2005 Annual Survey of the Mathematical Sciences in the United States

(Second Report)

Updated Report on the 2004–2005 Doctoral Recipients
Starting Salary Survey of the 2004–2005 Doctoral Recipients

Ellen E. Kirkman, James W. Maxwell, and Colleen A. Rose

This Second Report of the 2005 Annual Survey gives an update of the 2004–2005 new doctoral recipients from the First Report, which appeared in the *Notices of the AMS* in February 2006, pages 230–45. The First Report gave salary data for faculty members in these same departments. It also had a section on new doctoral recipients in statistics that is not updated here.

The 2005 Annual Survey represents the forty-ninth in an annual series begun in 1957 by the American Mathematical Society. The 2005 Survey is under the direction of the Data Committee, a joint committee of the American Mathematical Society, the American Statistical Association, the Institute of Mathematical Statistics, and the Mathematical Association of America. The current members of this committee are Richard Cleary, Amy Cohen-Corwin, Donald M. Davis, Nicholas M. Ercolani, Abbe H. Herzig, Donald R. King, Ellen E. Kirkman (chair), David J. Lutzer, James W. Maxwell (ex officio), Peter March, Polly Phipps, David E. Rohrlich, and Henry Schenck. The committee is assisted by AMS survey analyst Colleen A. Rose. Comments or suggestions regarding this Survey Report may be directed to the committee.

Update on the 2004–2005 Doctoral Recipients

Introduction

The Annual Survey of the Mathematical Sciences collects information each year about degree recipients, departments, faculties, and students in the mathematical sciences at four-year colleges and universities in the United States. Information about recipients of doctoral degrees awarded between July 1, 2004, and June 30, 2005, was collected from doctorate-granting departments beginning in late spring 2005. The "2005 Annual Survey First Report" (Notices, February 2006, pages 230–45) presented survey results about 1,116 new doctoral recipients based on the data provided by the departments. Here we update this information using data obtained from 587 new doctoral recipients who responded to a questionnaire, Employment Experiences of New Doctoral Recipients (EENDR), sent in early October 2005 to all new doctoral recipients. In addition, this report incorporates information on an additional 106 doctoral recipients from departments that responded too late to have the information included in the First Report. Finally, we present the starting salaries and other employment information from the new doctoral recipients that responded to the EENDR questionnaire.

The names and thesis titles of the 2004–2005 doctoral recipients reported on in the First Report were published in "Doctoral Degrees Conferred" (Notices, February 2006, pages 258–76). A supplemental listing of the 106 additional new doctoral recipients appears at the end of this report on pages 785–87.

Updated Employment Status of 2004–2005 Doctoral Recipients

The updated responses rates for the 2005 Survey of New Doctoral Recipients appears on the next page. The total number of departments responding in time for inclusion in this Second Report was 262; 22 more than were included in the 2005 First Report and 10 less than the number responding for

Ellen E. Kirkman is professor of mathematics, Wake Forest University. James W. Maxwell is AMS associate executive director for special projects. Colleen A. Rose is AMS survey analyst.

Highlights

There were 1,222 doctoral recipients from U.S. institutions for 2004–2005, up 141 (13%) from the previous year. This is the highest number of new Ph.D.'s reported since 1994–1995.

The final unemployment rate for 2004–2005 doctoral recipients was 3.9%, comparable to the rates of the last 8 years.

The number of new doctoral recipients who are not U.S. citizens is up 104 over last year's number, and is up 193 (36%) from 2000-2001.

The number of doctoral recipients who are U.S. citizens is 496, up 37 (8%) from last year's number. The percentage of U.S. citizens among all doctoral recipients this year is 41%, down from 42% last year; this is the lowest percentage of U.S. citizens in the six years that the number of doctoral recipients in the Second Report has been broken down by citizenship.

Females totaled 359 (29% of all new doctoral recipients), up in number and down in percentage from 333 (31%) last year. Of the 496 U.S. citizen new doctoral recipients, 141 are female (28%), down in number and percent from last year. The highest percentage of females among the annual counts of doctoral recipients was 34%, reported for 1998–1999.

The number of doctoral recipients whose employment status is unknown is 150, up 31 from last year's number of 119.

Of the 1,072 new doctoral recipients whose employment status is known, 1,018 reported having employment in fall 2005 with 86% (875) finding employment in the U.S.; last year this percentage was 87%.

The number of new doctoral recipients taking positions in U.S. business/industry and government was 176 in fall 2005, a 30% increase from last year's number. The percentage of doctoral recipients employed in the U.S. taking positions in business/industry and government has increased to 20%, from 17% in fall 2004. This increase reverses the trend of five years of decline in this percentage, from 31% in fall 2000.

Doctoral hires into U.S. academic positions are at a six-year high, up by a total of 69 across the combined four-year mathematics departments (Groups I, II, III, M & B) and down by a total of 27 across the other academic reporting categories combined.

Non-U.S. citizens accounted for 59% of those employed in the U.S. (last year this percentage was 58%).

There were 587 new doctoral recipients responding to the EENDR survey; of the 523 who found employment in the U.S., 56% reported obtaining a permanent position (last year this percentage was 49%).

The percentage of temporarily employed respondents who reported taking a postdoctoral position decreased from 77% in fall 2004 to 74% in fall 2005. The number of respondents who reported taking a postdoctoral position in fall 2005 was 172, down from 176 for fall 2004.

Doctorates Granted Departmental Response Rates (updated April 2006)

Group I (Pu)[1]	25 of 25 including	0 with 0 degrees
Group I (Pr)	22 of 23 including	0 with 0 degrees
Group II	56 of 56 including	3 with 0 degrees
Group III	73 of 73 including	22 with 0 degrees
Group IV	66 of 87 including	1 with 0 degrees
Group Va	20 of 23 including	4 with 0 degrees

[1] For definitions of groups see page 784.

inclusion in the 2004 Second Report. Definitions of the varous groups surveyed in the Annual Survey can be found on page 784 of this report.

Table 1A shows the fall and final counts of doctoral recipients in the mathematical sciences awarded by U.S. institutions in each year from 1995 through 2005. This year the total number of new doctoral recipients is 1,222, up from the previous year by 141. A detailed review of the responding departments in 2004 and 2005

Table 1A: Doctoral Recipients: Fall and Final Counts

Year	Fall	Final
1995–1996	1098	1099
1996–1997	1123	1130
1997–1998	1163	1176
1998–1999	1133	1135
1999–2000	1119	1127
2000–2001	1008	1065
2001–2002	948	960
2002–2003	1017	1037
2003–2004	1041	1081
2004–2005	1116	1222

Table 1B: Doctoral Recipients: Citizenship

Year	U.S.	Non-U.S.	**TOTAL**
2000–2001	532	533	**1065**
2001–2002	428	532	**960**
2002–2003	499	538	**1037**
2003–2004	459	622	**1081**
2004–2005	496	726	**1222**

Table 1C: Doctoral Recipients by Type of Degree-Granting Department

	Department Group[1]					
	I (Pu)	I (Pr)	II	III	IV	Va
Number	266	181	222	160	301	92
Percent	22%	15%	18%	13%	25%	8%

[1] For definitions of groups see page 784.

Table 2A: Fall 2005 Employment Status of 2004–2005 Doctoral Recipients: Field of Thesis (updated April 2006)

TYPE OF EMPLOYER		FIELD OF THESIS												TOTAL
		Algebra Number Theory	Real, Comp., Funct., & Harmonic Analysis	Geometry/ Topology	Discr. Math./ Combin./ Logic/ Comp. Sci.	Probability	Statistics/ Biostat.	Applied Math.	Numerical Analysis/ Approxi-mations	Linear Nonlinear Optim./ Control	Differential, Integral, & Difference Equations	Math. Educ.	Other/ Unknown	
Group I (Public)[1]		16	8	13	7	1	0	7	5	2	18	0	1	**78**
Group I (Private)		13	4	16	6	1	1	4	1	1	9	0	0	**56**
Group II		19	9	11	4	3	2	5	6	1	7	1	0	**68**
Group III		3	10	1	9	1	11	2	4	1	3	1	1	**47**
Group IV		0	1	1	0	3	45	2	0	0	0	0	1	**53**
Group Va		1	0	0	0	0	0	4	3	2	2	0	0	**12**
Master's		12	4	5	6	6	15	9	4	2	13	3	0	**79**
Bachelor's		28	18	11	23	1	16	8	8	7	8	5	0	**133**
Two-Year College		3	1	5	3	2	1	1	1	0	0	1	0	**18**
Other Academic Dept.[2]		8	2	1	6	5	57	20	7	1	11	2	0	**120**
Research Institute/ Other Nonprofit		6	1	1	0	1	16	3	1	0	6	0	0	**35**
Government		1	1	1	1	0	15	5	7	3	3	0	0	**37**
Business and Industry		6	3	5	6	8	83	14	2	4	8	0	0	**139**
Non-U.S. Academic		27	9	18	16	4	17	14	8	4	9	1	0	**127**
Non-U.S. Nonacademic		2	1	0	0	3	9	0	1	0	0	0	0	**16**
Not Seeking Employment		3	0	1	1	0	4	1	0	0	2	0	0	**12**
Still Seeking Employment		4	2	3	9	0	9	6	1	1	7	0	0	**42**
Unknown (U.S.)		13	5	8	1	0	20	13	2	4	7	0	0	**73**
Unknown (non-U.S.)[3]		11	3	4	3	2	33	4	4	2	10	1	0	**77**
TOTAL		**176**	**82**	**105**	**101**	**41**	**354**	**122**	**65**	**35**	**123**	**15**	**3**	**1222**
Column	Male	145	66	81	81	34	197	90	47	24	90	5	3	**863**

[1] For definitions of groups see page 784.
[2] These are departments outside the mathematical sciences.
[3] Includes those whose status is reported as "unknown" or "still seeking employment".

Table 2B: Fall 2005 Employment Status of 2004–2005 Doctoral Recipients: Type of Degree-Granting Department (updated April 2006)

		TYPE OF DOCTORAL DEGREE-GRANTING DEPARTMENT						TOTAL	Row Subtotals	
		Group I (Public)	Group I (Private)	Group II Math.	Group III Math.	Group IV Statistics	Group Va Applied Math.		Male	Female
Group I (Public)[1]		36	24	9	4	0	5	**78**	63	15
Group I (Private)		20	33	2	0	0	1	**56**	44	12
Group II		23	15	23	3	2	2	**68**	56	12
Group III		8	1	9	19	10	0	**47**	31	16
Group IV		0	3	2	2	45	1	**53**	30	23
Group Va		1	1	2	0	0	8	**12**	9	3
Master's		17	6	25	17	8	6	**79**	43	36
Bachelor's		26	9	49	33	13	3	**133**	100	33
Two-Year College		3	1	7	5	0	2	**18**	13	5
Other Academic Dept.		11	7	18	13	55	16	**120**	80	40
Research Institute/ Other Nonprofit		7	4	6	1	16	1	**35**	23	12
Government		8	2	6	2	12	7	**37**	20	17
Business and Industry		13	15	17	16	67	11	**139**	100	39
Non-U.S. Academic		45	28	17	13	17	7	**127**	96	31
Non-U.S. Nonacademic		1	4	2	0	9	0	**16**	12	4
Not Seeking Employment		2	3	1	1	4	1	**12**	7	5
Still Seeking Employment		8	8	5	7	6	8	**42**	25	17
Unknown (U.S.)		20	12	10	11	13	7	**73**	54	19
Unknown (non-U.S.)[2]		17	5	12	13	24	6	**77**	57	20
TOTAL		**266**	**181**	**222**	**160**	**301**	**92**	**1222**	**863**	**359**
Column	Male	212	148	172	101	168	62	**863**		

[1] For definitions of groups see page 784.
[2] These are departments outside the mathematical sciences.
[3] Includes those whose status is reported as "unknown" or "still seeking employment".

Table 2C: Field of Thesis of 2004–2005 Doctoral Recipients: by Type of Degree-Granting Department (updated April 2006)

TYPE OF DOCTORAL DEGREE-GRANTING DEPARTMENT	FIELD OF THESIS												TOTAL
	Algebra Number Theory	Real, Comp., Funct., & Harmonic Analysis	Geometry/ Topology	Discr. Math./ Combin./ Logic/ Comp. Sci.	Probability	Statistics/ Biostat.	Applied Math.	Numerical Analysis/ Approxi-mations	Linear Nonlinear Optim./ Control	Differential, Integral, & Difference Equations	Math. Educ.	Other/ Unknown	
Group I (Public)[1]	74	26	39	27	6	11	25	11	8	37	2	0	**266**
Group I (Private)	52	9	41	19	10	2	19	7	3	19	0	0	**181**
Group II	40	25	20	26	13	6	22	21	11	37	0	1	**222**
Group III	10	22	4	22	4	32	21	9	3	20	13	0	**160**
Group IV	0	0	0	0	4	291	3	1	0	0	0	2	**301**
Group Va	0	0	1	7	4	12	32	16	10	10	0	0	**92**
TOTAL	**176**	**82**	**105**	**101**	**41**	**354**	**122**	**65**	**35**	**123**	**15**	**3**	**1222**

[1] For definitions of groups see page 756.

Table 2D: Percentage of Employed New Doctoral Recipients by Type of Employer

	Employed in U.S.		Not Employed in U.S.		NUMBER EMPLOYED
	Academic[1]	Nonacademic	Academic	Nonacademic	
Fall 2001	63%	27%	9%	2 %	**914**
Fall 2002	67%	22%	10%	1 %	**829**
Fall 2003	70%	17%	12%	2 %	**792**
Fall 2004	72%	15%	12%	1 %	**910**
Fall 2005	69%	17%	12%	2 %	**1018**

[1] Includes Research Institutes and other non-profits.

revealed that the departments responding in both 2004 and 2005 reported an increase of 135 new doctoral recipients; hence, the total increase from 2004 to 2005 is not significantly influenced by differences in responding departments between the two years.

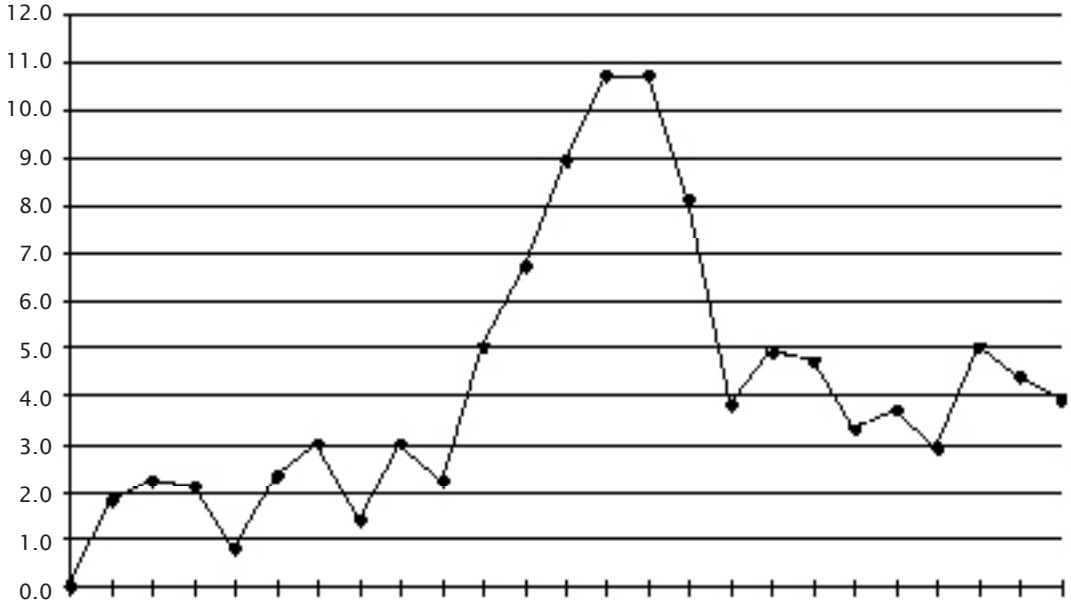
Table 1B shows trends in the number of new doctoral recipients for the past five years broken down by U.S. citizens and non-U.S. citizens. This year the number of new doctoral recipients who are U.S. citizens is 496, an increase of 37 over last year. The number of non-U.S. citizen new doctoral recipients has climbed to 726, a 17% increase over last year.

Table 1C gives a breakdown of the 1,222 doctoral degrees awarded in the mathematical sciences between July 1, 2004, and June 30, 2005, by type of degree-granting department.

Tables 2A, 2B, and 2C display updates of employment data, found in these same tables in the First Report, for the fall count of 2004–2005 doctoral recipients plus 106 -additional doctoral recipients reported late. These tables are partitioned by field of thesis research, by the survey group of their de-

Figure 1: Percentage of New Doctoral Recipients Unemployed[1]

Year	Percentage
1981	0.0
1982	1.8
1983	2.2
1984	2.1
1985	0.8
1986	2.3
1987	3.0
1988	1.4
1989	3.0
1990	2.2
1991	5.0
1992	6.7
1993	8.9
1994	10.7
1995	10.7
1996	8.1
1997	3.8
1998	4.9
1999	4.7
2000	3.3
2001	3.7
2002	2.9
2003	5.0
2004	4.4
2005	3.9



[1] As reported in the respective Annual Survey Second Reports.

Table 3A: New Doctoral Recipients Employed in the U.S.

	Degree-Granting Department Group[1]													
	I (Pu)		I (Pr)		II		III		IV		Va		TOTAL	
	Academic[2]	Business/ Industry &	Academic	Business/ Industry &	Academic	Business/ Industry &	Academic	Business/ Industry &	Academic	Business/ Industry &	Academic	Business/ Industry &	Academic	Business/ Industry &
Fall 2001	159	31	71	19	126	40	80	31	108	96	30	27	574	244
Fall 2002	133	25	86	20	107	27	91	11	102	72	34	24	553	179
Fall 2003	123	24	90	16	118	13	61	10	119	54	40	14	551	131
Fall 2004	118	18	118	18	144	17	73	11	150	61	52	11	655	137
Fall 2005	152	21	104	17	152	23	97	18	149	80	45	19	699	176

[1] For definitions of groups see page 784.
[2] Includes Research Institutes and other non-profits.

gree-granting department, and by type of employer. New doctoral recipients are grouped by field of thesis using the *Mathematical Reviews* 2000 Mathematics Subject Classification list. A complete list of these groups is available on the AMS website at www.ams.org/employment/Thesis_groupings.pdf. At the time of this Second Report, the fall 2005 employment status of 1,072 of the 1,222 doctoral recipients was known.

The fall 2005 unemployment rate for new doctoral recipients, based on information gathered by the time of the Second Report, was 3.9%. Figure 1 presents the fall 1981 through fall 2005 trend in the final unemployment rate of new doctoral recipients. The counts on which these rates are determined do not include those new doctoral recipients whose fall employment status was unknown at the time of the Second Report. This year the number of recipients whose employment status was reported as unknown increased to 150 from 119 last year.

Of the 1,072 new doctoral recipients whose employment is known, 875 were employed in the U.S., 143 were employed outside the U.S., 42 were still seeking employment, and 12 were not seeking employment.

Table 2D presents the trend in the percentage of employed new doctoral recipients by type of employer for the last five years. Academic employment includes those employed by research institutes and other nonprofits. The percentage of the total employed new doctoral recipients that are in U.S. academic positions has dropped after five years of steadily increasing, and concomitantly the percentage of the total employed in U.S. nonacademic positions (U.S. government, U.S. business and industry) has increased after five years of steady decreases.

Among new doctoral recipients who are employed, the percentage taking nonacademic employment varied significantly by field of thesis. For those whose field of thesis is in the first three columns in Table 2A, this percentage is the lowest at 7% (down from 8%), while the percentage for those with theses in probability or statistics is the highest at 36% (up from 26% last year).

Table 3B: New Doctoral Recipients Employed in U.S. Academic Positions

	Hiring Department Group[1]					
	I–III	IV	Va	M&B	Other	**TOTAL**
Fall 2001	214	49	11	178	122	**574**
Fall 2002	222	45	10	148	128	**553**
Fall 2003	216	39	9	158	129	**551**
Fall 2004	220	66	19	172	178	**655**
Fall 2005	249	53	12	212	173	**699**

[1] For definitions of groups see page 784.

Table 3C: Females as a Percentage of New Doctoral Recipients

	Department Group[1]						
	I (Pu)	I(Pr)	II	III	IV	Va	**TOTAL**
% Female							
Produced	20%	18%	23%	37%	44%	33%	**29%**
Hired	19%	21%	18%	34%	43%	25%	**26%**

[1] For definitions of groups see page 784.

Table 3A breaks down the numbers of new doctoral recipients employed in the U.S. in academic positions or in business/industry and goverment by degree granting group shows that the fall 2005 total number of doctoral recipients taking positions in business/industry and goverment is 176; this number reflects an increase of 30% over last year and is the highest number reported since fall 2002. All groups have shown an increase in number of graduates finding employment in business/industry and goverment, except Group 1 Private.

Table 3B shows that the number of new doctoral recipients taking U.S. academic positions has increased to a six-year high of 699, from 655 in 2004. Doctoral hires into U.S. academic positions are up in all groups except Groups IV (down to

Table 3D: Citizenship of 2004–2005 Male Doctoral Recipients by Fall 2005 Employment Status

TYPE OF EMPLOYER	CITIZENSHIP				TOTAL MALE DOCTORAL RECIPIENTS
	U.S. CITIZENS	NON-U.S. CITIZENS			
		Permanent Visa	Temporary Visa	Unknown Visa	
U.S. Employer	283	50	270	9	**612**
U.S. Academic	233	33	219	7	**492**
Groups[1] I, II, III, and Va	92	13	94	4	**203**
Group IV	6	1	23	0	**30**
Non-Ph.D. Department	126	16	91	3	**236**
Research Institute/Other Nonprofit	9	3	11	0	**23**
U.S. Nonacademic	50	17	51	2	**120**
Non-U.S. Employer	21	1	71	15	**108**
Non-U.S. Academic	20	1	65	10	**96**
Non-U.S. Nonacademic	1	0	6	5	**12**
Not Seeking Employment	5	0	2	0	**7**
Still Seeking Employment	5	3	17	0	**25**
Subtotal	314	54	360	24	**752**
Unknown (U.S.)	37	1	10	6	**54**
Unknown (non-U.S.)[2]	4	2	41	10	**57**

[1] For definitions of groups see page 784.
[2] Includes those whose status is reported as "unknown" or "still seeking employment".

Table 3E: Citizenship of 2004–2005 Female Doctoral Recipients by Fall 2005 Employment Status

TYPE OF EMPLOYER	CITIZENSHIP				TOTAL FEMALE DOCTORAL RECIPIENTS
	U.S. CITIZENS	NON-U.S. CITIZENS			
		Permanent Visa	Temporary Visa	Unknown Visa	
U.S. Employer	117	32	111	3	**263**
U.S. Academic	95	26	84	2	**207**
Groups[1] I, II, III, and Va	21	9	27	1	**58**
Group IV	6	3	14	0	**23**
Non-Ph.D. Department	65	11	37	1	**114**
Research Institute/Other Nonprofit	3	3	6	0	**12**
U.S. Nonacademic	22	6	27	1	**56**
Non-U.S. Employer	3	1	23	8	**35**
Non-U.S. Academic	2	1	21	7	**31**
Non-U.S. Nonacademic	1	0	2	1	**4**
Not Seeking Employment	5	0	0	0	**5**
Still Seeking Employment	4	2	11	0	**17**
Subtotal	129	35	145	11	**320**
Unknown (U.S.)	10	4	3	2	**19**
Unknown (non-U.S.)[2]	2	0	15	3	**20**

[1] For definitions of groups see page 784.
[2] Includes those whose status is reported as "unknown" or "still seeking employment".

53 from 66 last year), Va (down to 12 from 19 last year) and Other (down to 173 from 178 last year); the biggest percentage increases are in Group III (38%) and Group B (28%). Doctoral hires into non-U.S. academic positions increased by 18% to 127 from 108 last year.

Table 3C gives information about the production and hiring of female new doctoral recipients in the doctoral-granting departments of this survey. From Table 3C we see that the percentage of females hired ranges from a high of 43% in Group IV, followed by Group III at 34% to a low of 18% in Group II. The percentage of female new doctoral recipients produced is highest in Group IV (44%). The total percentage of females produced and hired has

Table 3F: Number of New Doctoral Recipients Employed in the U.S. by Citizenship and Type of Employer

U.S. EMPLOYER	CITIZENSHIP		TOTAL
	U.S.	Non-U.S.	
Academic, Groups I–Va	125	189	**314**
Academic, M&B, Other	203	182	**385**
Nonacademic	72	104	**176**
TOTAL	**400**	**475**	**875**

decreased from last year's percentages of 31% and 27%, respectively, to this year's 29% and 26%.

Updated Information about 2004–2005 Doctoral Recipients by Sex and Citizenship

Tables 3D and 3E show the sex and citizenship of the 1,222 new doctoral recipients and the fact that 875 new doctoral recipients found jobs in the U.S. this year. This is 82% of the 1,072 new doctoral recipients whose employment status was known and 86% of the 1,018 known to have jobs in fall 2005. Last year these percentages were 82% and 87%, respectively.

Sex and citizenship are known for all of the 1,222 new doctoral recipients. The final count of new doctoral recipients who are U.S. citizens is 496 (41%) (down from 42% last year) this is the lowest percentage of U.S. citizens in the six years that the number of doctoral recipients in the Second Report has been broken down by citizenship. Pages 235–8 of the First Report present further information related to the citizenship of the 2004–2005 new doctoral recipients.

Of the 496 U.S. citizen new doctoral recipients reported for 2004–2005, 141 are female and 355 are male. Females accounted for 28% of the U.S. citizen total (down from 33% last year); the number of female U.S. citizens has decreased by 10 from last year's count of 151, and the number of male U.S. citizens increased by 47 over last year's count of 308.

Table 3F shows that non-U.S. citizens accounted for 58% of those employed in the U.S. (the same as last year). U.S. academic doctoral departments, Groups I through Va, hired 40% U.S. citizens, while groups M, B, and all other academic departments hired 53% U.S. citizens (last year these percentages were 41% and 51%, respectively). U.S. citizens represented 41% of those hired into nonacademic positions (last year 48%). Among all the 875 new 2004–2005 doctoral recipients employed in the U.S., 20% took nonacademic employment (government or business and industry.) This percentage is up from 17% in 2003–2004 and from 19% in 2002–2003.

New Information from the EENDR Survey

Of the 1,116 new doctoral recipients reported in the First Report, the 1,104 whose addresses were known were sent the Employment Experiences of New Doctoral Recipients (EENDR) survey in October 2005, and 587 (53%) responded. The response rates varied considerably among the various subgroups of new doctoral recipients defined by their employment status as reported by departments. Among those who were employed the highest response rate, 70%, was from those employed in the U.S., while the lowest, 39%, was from those in non-U.S. academic.

The EENDR gathered details on employment experiences not available through departments.

Table 4A: Number (and Percentage) of Annual EENDR Respondents Employed in the U.S. by Job Status

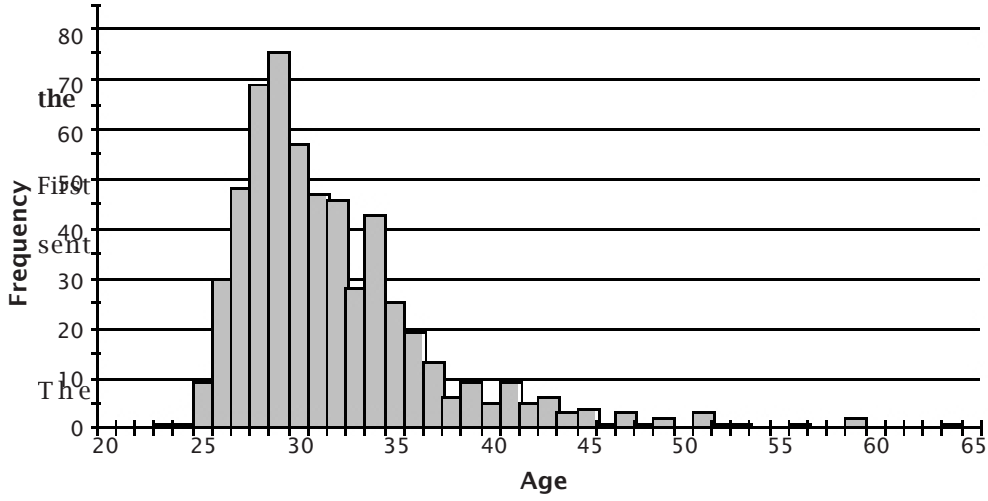
	Employed in U.S.					
	Permanent Total	Tempo-rary Total	Temporary			Unknown
			Permanent not available	Postdoctoral		
				Total	Permanent	
Fall 2001	266(56%)	205(43%)	107(52%)	143(70%)	42(29%)	2
Fall 2002	264(52%)	245(48%)	90(37%)	203(83%)	69(34%)	1
Fall 2003						
Fall 2004	253(54%)	216(46%)	87(40%)	164(76%)	53(32%)	--
Fall 2005						

Table 4B: Percentage of Annual EENDR Respondents Employed in the U.S. by Employment Sector within Job Status

	Employed in U.S.					
	Permanent			Temporary		
	Academic[1]	Government	Business/ Industry	Academic	Government	Business/ Industry
Fall 2001	62%	6%	32%	95%	4%	--
Fall 2002						
Fall 2003	70%	6%	23%	93%	6%	1%
Fall 2004	76%	4%	20%	94%	3%	3%
Fall 2005						

[1] Includes Research Institutes and other non-profits.

Figure 2: Age Distribution of 2004–2005 EENDR Respondents



The remainder of this section presents additional information available on this subset of the 2004–2005 doctoral recipients.

Table 4A gives the numbers and percentages of EENDR respondents taking permanent and temporary positions in the U.S for fall 2001 through fall 2005.

This year we see that among the 523 employed in the U.S., 291 reported obtaining a permanent position and 232 a temporary position. While these numbers both reflect an increase, the number of individuals obtaining permanent positions has reached a five-year high. In addition, the percentage of individuals taking permanent positions has increased to 56%, while the percentage of those taking temporary positions has dropped to 44% (the lowest reported since 43% in 2001). Of the 232 in temporary positions, 92 (40%) reported taking temporary employment because a suitable permanent position was not available, and 172 (74%) classified their position as postdoctoral. Of the 172 respondents taking positions they classified as postdoctoral, 55 (32%) reported that a suitable permanent position was not available.

Table 4B shows the employment trends of permanent and temporary positions broken down by sector for the last five years. Following last year's pattern the percentage of permanently employed EENDR respondents taking employment in academia has declined this year, and there was an offsetting increase in the proportion of permanently employed EENDR respondents taking positions in business and industry.

Among the 291 who reported obtaining a permanent position in the U.S. in fall 2005, 68% were employed in academia (including less than 1% in research institutes and other nonprofits), 5% in government, and 27% in business or industry. Women held 37% of the permanent positions.

Among the 232 individuals with temporary employment in the U.S. this year, 96% were employed in academia (including 9% in research institutes and other nonprofits), 4% in government, and less than 1% in business or industry.

Figure 2 gives the age distribution of the 574 new doctoral recipients who responded to this question. The median age of new doctoral recipients was 30 years, while the mean age was 32 years. The first and third quartiles were 28 and 34 years, respectively.

Previous Annual Survey Reports

The 2005 First Annual Survey Report was published in the *Notices* in the February 2006 issue. For the last full year of reports, the 2004 First, Second, and Third Annual Survey Reports were published in the *Notices* in the February, August, and September 2005 issues respectively. These reports and earlier reports, as well as a wealth of other information from these surveys, are available on the AMS website at `www.ams.org/employment/surveyreports.html`.

Starting Salary Survey of the 2004–2005 Doctoral Recipients

The starting salary figures for 2005 were compiled from information gathered on the EENDR questionnaires sent to individuals who received doctoral degrees in the mathematical sciences during the 2004–2005 academic year from universities in the United States (see previous section for more details).

The questionnaires were distributed to 1,104 recipients of degrees using addresses provided by the departments granting the degrees; 587 individuals responded between late October and April. Responses with insufficient data or from individuals who indicated they had part-time or non-U.S. employment were excluded. Numbers of usable responses for each salary category are reported in the following tables.

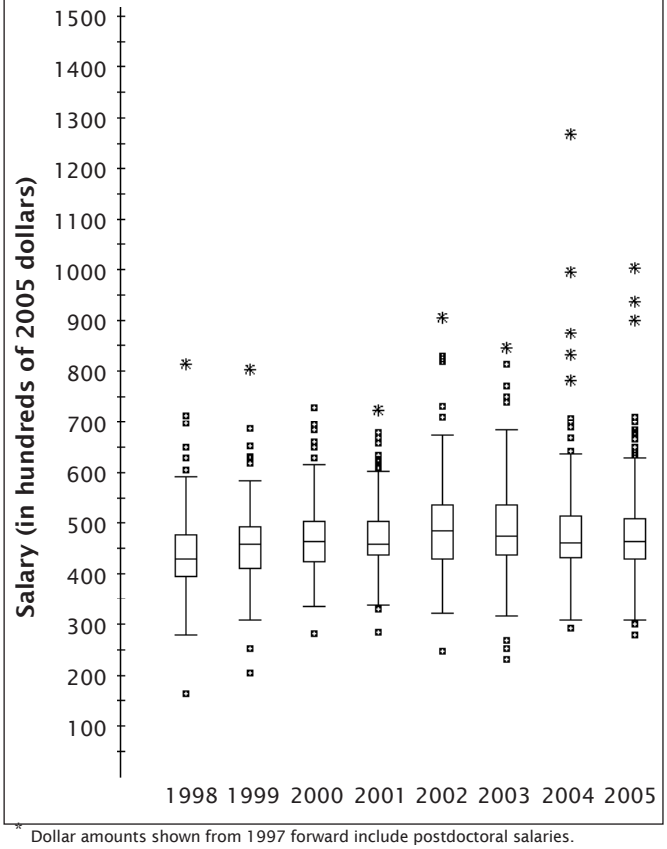
Readers should be warned that the data in this report are obtained from a self-selected sample, and inferences from them may not be representative of the population.

Key to Tables and Graphs. Salaries are listed in hundreds of dollars. Nine-month salaries are based on 9–10 months' teaching and/or research, not adding extra stipends for summer grants or summer teaching or the equivalent. Years listed denote the survey cycle in which the doctorate was received: for example: survey cycle July 1, 2004–June 30, 2005, is designated as 2005. Salaries are those reported for the fall immediately following the survey cycle. M and F are male and female respectively. Some persons receiving a doctoral degree had been employed in their present position for several years, so those who had "one year or less experience" were analyzed separately from the total. Male and female figures are not provided when the number of salaries available for analysis in a particular category was five or fewer. Also, quartile figures are not available for 1970 through 1980. All categories of "Teaching/Teaching and Research" and "Research Only" contain those recipients employed at academic institutions only.

Graphs. The graphs show standard boxplots summarizing salary distribution information for the years 1998 through 2005. Values plotted for 1998 through 2004 are converted to 2005 dollars using the implicit price deflator prepared annually by

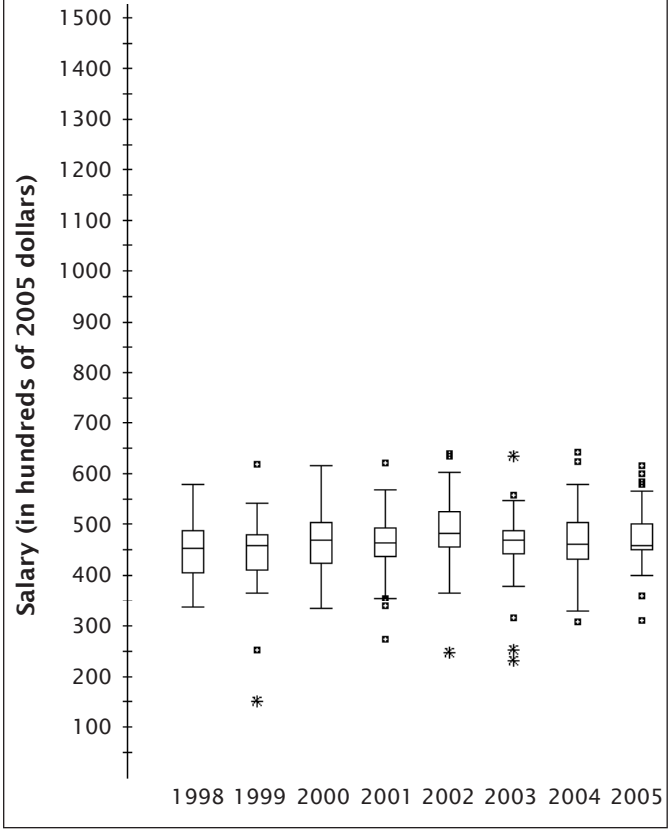
Academic Teaching/Teaching and Research
9–10-Month Salaries*
(in hundreds of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2005 $
1975	90	120	128	135	173	378
1980	105	155	171	185	250	355
1985	170	230	250	270	380	402
1990	230	305	320	350	710	440
1995	220	320	350	382	640	426
1997*	180	340	366	400	840	430
1998	140	340	370	410	700	430
1999	180	360	400	430	700	458
2000	250	380	415	450	650	465
2001	259	400	420	461	660	460
2002	230	400	450	500	840	484
2003	220	415	450	510	920	475
2004	285	420	450	500	1234	462
2005	280	430	465	506	1002	465
2001 M	259	490	430	475	660	
2001 F	310	390	413	443	620	
2002 M	230	420	450	500	840	
2002 F	300	400	441	498	610	
2003 M	220	420	450	509	855	
2003 F	359	414	444	512	920	
2004 M	285	420	450	490	850	
2004 F	300	421	450	500	1234	
Total (161 male/82 female)						
2005 M	300	430	465	510	710	
2005 F	280	430	467	501	1002	
One year or less experience (143 male/72 female)						
2005 M	300	432	470	510	710	
2005 F	280	431	463	500	938	



Academic Postdoctorates Only
9–10-Month Salaries
(in hundreds of dollars)

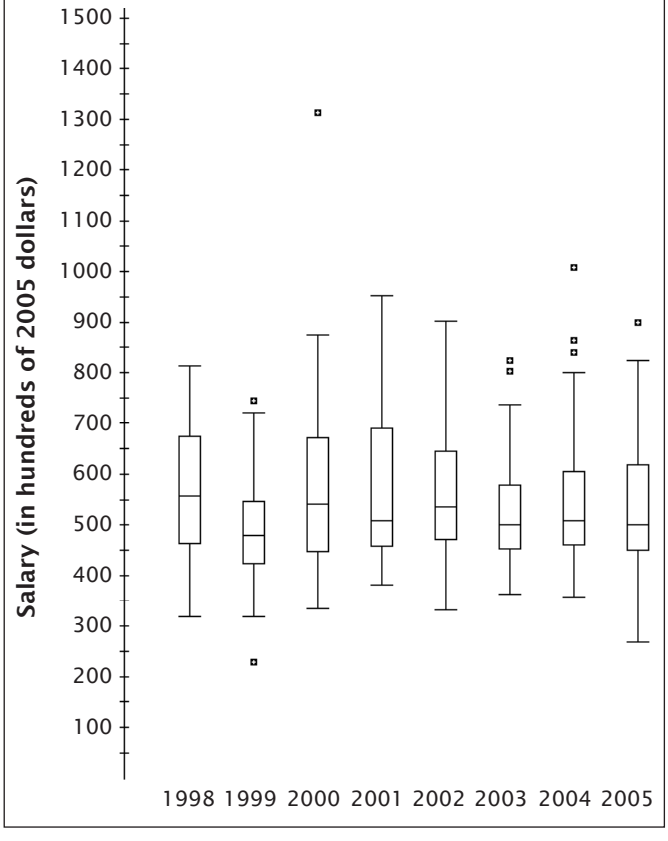
Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2005 $
1997	180	350	385	410	450	452
1998	290	350	390	420	500	453
1999	130	365	400	418	540	458
2000	300	385	420	450	550	471
2001	250	400	425	450	566	465
2002	230	425	450	487	595	484
2003	240	420	450	480	600	475
2004	300	420	450	490	625	462
2005	310	450	460	500	615	460
2001 M	250	400	430	454	566	
2001 F	310	395	421	438	490	
2002 M	230	425	450	488	595	
2002 F	380	430	450	485	589	
2003 M	240	420	450	485	600	
2003 F	359	408	449	459	510	
2004 M	300	420	450	480	625	
2004 F	400	440	470	500	606	
Total (61 male/16 female)						
2005 M	310	450	470	500	615	
2005 F	400	437	450	471	500	
One year or less experience (59 male/16 female)						
2005 M	310	450	470	503	615	
2005 F	400	437	450	471	500	



* Dollar amounts shown from 1997 forward include postdoctoral salaries.

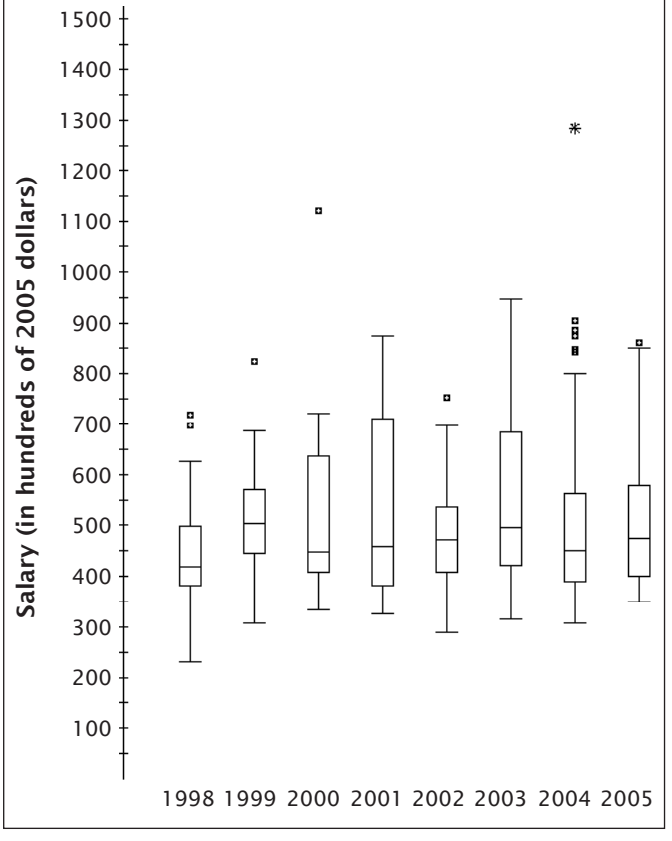
Academic Teaching/Teaching and Research 11–12-Month Salaries (in hundreds of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2005 $
1975	87	---	145	---	204	428
1980	143	---	195	---	350	405
1985	220	230	273	300	470	439
1990	225	318	365	404	670	502
1995	300	354	410	478	600	499
1997	260	370	400	497	650	470
1998	275	405	480	575	700	558
1999	200	374	420	469	650	481
2000	300	400	485	600	1170	544
2001	350	420	465	615	870	509
2002	310	439	500	597	840	538
2003	345	438	475	550	780	501
2004	350	450	495	583	980	509
2005	270	450	500	615	900	500
2001 M	350	420	443	498	870	
2001 F	380	465	588	658	750	
2002 M	310	420	485	595	840	
2002 F	400	453	500	558	700	
2003 M	397	440	490	555	780	
2003 F	345	400	440	513	620	
2004 M	350	448	487	533	980	
2004 F	380	465	545	605	650	
Total (38 male/12 female)						
2005 M	270	455	490	549	900	
2005 F	420	450	570	753	824	
One year or less experience (32 male/11 female)						
2005 M	270	450	480	535	900	
2005 F	420	475	620	755	824	



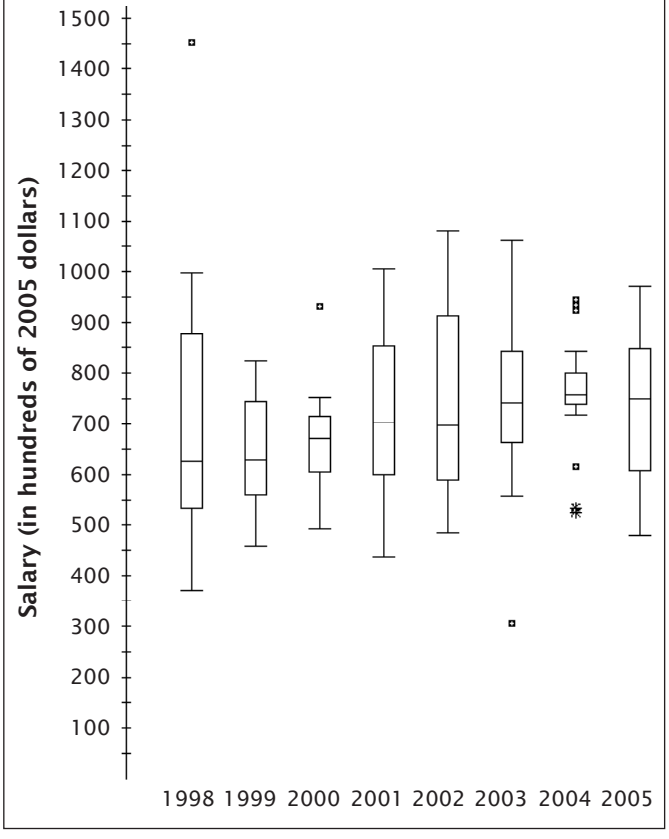
Academic Research Only 11–12-Month Salaries (in hundreds of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2005 $
1975	90	---	119	---	180	351
1980	120	---	180	---	321	373
1985	190	295	342	400	520	550
1990	180	280	300	365	546	412
1995	196	280	340	370	587	414
1997	190	300	350	400	600	411
1998	200	333	360	428	617	418
1999	270	390	440	500	720	504
2000	300	384	400	555	1000	449
2001	300	367	420	625	800	460
2002	270	380	440	500	700	474
2003	300	415	470	613	900	496
2004	300	384	440	543	1250	452
2005	350	400	475	573	860	475
2001 M	300	348	425	655	800	
2001 F	342	400	420	588	700	
2002 M	270	388	440	500	650	
2002 F	310	350	440	505	700	
2003 M	300	420	450	510	820	
2003 F	310	390	480	650	900	
2004 M	300	385	440	640	1250	
2004 F	350	383	440	495	820	
Total (39 male/17 female)						
2005 M	350	410	480	640	860	
2005 F	350	400	470	515	850	
One year or less experience (32 male/17 female)						
2005 M	350	400	465	555	820	
2005 F	350	400	470	515	850	



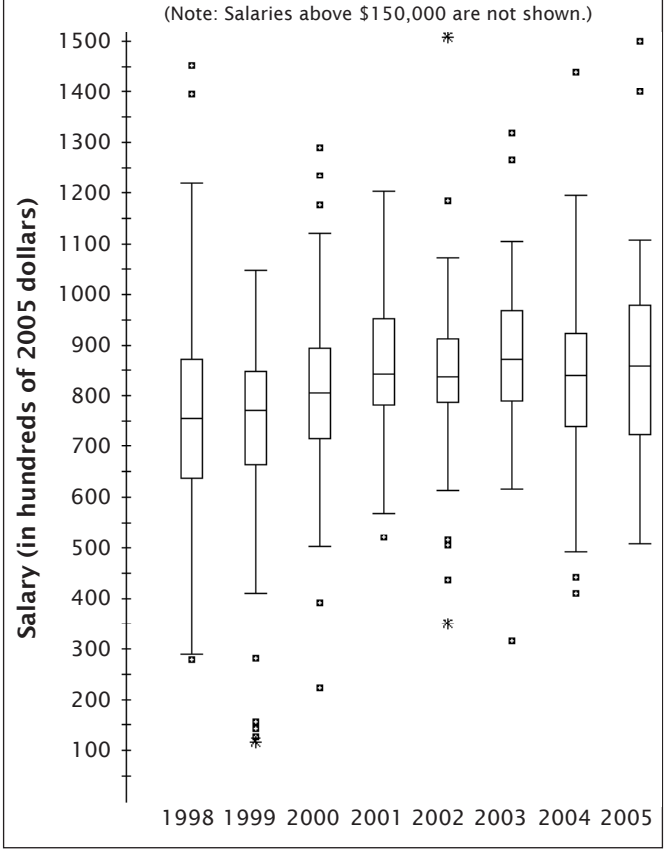
Government
11–12-Month Salaries
(in hundreds of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2005 $
1975	78	---	182	---	247	537
1980	156	---	244	---	501	506
1985	263	294	325	381	440	523
1990	320	345	378	430	587	519
1995	370	440	494	507	650	601
1997	350	454	573	600	750	673
1998	320	475	540	736	1250	628
1999	400	495	550	651	720	630
2000	440	540	600	640	830	673
2001	400	580	644	758	920	705
2002	450	551	650	775	1005	700
2003	290	668	705	763	1008	744
2004	510	720	738	780	920	758
2005	480	610	752	848	972	752
2001 M	400	590	647	780	920	
2001 F	450	550	630	670	896	
2002 M	450	551	642	725	1005	
2002 F	540	600	700	850	880	
2003 M	290	648	710	788	830	
2003 F	600	683	695	723	1008	
2004 M	520	700	730	740	910	
2004 F	510	733	749	790	920	
Total (10 male/11 female)						
2005 M	500	668	790	902	955	
2005 F	480	540	750	770	972	
One year or less experience (10 male/6 female)						
2005 M	500	668	790	902	955	
2005 F	480	538	701	754	972	



Business and Industry
11–12-Month Salaries
(in hundreds of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2005 $
1975	114	---	187	---	240	552
1980	190	---	284	---	400	589
1985	260	360	400	420	493	643
1990	320	438	495	533	700	680
1995	288	480	568	690	1250	691
1997	300	483	600	658	1000	705
1998	240	550	650	750	2250	756
1999	360	600	680	761	2450	779
2000	200	640	720	800	1500	807
2001	475	716	770	865	1850	843
2002	325	734	780	850	1400	839
2003	300	700	800	900	1250	844
2004	400	728	817	900	1800	840
2005	510	755	870	978	2000	870
2001 M	520	717	788	875	1700	
2001 F	475	710	750	850	1850	
2002 M	325	738	782	858	1100	
2002 F	600	713	768	838	1400	
2003 M	550	725	840	920	1250	
2003 F	300	628	780	816	900	
2004 M	400	710	813	900	1800	
2004 F	480	789	850	900	1100	
Total (47 male/15 female)						
2005 M	510	760	930	1005	2000	
2005 F	600	745	860	890	1100	
One year or less experience (36 male/8 female)						
2005 M	510	794	940	1005	2000	
2005 F	650	785	860	900	950	



Definitions of the Groups

As has been the case for a number of years, much of the data in these reports is presented for departments divided into groups according to several characteristics, the principal one being the highest degree offered in the mathematical sciences. Doctoral-granting departments of mathematics are further subdivided according to their ranking of "scholarly quality of program faculty" as reported in the 1995 publication *Research-Doctorate Programs in the United States: Continuity and Change*.[1] These rankings update those reported in a previous study published in 1982.[2] Consequently, the departments which now comprise Groups I, II, and III differ significantly from those used prior to the 1996 survey.

The subdivision of the Group I institutions into Group I Public and Group I Private was new for the 1996 survey. With the increase in number of the Group I departments from 39 to 48, the Data Committee judged that a further subdivision of public and private would provide more meaningful reporting of the data for these departments.

Brief descriptions of the groupings are as follows:

Group I is composed of 48 doctoral-granting departments with scores in the 3.00–5.00 range. Group I Public and Group I Private are Group I doctoral-granting departments at public institutions and private institutions respectively.

Group II is composed of 56 doctoral-granting departments with scores in the 2.00–2.99 range.

Group III contains the remaining U.S. doctoral-granting departments, including a number of departments not included in the 1995 ranking of program faculty.

Group IV contains U.S. doctoral-granting departments (or programs) of statistics, biostatistics, and biometrics reporting a doctoral program.

Group V contains U.S. doctoral-granting departments (or programs) of applied mathematics/applied science, operations research, and management science.

Group Va is applied mathematics/applied science doctoral-granting departments; Group Vb, which is no longer surveyed as of 1998–99, was operations research and management science.

Group M or Master's contains U.S. departments granting a master's degree as the highest graduate degree.

Group B or Bachelor's contains U.S. departments granting a baccalaureate degree only.

Listings of the actual departments which comprise these groups are available on the AMS website at www.ams.org/outreach.

[1] Research-Doctorate Programs in the United States: Continuity and Change, *edited by Marvin L. Goldberger, Brendan A. Maher, and Pamela Ebert Flattau, National Academy Press, Washington, DC, 1995.*

[2] *These findings were published in* An Assessment of Research-Doctorate Programs in the United States: Mathematical and Physical Sciences, *edited by Lyle V. Jones, Gardner Lindzey, and Porter E. Coggeshall, National Academy Press, Washington, DC, 1982. The information on mathematics, statistics, and computer science was presented in digest form in the April* the Bureau of Economic Analysis, U.S. Department of Commerce.

For each boxplot the box shows the first quartile (Q1), the median (M), and the third quartile (Q3). The interquartile range (IQR) is defined as Q3 – Q1. Think of constructing invisible fences 1.5 IQR below Q1 and 1.5 IQR above Q3. Whiskers are drawn from Q3 to the largest observation that falls below the upper invisible fence and from Q1 to the smallest observation that falls above the lower invisible fence. Think of constructing two more invisible fences, each falling 1.5 IQR above or below the existing invisible fences. Any observation that falls between the fences on each end of the boxplots is called an outlier and is plotted as ∘ in the boxplots. Any observation that falls outside of both fences either above or below the box in the boxplot is called an extreme outlier and is marked as in the boxplot.

Acknowledgments

The Annual Survey attempts to provide an accurate appraisal and analysis of various aspects of the academic mathematical sciences scene for the use and benefit of the community and for filling the information needs of the professional organizations. Every year, college and university departments in the United States are invited to respond. The Annual Survey relies heavily on the conscientious efforts of the dedicated staff members of these departments for the quality of its information. On behalf of the Data Committee and the Annual Survey Staff, we thank the many secretarial and administrative staff members in the mathematical sciences departments for their cooperation and assistance in responding to the survey questionnaires.

Other Data Sources

American Association of University Professors, *Inequities Persist for Women and Non-Tenure-Track Faculty: The Annual Report on the Economic Status of the Profession 2004–2005*, Academe: Bull. AAUP (March/April 2005), Washington, DC.

American Statistical Association, *2005–2006 Salary Report of Academic Statisticians*, AmStat News (December 2005), Alexandria, VA.

———, *Salary Survey Results: Biostatistics and Other Biomedical Statistics Departments and Units*, AmStat News (December 2004), Alexandria, VA.

Commission on Professionals in Science and Technology, *Professional Women and Minorities*, 15th ed., CPST, Washington, DC.

———, *Salaries of Scientists, Engineers, and Technicians: A Summary of Salary Surveys*, 21th ed., CPST (November 2005), Washington, DC, 2003.

Conference Board of the Mathematical Sciences, *Statistical Abstract of Undergraduate Programs in the Mathematical Sciences in the United States: Fall 2000 CBMS Survey*, American Mathematical Society, 2002.

_____, *Statistical Abstract of Undergraduate Programs in the Mathematical Sciences in the United States: Fall 1995 CBMS Survey*, MAA Reports No. 2, 1997.

National Opinion Research Center, *Doctorate Recipients from United States Universities: Summary Report 2004*, Survey of Earned Doctorates, Chicago, IL, 2005.

National Research Council, *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, National Academy Press, Washington, DC,2005.

_____, *Strengthening the Linkages between the Sciences and the Mathematical Sciences*, National Academy Press, Washington, DC, 2000.

_____, *U.S. Research Institutes in the Mathematical Sciences: Assessment and Perspectives*, National Academy Press, Washington, DC, 1999.

_____, *Research-Doctorate Programs in the United States: Continuity and Change*, National Academy Press, Washington, DC, 1995.

National Science Board, *Science and Engineering Indicators—2006.* Two Volumes (Volume 1, NSB 06–01; Volume 2, NSB 06–1A), National Science Foundation, Arlington, VA, 2006.

National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States: 2001* (NSF 03–310), Detailed Statistical Tables, Arlington, VA, 2003.

_____, *Graduate Students and Postdoctorates in Science and Engineering: Fall 2003* (NSF 06–307), Arlington, VA, 2006.

_____, *Science and Engineering Degrees: 1966–2001* (NSF 04–311), Detailed Statistical Tables, Arlington, VA, 2004.

_____, *Science and Engineering Degrees, by Race/Ethnicity of Recipients: 1992–2001* (NSF 04–318), Detailed Statistical Tables, Arlington, VA, 2004.

_____, *Science and Engineering Doctorate Awards: 2004* (NSF 06–308), Detailed Statistical Tables, Arlington, VA, 2006.

_____, *Women, Minorities, and Persons with Disabilities in Science and Engineering Data Update* (March 2006). [http://www.nsf.gov/statistics/wmpd/pdf/march2006updates.pdf]

Doctoral Degrees Conferred 2004–2005

Supplementary List

The following list supplements the list of thesis titles published in the February 2006 *Notices*, pages 230–45.

ALABAMA

University of Alabama, Huntsville

(2)

MATHEMATICAL SCIENCES

Park, Thomas, Age structure in epidemic models of vector-borne infections.

Wang, Yan, Acquisition numbers and completion-acquisition numbers.

CALIFORNIA

University of California, Irvine (8)

MATHEMATICS

Koslover, Deborah, Quasiperiodic Jacobi matrices of magnetic orign.

Liu, Chiung-ju, Banodo-Futaki invariants on hypersurfaces and Tian-Yau-Zelditch expansions.

Nakamura, Remi, MLE of parameters in the drifted Brownian motion and its error.

Rooze, Matthew, The use of unabounded activation functions in neural networks and neural network approaches to nuisance parameter problems.

Sadovsky, Alexander, A biodynamical study of epidermal wound repair in embryos.

Schulteis, Melinda, Continuity of the Lyapunov exponent for quasiperiodic Jacobi matrices.

Sinek, John, Integrated multi-scale modeling of therapeutics delivery to cancerous lesions.

Xiaoming, Zheng, Adaptive finite-element/level-set methods of free boundary problems: applications to multiphase flows and reaction-diffusion models of tumor growth.

University of California, Santa Cruz

(3)

MATHEMATICS

Bass, Jamey, A Calabi-Yau analogue of the Dedekind Eta function.

Raske, David, Q-curvature on closed Riemannian manifolds of dimension greater than four.

Moura, Francisco, Three novel clustering algorithms and their application to microarray encephalogram data.

Stanford University (7)

MATHEMATICS

Adams, Tarn, Flat chains in Banach spaces.

Godin, Veronique, A category of bordered fat graphs and the mapping class group of a bordered surface.

Grueneberg, Michel, The Yamabe flow on three-manifolds.

Kim, Byoung-Du, The parity conjecture and algebraic functional equations for elliptic curves at primes with supersingular reduction.

Lee, Dan Archibald, Connected sums of special Lagrangian submanifolds.

Shi, Danzhu, Capillary surfaces at a re-entrant corner.

Zhu, Ke, Degeneration of the moduli space of J-holomorphic discs and Legendrian contact homology.

CONNECTICUT

Yale University (7)

MATHEMATICS

Brenner, Eliot Philip, Grenier Domains for arithmetic groups and associated tilings.

Ershov, Mikhail V., On finite presentability of some pro-p groups on related questions

Kim, Sangjib, Standard monomial theory for flag algebras.

Salmasian, Hadi, A new notion of rank for unitary representation based on Kirillov's orbit method.

Samuels, Beth Sharon, Ramanujan complexes, their non-uniform quotients, and isospectrality.

Schul, Raanan, Subsets of rectifiable curves in Hilbert space and the analyst's TSP.

MASSACHUSETTS

Harvard University (8)

MATHEMATICS

Green, Peter, Geometricity of local p-adic representations.

Grigorov, Grigor, Kato's Euler system and the main conjecture.

Kaplan, Jonathan, Morphlets; a multiscale representation for diffeomorphisms.

Khosla, Deepak, Moduli spaces of curves with linear series and the slope conjecture.

Lef, Edward, A modular non-rigid Calabi-Yau threefold.

Mast, Jerrel, Pseudoholomorphic punctured spheres in the symplectization of a quotient.

Mohta, Vivek, Applications of Chiral perturbation theory.

Neel, Robert, The heat kernel at the cut locus.

MICHIGAN

Western Michigan University (5)

MATHEMATICS

Chaiyakarn, Archara, Structure preserving algorithms for computing the symplectic singular value decomposition.

Gera, Ralucca M., Stratification and domination in graphs and digraphs.

Noh, Jihwa, An investigation of secondary teachers' knowledge of rate of change in the context of teaching a standard-based curriculum.

Pacheenburawana, Pariwatana, Global optimality conditions in mathematical programming and optimal control.

Shafer, Kathryn, Two high school teachers' initial use of geometer's sketchpad: Issues of implementation.

MINNESOTA

University of Minnesota, Minneapolis (10)

MATHEMATICS

Alexandrov, Oleg, Wave Propagation in optical fibers analysis and optimization.

Cho, Sungwon, Boundary behavior of solutions to second order elliptic and parabolic equation.

Erban, Radek, From individual to collective behavior in biological systems.

Galbraith, Michael, Geometric optics, convex functions, Carleman estimates and interfaces in the boundary control of the wave equation.

Hall, John, Combinatorial deformations of the full transformation semigroup.

Han, Young Ae, An efficient solver for problems of scattering.

Kang, Minchul, Temporal and spatial aspects of calcium dynamics in astrocyles.

Tarfulea, Nicolae, Constraint preserving boundary conditions for hyperbolic formulations of Einstein's equations.

Yenikaya, Bayram, Adapative methods for Hamilton-Jacobi equations.

Zhang, Jian, Scattering problems in inhomogeneous scalar wave equation.

MISSOURI

University of Missouri, Columbia (6)

MATHEMATICS

Batchenko, Volodymyr, On the spectra of Schrödinger and Jacobi operations with complex-valued quasi-peridoc algebra-geometric coefficients.

Bilyk, Dmytro, Distributional estimates for multilinear operatiors.

Cramer, David, Fredholm determinants and the Evans function.

Honzik, Petr, Maximal operators associated with Fourier multipliers.

Luo, Shangzhen, Filtering of hidden weak Markov chain and its application to finance.

Mayboroda, Svitlana, The Poisson problem in Lipschitz domains.

NEW JERSEY

Rutgers University, Graduate School (6)

STATISTICS

Ganning, Kenneth, An examination of the mean and quantiles from a relational system with a fixed just unnoticeable difference representation.

Grothendieck, John, Tracking changes in language.

Heath, Susan, A new model for wireless telephony.

Lakshminarasimhan, Ramprasath, Statistical options-crash resistant financial contracts based on robust location estimators.

Wang, Hongwei, Selected topics in longitudinal data analysis and modeling.

Xia, Qi, Exact methods applied to group sequential and other stratified comparative Poisson designs.

NEW York

Courant Institute, New York University (14)

MATHEMATICS

Apfaltrer, Felix, Population density methods in 2 spatial dimensions and application to neural networks with realistic synapitc kinetics.

Siefring Richard, Intersection theory of finite energy surfaces.

Eng, David, Scaling limits of random Schrodinger equations.

Feng, Fan-Fu, On the totally asymptotic zero range process.

Kobre, Elisha, Rates of diffusion in dynamical systems with random groups.

Rottenstreich, Sivan, Error bounds for the weak coupling Schrodinger equation.

Sun, Rongfeng, Convergence of coalescing nonsimple random walks to the Brownian web.

Wendl, Chris, Finite energy foliations and surgery on transverse links.

Cascini, Paolo, On the cotangent bundle of a projective variety.

Ko, Yueh Joy, Partially regular and singular solutions to the Landau-Lifshits (Gilbert) equations.

McGahagan, Helena, Some existence and uniqueness results for Schrodinger maps and Landau-Lifshitz equations.

Oliveira, Roberto, Preferential attachment.

Zygouras, Nikolaos, Limit Theorems: for a periodically or randomly driven semilinear equation.

Papazoglu-Statescu, Oana, Maximizing the expected utility of final time wealth with little trading.

Polytechnic University (1)

MATHEMATICS

Pistoia, Marco, A unified mathematical model for stack- and role-based authorization systems.

Syracuse University (1)

MATHEMATICS

John, Thomas, Selection procedures for lognormal populations.

TEXAS

Rice University (6)

COMPUTATIONAL AND APPLIED MATHEMATICS

Castillo, Zenaida, A new algorithm for continuation and bifurcation analysis of large scale free surface flows.

Nguyen, Hoang, Domain decomposition methods for linear-quadratic elliptic optimal control problems.

Padula, Anthony, Software design for simulation driven optimization.,

Teng, Cong, Model reduction of second linear dynamical systems.

Vincent-Finely, Rachel, A reduced basis method for molecular dynamics simulation.

Wrightman, Jennifer, Approximation and computation of the solution to the magneto-ionosphere coupling equation via mixed formulation.

Southern Methodist University (4)

STATISTICAL SCIENCE

Carmack, Patrick, Recursive partitioning in spatially correlated data.

Liu, Yushan, On estimation of the number of multinomial cells from cluster sampling.

Wang, Zhu, The application of the Kalman filter to nonstationary time series chirp process through exponential transformation.

Shen, Shuyi, Minimum L_2 estimation for Poisson mixtures.

WASHINGTON

University of Washington(6)

BIOSTATISTICS

Bergemann, Tracy Lee, Image analysis and signal extraction from cDNA microarrays.

Buzkova, Petra, Marginal regression analysis of longitudinal data with irregular, biased sampling.

Chen, Lu, Semiparametric analysis of failure time data from case-control family studies on candidate genes.

Haneuse, Sebastein, Ecological studies using supplemental case-control data.

Liu, Hao, Semiparametric marginal mean models for multivariate counting processes.

Zhang, Zheng, Semiparametric least-squares analysis of the receiver operating characteristic curve.

WISCONSIN

University of Wisconsin, Madison (13)

MATHEMATICS

Benesh, Bret, Counting generators in finite groups that are generated by two subgroups of prime power order.

Taylor, Paul, Bochner-Riesz means with respect to a rough distance function.

Chatterjee, Rohit, On class polynomials and supersingular j-invariants.

Cossey, James, Generalizations of the Fong Swan Theorem.

Sutherland, Jamie, Values in university mathematics placement practice.

Stefansson, Narfi, The structure of sparse representations of images using tight frames.

El-Guindy, Ahmad, Weierstrass point on modular curves.

Halfpap, Jennifer, Contributions to the theory of the holomorphic extension of CR functions.

Laghi, Norberto, A topics in the regularity theory of fourier integral operators.