837.1	125.7	269.1	401.8	121.0	386.9	468.5	218.6	410.7
	Percent								
None.....	0.3	2.0	1.2	0.5	0.9	0.6	0.7	0.6	0.7
One.....	0.3	1.8	1.3	0.4	1.0	0.6	0.7	0.6	0.6
Two.....	0.3	1.9	1.3	0.5	1.3	0.6	0.7	0.8	0.6
Three.....	0.2	1.4	1.0	0.5	1.1	0.5	0.7	0.6	0.5
Four or more.....	0.2	1.1	0.9	0.5	1.4	0.5	0.7	0.7	0.4

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

**Table 29a. Standard errors on work-related training activities of doctoral scientists and engineers,
by field of doctorate: 2001**

Training areas and reasons for taking training	Field of doctorate								
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering	
Total (number).....	837.1	249.2	401.8	121.0	386.9	468.5	218.6	410.7	
				Percent					
Taken work-related training in the past year.....	0.3	1.2	0.6	1.4	0.6	0.8	0.7	0.8	
Did not take work-related training.....	0.3	1.2	0.6	1.4	0.6	0.8	0.7	0.8	
Total taking training (number).....	1,852.2	486.4	978.4	343.6	878.5	796.7	700.3	861.1	
Type of training:				Percent					
Management/supervisor training.....	0.4	1.5	0.8	1.7	0.9	1.1	0.7	0.9	
Training in occupational field.....	0.4	1.5	0.7	1.5	0.9	1.2	0.5	0.9	
General professional training.....	0.3	1.5	0.7	1.5	0.8	1.1	0.7	0.7	
Other work-related training.....	0.2	0.8	0.5	1.0	0.6	0.8	0.4	0.5	
Most important reason for taking training:									
To change occupational field.....	0.1	0.6	0.3	S	0.3	0.4	0.2	0.3	
Further skills in occupational field.....	0.4	1.6	0.8	1.8	1.0	1.1	0.9	1.1	
Licensure/certification.....	0.2	S	0.4	1.3	0.3	0.5	0.8	0.3	
Increase opportunities.....	0.2	0.8	0.3	0.7	0.4	0.5	0.3	0.5	
Learn skills for new position.....	0.2	1.0	0.4	0.9	0.5	0.6	0.3	0.6	
Required or expected by employer.....	0.2	1.1	0.5	1.0	0.7	0.8	0.4	0.6	
Other reasons.....	0.1	S	0.2	S	0.3	0.5	0.3	0.3	

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 30a. Standard errors on continuing education of doctoral scientists and engineers between April 1999 and April 2001, by field of doctorate, 2001

Continuing education	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (Number).....	837.1	125.7	269.1	401.8	121.0	386.9	468.5	218.6	410.7
Courses taken:	Percent								
Took courses.....	0.1	S	0.6	0.3	0.7	0.3	0.4	0.3	0.3
Did not take courses.....	0.1	0.7	0.6	0.3	0.7	0.3	0.4	0.3	0.3
Total taking courses (Number).....	878.2	S	180.4	469.2	164.9	350.4	325.4	311.4	374.3
Reasons for taking courses ¹ :	Percent								
Gain further education before career.....	1.2	S	S	2.3	S	2.8	3.4	3.3	2.7
Prepare for graduate school.....	0.4	S	S	S	S	S	S	S	S
Change academic or occupational field.....	1.4	S	S	2.3	S	3.2	3.3	3.1	3.4
Gain further skills or knowledge.....	1.2	S	7.5	2.5	5.2	3.0	4.2	3.3	3.3
Licensure or certification.....	1.0	S	S	2.1	S	2.3	2.8	3.0	2.1
Increase opportunities for advancement.....	1.4	S	7.5	2.6	6.0	3.0	3.9	3.8	3.2
Required or expected by employer.....	1.0	S	S	2.1	S	2.4	2.9	2.0	2.0
Leisure or personal interest.....	1.3	S	7.1	2.4	5.9	3.2	4.4	3.6	3.0
Other reason.....	0.5	S	S	S	S	S	S	S	S
School-related costs:									
Employer paid costs.....	1.4	S	7.0	2.5	6.4	3.1	3.5	3.4	2.9
Employer did not pay cost.....	1.4	S	7.0	2.5	6.4	3.1	3.5	3.4	2.9
Degree/certificate status:									
Completed degree/certificate.....	0.9	S	S	1.9	S	1.9	S	2.1	2.5
Did not complete degree/certificate.....	0.9	S	5.4	1.9	5.5	1.9	2.5	2.1	2.5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 31a. Standard errors on most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate, 2001

Resource and length of time	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients holding a career path job (number).....	341.9	144.1	235.0	109.6	204.0	191.5	155.3	204.3
Most important job search resource:	Percent							
Faculty or advisor.....	0.9	3.1	2.1	4.4	2.5	2.6	2.0	2.2
Informal channels through colleagues or friends.....	1.0	3.3	1.8	3.8	2.5	2.4	3.2	2.2
Professional meetings and/or journals.....	0.7	S	1.7	S	S	2.7	2.0	1.2
Other resource ¹	1.0	3.8	2.0	4.1	2.7	2.9	2.8	2.3
Length of time between completion of first doctoral degree and first career path job:								
Less than 1 month ²	0.9	3.1	2.1	4.0	2.3	2.4	2.7	2.0
1-6 months.....	0.8	S	1.9	S	2.2	2.1	2.4	1.7
7-12 months.....	0.4	S	0.9	S	S	S	S	S
More than 12 months.....	0.4	S	S	S	S	S	S	S

¹ 'Other resource' includes professional recruiter, college/department placement office, electronic postings, newspapers, direct contact with company, and other.

² Includes those who already held a career path job before completion of doctoral degree.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 32a. Standard errors on factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 2001

Factors limiting career path job search	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients seeking or holding a career path job (number).....	316.2	146.0	219.3	104.3	193.6	189.5	156.5	200.3
Factors that somewhat or greatly limited career path job search:	Percent							
Family responsibilities.....	1.1	3.6	2.3	4.3	2.9	2.9	2.8	2.4
Spouse's career or employment.....	1.0	3.8	2.1	4.1	2.8	3.0	2.9	2.1
Debt from undergraduate or graduate degree(s).....	0.8	3.0	1.5	S	1.9	2.3	2.6	1.7
Desire to not relocate.....	1.0	3.4	2.1	4.4	3.0	3.1	2.9	2.1
Suitable job not available.....	1.0	3.6	1.9	4.3	2.5	2.9	2.8	2.1
Other.....	0.4	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 33a. Standard errors on areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 2001

Areas of doctoral training	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	155.7	69.5	86.8	170.5	92.5	149.1	156.5	151.2	165.1
					Percent				
General problem solving skills.....	0.4	1.8	1.5	0.6	1.5	0.6	1.5	1.1	0.5
Subject matter knowledge.....	0.4	1.7	2.1	0.6	1.2	1.2	1.0	1.1	1.0
Oral communication skills.....	0.6	2.6	3.2	1.0	2.2	1.5	2.3	1.5	1.6
Teaching skills.....	0.9	4.8	4.3	2.0	3.8	2.2	2.6	2.3	2.2
Collaboration and teamwork skills.....	0.8	4.5	4.3	1.4	3.1	1.8	2.6	1.9	1.8
Quantitative skills.....	0.6	2.3	3.8	1.2	1.7	0.9	1.9	1.3	1.0
Writing skills.....	0.5	2.8	4.0	1.2	1.8	1.6	1.5	1.0	1.2
Computer skills.....	0.6	0.9	4.0	1.2	2.5	1.4	2.1	2.3	1.1
Research integrity/ethics.....	0.5	2.9	3.8	1.0	1.7	1.4	1.4	0.8	1.0
Establishing contacts with colleagues in field.....	0.9	4.9	3.5	1.7	3.0	2.4	2.4	2.4	1.9
Management or administrative skills.....	1.0	5.7	4.1	2.0	4.2	2.5	2.5	2.7	2.3

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 34a. Standard errors on top two areas of the doctoral program in which recent doctoral recipients would have liked more training, by field of doctorate: 2001

Areas of doctoral training	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	155.7	116.1	170.5	92.5	149.1	156.5	151.2	165.1
Additional training desired (number).....	361.4	146.2	244.3	121.2	189.2	193.0	189.9	211.9
				Percent				
General problem solving skills.....	0.6	S	1.2	S	S	S	S	1.6
Subject matter knowledge.....	0.8	S	1.6	S	2.3	2.2	2.2	1.7
Oral communication skills.....	0.8	S	1.6	S	2.2	2.0	S	2.1
Teaching skills.....	1.0	S	2.0	4.0	2.4	2.7	2.5	1.8
Collaboration and teamwork skills.....	0.8	S	1.6	S	2.0	2.5	S	1.9
Quantitative skills.....	0.7	S	1.4	S	S	2.7	1.9	S
Writing skills.....	0.8	S	1.7	S	2.3	1.8	S	1.6
Computer skills.....	0.9	S	1.7	S	2.5	2.1	2.4	1.5
Research integrity/ethics.....	0.4	S	S	S	S	S	S	S
Establishing contacts with colleagues in field.....	1.1	4.1	1.7	S	2.6	3.0	3.0	2.3
Management or administrative skills.....	1.1	4.0	2.1	4.3	2.5	2.2	2.9	2.4

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 35a. Standard errors on level of overall satisfaction with doctoral program by recent doctoral recipients, by field of doctorate: 2001

Level of overall satisfaction with doctoral program	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	155.7	69.5	86.8	170.5	92.5	149.1	156.5	151.2	165.1
					Percent				
Very satisfied.....	1.1	5.1	4.8	2.0	4.1	2.5	3.0	2.8	2.2
Somewhat satisfied.....	1.0	5.0	S	2.1	3.9	2.3	2.8	2.7	2.0
Very or somewhat dissatisfied.....	0.5	S	S	1.2	S	1.3	1.8	S	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 36a. Standard errors on level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001

Job attributes and level of satisfaction	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1388.1	144.5	337.9	705.2	214.5	655.7	653.4	480.4	590.8
	Percent								
Salary:									
Very satisfied.....	0.3	2.1	1.4	0.6	1.4	0.6	0.9	0.8	0.7
Somewhat satisfied.....	0.3	2.3	1.4	0.6	1.6	0.7	1.0	0.9	0.7
Somewhat dissatisfied.....	0.3	1.5	1.0	0.5	1.2	0.5	0.7	0.7	0.5
Very dissatisfied.....	0.1	S	0.7	0.3	0.7	0.3	0.5	0.4	0.3
Benefits:									
Very satisfied.....	0.3	2.2	1.5	0.7	1.5	0.7	0.9	0.8	0.7
Somewhat satisfied.....	0.3	2.1	1.5	0.7	1.5	0.7	0.9	0.8	0.8
Somewhat dissatisfied.....	0.2	1.2	0.8	0.4	0.9	0.5	0.6	0.6	0.5
Very dissatisfied.....	0.1	S	0.6	0.3	0.7	0.3	0.4	0.5	0.3
Job security:									
Very satisfied.....	0.3	2.3	1.5	0.6	1.5	0.8	0.8	0.9	0.9
Somewhat satisfied.....	0.3	2.3	1.5	0.6	1.3	0.7	0.8	0.8	0.8
Somewhat dissatisfied.....	0.2	1.5	0.9	0.5	0.9	0.5	0.4	0.6	0.5
Very dissatisfied.....	0.1	S	0.6	0.3	0.8	0.4	0.4	0.4	0.3
Job location:									
Very satisfied.....	0.3	2.2	1.6	0.6	1.5	0.6	0.8	0.9	0.8
Somewhat satisfied.....	0.3	2.1	1.5	0.6	1.4	0.6	0.8	0.8	0.7
Somewhat dissatisfied.....	0.2	1.4	1.0	0.4	0.9	0.5	0.5	0.5	0.5
Very dissatisfied.....	0.1	S	0.4	0.2	0.5	0.3	0.3	0.3	0.2
Opportunity for advancement:									
Very satisfied.....	0.3	2.0	1.2	0.6	1.5	0.7	0.8	0.8	0.7
Somewhat satisfied.....	0.4	2.2	1.4	0.7	1.5	0.8	0.9	0.8	0.8
Somewhat dissatisfied.....	0.3	1.8	1.2	0.6	1.3	0.6	0.7	0.6	0.7
Very dissatisfied.....	0.2	S	0.7	0.4	0.8	0.5	0.5	0.4	0.4
Intellectual challenge:									
Very satisfied.....	0.3	2.4	1.5	0.6	1.7	0.8	0.8	0.8	0.8
Somewhat satisfied.....	0.3	2.1	1.6	0.6	1.6	0.8	0.8	0.8	0.7
Somewhat dissatisfied.....	0.2	1.2	1.1	0.3	0.9	0.5	0.6	0.4	0.5
Very dissatisfied.....	0.1	S	S	0.2	S	0.3	0.3	0.3	0.2
Level of responsibility:									
Very satisfied.....	0.3	2.1	1.4	0.7	1.5	0.7	0.9	0.8	0.7
Somewhat satisfied.....	0.3	2.2	1.2	0.6	1.4	0.7	0.8	0.7	0.7
Somewhat dissatisfied.....	0.2	1.3	1.0	0.4	1.0	0.5	0.5	0.4	0.5
Very dissatisfied.....	0.1	S	S	0.2	S	0.2	0.3	0.2	0.2

See explanatory information and SOURCE at end of table.

Table 36a. Standard errors on level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001

Job attributes and level of satisfaction	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1,388.1	144.5	337.9	705.2	214.5	655.7	653.4	480.4	590.8
					Percent				
Degree of independence:									
Very satisfied.....	0.3	2.1	1.4	0.6	1.4	0.7	0.9	0.7	0.7
Somewhat satisfied.....	0.3	2.0	1.4	0.6	1.4	0.7	0.8	0.7	0.7
Somewhat dissatisfied.....	0.1	1.1	0.7	0.3	0.7	0.3	0.4	0.3	0.4
Very dissatisfied.....	0.1	S	S	0.2	S	0.2	0.2	0.2	0.2
Contribution to society:									
Very satisfied.....	0.3	2.4	1.7	0.6	1.5	0.8	1.0	0.8	0.8
Somewhat satisfied.....	0.3	2.3	1.7	0.6	1.4	0.8	1.0	0.7	0.8
Somewhat dissatisfied.....	0.2	1.3	0.9	0.3	0.6	0.4	0.5	0.3	0.5
Very dissatisfied.....	0.1	S	0.4	0.1	S	0.2	0.2	0.2	0.2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 37a. Standard errors on importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001

Job attributes and level of importance	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1,388.1	144.5	337.9	705.2	214.5	655.7	653.4	480.4	590.8
					Percent				
Salary:									
Very important.....	0.3	2.2	1.5	0.7	1.7	0.7	0.9	0.9	0.8
Somewhat important.....	0.3	2.3	1.5	0.7	1.7	0.7	0.9	0.8	0.8
Somewhat unimportant.....	0.1	S	0.6	0.2	S	0.2	0.4	0.3	0.2
Not important at all.....	0.1	S	S	0.1	S	0.1	0.2	0.1	0.1
Benefits:									
Very important.....	0.3	2.2	1.6	0.6	1.4	0.7	1.0	0.8	0.7
Somewhat important.....	0.3	2.2	1.6	0.6	1.4	0.7	0.9	0.8	0.7
Somewhat unimportant.....	0.1	S	0.6	0.2	0.5	0.2	0.3	0.4	0.3
Not important at all.....	0.1	S	S	0.1	S	0.2	0.3	0.3	0.2
Job security:									
Very important.....	0.3	2.2	1.5	0.7	1.6	0.8	0.9	0.8	0.8
Somewhat important.....	0.3	2.3	1.6	0.7	1.5	0.8	0.9	0.9	0.8
Somewhat unimportant.....	0.2	1.4	0.6	0.3	0.7	0.3	0.4	0.4	0.4
Not important at all.....	0.1	S	S	0.1	S	0.2	0.3	0.2	0.3
Job location:									
Very important.....	0.3	2.3	1.5	0.6	1.5	0.8	0.9	0.9	0.8
Somewhat important.....	0.3	2.2	1.5	0.6	1.5	0.7	0.9	0.9	0.8
Somewhat unimportant.....	0.1	1.0	0.6	0.3	0.5	0.3	0.4	0.3	0.3
Not important at all.....	0.1	S	S	0.1	S	0.1	0.2	0.2	0.1
Opportunity for advancement:									
Very important.....	0.3	2.1	1.5	0.6	1.7	0.6	0.9	0.8	0.6
Somewhat important.....	0.3	2.2	1.5	0.6	1.7	0.7	0.9	0.9	0.7
Somewhat unimportant.....	0.2	1.3	0.9	0.3	0.8	0.4	0.6	0.6	0.4
Not important at all.....	0.1	S	0.6	0.2	0.5	0.2	0.4	0.4	0.3
Intellectual challenge:									
Very important.....	0.3	1.7	1.2	0.6	1.3	0.6	0.7	0.6	0.6
Somewhat important.....	0.3	1.7	1.1	0.5	1.3	0.6	0.7	0.6	0.6
Somewhat unimportant.....	0.1	S	S	0.1	S	0.1	0.2	S	0.2
Not important at all.....	0.0	S	S	S	S	S	S	S	S
Level of responsibility:									
Very important.....	0.3	2.0	1.4	0.7	1.6	0.7	0.9	0.9	0.8
Somewhat important.....	0.3	2.0	1.5	0.6	1.5	0.8	0.9	0.8	0.7
Somewhat unimportant.....	0.2	1.1	1.0	0.3	0.7	0.4	0.5	0.3	0.4
Not important at all.....	0.1	S	0.5	0.1	S	0.2	0.3	0.2	0.2

See explanatory information and SOURCE at end of table.

Table 37a. Standard errors on importance of various job attributes to doctoral scientists and engineers,
by field of doctorate: 2001

Job attributes and level of importance	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number).....	1,388.1	144.5	337.9	705.2	214.5	655.7	653.4	480.4	590.8
					Percent				
Degree of independence:									
Very important.....	0.3	2.2	1.5	0.6	1.2	0.7	0.7	0.6	0.7
Somewhat important.....	0.3	2.1	1.5	0.5	1.2	0.7	0.7	0.6	0.7
Somewhat unimportant.....	0.1	S	0.5	0.2	S	0.2	0.2	0.1	0.2
Not important at all.....	0.0	S	S	S	S	S	S	S	S
Contribution to society:									
Very important.....	0.3	2.2	1.5	0.6	1.4	0.7	0.8	0.8	0.7
Somewhat important.....	0.3	2.2	1.5	0.6	1.3	0.8	0.8	0.8	0.7
Somewhat unimportant.....	0.1	1.4	0.8	0.2	S	0.4	0.3	0.2	0.4
Not important at all.....	0.1	S	0.5	0.1	S	0.2	0.2	0.2	0.2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 38a. Standard errors on number of articles, papers and books authored by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate and employment sector: 2001

Field of doctorate and employment sector	Total number	Number of articles						Number of papers						Number of books					
		None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number
		Percent						Percent						Percent					
All doctoral scientists and engineers.....	837.1	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.0	0.1
Field of doctorate:																			
Computer and information sciences.....	125.7	2.2	1.8	1.6	1.4	0.9	0.2	1.7	1.8	1.7	1.6	1.7	0.5	1.6	1.5	S	S	S	0.0
Mathematical sciences.....	269.1	1.4	1.1	1.1	0.8	0.9	0.2	1.4	1.1	1.2	0.8	0.9	0.2	1.0	1.0	S	S	S	0.0
Biological and agricultural sciences.....	401.8	0.5	0.4	0.4	0.5	0.4	0.1	0.5	0.4	0.5	0.5	0.5	0.1	0.5	0.4	0.2	0.1	S	0.0
Health sciences.....	121.0	1.4	1.1	1.0	1.0	1.2	0.3	1.4	1.0	1.3	1.0	1.3	0.4	1.3	1.2	0.7	S	S	0.1
Physical and related sciences.....	386.9	0.6	0.5	0.5	0.4	0.4	0.1	0.6	0.4	0.5	0.4	0.5	0.2	0.5	0.4	0.2	0.1	S	0.0
Social sciences.....	468.5	0.8	0.7	0.6	0.5	0.4	0.1	0.8	0.6	0.7	0.7	0.7	0.1	0.8	0.8	0.4	0.2	S	0.0
Psychology.....	218.6	0.8	0.5	0.5	0.4	0.4	0.1	0.8	0.6	0.6	0.5	0.5	0.2	0.6	0.5	0.3	0.1	S	0.0
Engineering.....	410.7	0.7	0.6	0.5	0.4	0.4	0.1	0.7	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.2	S	S	0.0
Employment sector:																			
Education institution.....	1,900.6	0.4	0.3	0.4	0.4	0.4	0.1	0.4	0.3	0.4	0.4	0.4	0.1	0.5	0.4	0.2	0.1	0.1	0.0
Industry.....	1,752.7	0.5	0.4	0.3	0.2	0.2	0.1	0.5	0.3	0.4	0.3	0.3	0.1	0.4	0.3	0.1	0.1	0.0	0.0
Government.....	1,072.7	1.0	0.8	0.8	0.7	0.8	0.2	1.0	0.8	0.8	0.9	0.8	0.2	0.9	0.7	0.4	S	S	0.0
Not working.....	1,193.0	0.7	0.6	0.5	0.3	0.2	0.1	0.8	0.6	0.5	0.3	0.3	0.1	0.5	0.5	0.2	S	S	0.0

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 39a. Standard errors on number of articles, papers and books authored by academically employed doctoral scientists and engineers between April 1995 and April 2001, by faculty rank and tenure status: 2001

Faculty rank and tenure status	Total number	Number of articles						Number of papers						Number of books					
		None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number
Total academically employed		Percent						Percent						Percent					
doctoral scientists and engineers.....	1,957.0	0.4	0.3	0.4	0.4	0.4	0.1	0.4	0.3	0.4	0.4	0.5	0.1	0.5	0.4	0.2	0.1	0.1	0.0
Faculty rank:																			
Full professor.....	1,490.6	0.7	0.6	0.7	0.6	0.8	0.3	0.6	0.6	0.6	0.7	0.9	0.3	1.0	0.8	0.5	0.2	0.1	0.1
Associate professor.....	1,029.2	0.9	0.7	0.9	0.8	0.9	0.2	0.7	0.6	0.8	0.8	0.8	0.3	1.0	1.0	0.5	0.3	S	0.0
Assistant professor.....	771.1	0.8	0.8	0.9	0.9	0.8	0.2	0.6	0.6	0.8	0.9	1.0	0.2	0.9	0.9	0.3	S	S	0.0
Instructor/lecturer.....	459.0	2.5	2.0	2.0	1.5	1.3	0.4	2.5	1.9	2.1	1.7	1.5	0.3	1.9	1.9	S	S	S	0.1
Adjunct and other faculty.....	456.4	2.8	2.1	2.2	1.5	1.4	0.3	2.4	2.3	1.9	1.9	2.1	0.5	2.0	1.9	S	S	S	0.0
Rank not applicable.....	907.9	0.9	0.9	1.1	1.0	0.7	0.2	0.9	0.9	1.1	1.0	0.8	0.2	0.8	0.7	0.4	S	S	0.0
Tenure status:																			
Tenured.....	1,589.8	0.6	0.5	0.6	0.5	0.6	0.2	0.5	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.4	0.2	S	0.0
On tenure track.....	719.1	0.8	0.9	1.0	1.0	0.9	0.2	0.6	0.7	0.9	1.1	1.2	0.3	1.0	1.0	0.4	S	S	0.0
Not on tenure track.....	791.3	1.1	1.1	1.2	1.1	1.1	0.3	1.1	0.9	1.3	1.2	1.1	0.3	1.2	1.1	0.6	S	S	0.0
Tenure not applicable.....	1,091.3	0.9	0.8	0.8	0.7	0.6	0.2	0.8	0.8	0.9	0.8	0.8	0.2	0.8	0.7	0.4	0.2	S	0.0

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 40a. Standard errors on patent activities by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate: 2001

Patent activities	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total doctoral scientists and engineers (number).....	837.1	125.7	269.1	401.8	121.0	386.9	468.5	218.6	410.7
	Percent								
Named as inventor.....	0.2	2.0	0.7	0.4	0.7	0.5	0.2	0.2	0.7
Not named as inventor.....	0.2	2.0	0.7	0.4	0.7	0.5	0.2	0.2	0.7
Total named on patent applications (number).....	1,272.8	230.5	212.5	681.7	169.3	690.2	164.5	215.0	769.9
	Percent								
Number of patent applications:									
1-2.....	0.7	4.4	6.1	1.5	5.4	1.4	8.6	6.7	1.1
3-10.....	0.7	4.3	5.9	1.4	S	1.4	S	S	1.2
More than 10.....	0.4	S	S	0.6	S	0.9	S	S	0.8
Number of patents granted:									
None.....	0.7	3.7	5.7	1.4	S	1.2	S	6.8	1.1
1-2.....	0.8	4.2	5.8	1.6	6.4	1.4	S	6.5	1.3
3-10.....	0.7	S	S	1.3	S	1.4	S	S	1.1
More than 10.....	0.3	S	S	S	S	0.7	S	S	0.6
Total with patents granted (number).....	1,151.9	183.3	182.1	583.4	128.4	644.4	S	176.3	705.6
	Percent								
Number of products or licenses:									
None.....	0.9	5.3	S	1.7	S	1.5	S	S	1.5
1-2.....	0.9	5.1	S	1.7	S	1.5	S	S	1.5
More than 3.....	0.7	S	S	1.0	S	1.2	S	S	1.2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTE: Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients