

Table 1: Faculty Attrition,¹ Fall 2003

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Full-time faculty who retired or died										
Total number (Standard error)	33	8	72	61	11	184	119 (8)	222 (33)	525 (34)	26
Percentage	1.9	1.0	2.9	2.9	3.3	2.4	2.9	2.5	2.6	1.8

¹ Number and percentage of full-time faculty who were in the department in fall 2002 but were reported to have retired or died by fall 2003.

Faculty Profile

The Departmental Profile, sent in fall 2003 to mathematical sciences departments at four-year colleges and universities as part of the Annual Survey, gathered information about faculties at these schools, which is reported in this section. The 2003 First Report presented data collected earlier about faculty salaries (pages 218–33 of the February 2004 issue of the *Notices of the AMS*.)

Faculty Attrition

Table 1 displays losses of full-time mathematical sciences faculty due to retirements and deaths. The fall 2003 mathematics faculty attrition rate for Groups I, II, III, Va, M, and B combined is 2.6%. Figure 1 shows the trend in the attrition rate for these departments during the years 1988 to 2003. After a significant increase from 1997 to 1998, the overall rate has remained relatively stable over the last five years. However, the rates vary quite a bit from group to group and from year to year within each of the groups. For fall 2003, Group I Private had

Figure 1: Percent of Full-Time Doctoral Faculty Who Retired or Died in Groups I, II, III, Va, M, & B, Fall 1988 to Fall 2003

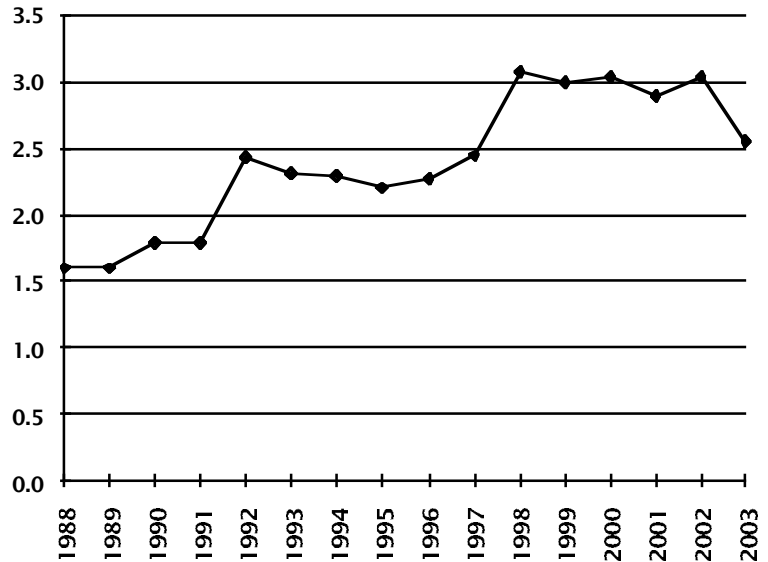


Table 2A: Recruitment of Doctoral Faculty, Fall 2003

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Posted Doctoral Positions										
Total number ¹ (Standard error)	135	114	128	133	22	532	308 (27)	664 (67)	1504 (72)	134
Tenured/tenure-track	64	43	72	104	13	296	242	470	1007	90
Open to new doctoral recipients	101	74	103	105	15	398	273	631	1302	91
Tenured/tenure-track	38	7	52	78	8	183	242	444	869	59
Open at assoc/full level	17	24	22	34	11	108	59	103	269	38
Reported Hires for Above										
Total number	117	105	117	101	14	454	241	563	1258	93
Male doctoral hires	94	84	73	78	13	342	122	375	839	62
Tenured/tenure-track	41	29	45	57	5	177	100	247	524	44
Female doctoral hires	22	18	27	17	1	85	66	125	277	29
Tenured/tenure-track	12	3	15	12	1	43	62	94	200	19
Male temporary hires	1	3	13	5	0	22	23	23	67	2
Female temporary hires	0	0	4	1	0	5	30	39	75	0
Total new doctoral hires	59	49	40	24	2	174	67	143	384	43
Male new doctoral hires	49	39	30	20	1	139	38	93	270	25
Tenured/tenure-track	4	5	5	13	0	27	32	68	127	19
Female new doctoral hires	10	10	10	4	1	35	29	50	114	18
Tenured/tenure-track	1	0	0	4	1	6	29	31	66	10
Unfilled positions	18	9	11	32	8	78	67	101	246	41

¹ Number of full-time doctoral positions under recruitment in 2002–2003 to be filled for 2003–2004.

the lowest attrition rate at 1%, while Group Va the highest at 3.3%.

Faculty Recruitment

Table 2A contains detailed information on the number of full-time doctoral faculty positions in mathematical sciences departments under recruitment in 2002–2003 for employment beginning in the academic year 2003–2004. Among mathematics departments (Groups I, II, III, Va, M, and B), 1,504 positions were under recruitment in 2002–2003 for employment beginning in the academic year 2003–2004, down 19% compared to last year. Of those 1,504 positions, 1,302 (87%) were available to new doctoral recipients, and of those 1,302 positions, 869 (67%) were tenured/tenure-track positions. The 869 tenured/tenure-track positions open to new doctoral recipients is down 23% from the

1,124 such positions under recruitment in 2001–2002; in Groups M and B combined the total number of tenured/tenure-track positions open to new doctoral recipients dropped from 851 last year to 686 this year (a 19% drop), and in Groups I, II, III, Va combined this number dropped from 272 to 183 (a 33% drop). The total number of tenured/tenure-track full-time doctoral positions under recruitment in Groups I, II, III, Va, M, and B combined is 1,007, down from last year's 1,320 (a drop of 24%). In Groups I, II, III, and Va combined, the total number of posted doctoral positions open at the associate/full level dropped from 159 last year to 108 this year.

Table 2B condenses the information in Table 2A. It also reorganizes the doctoral hires into one section for new doctoral hires and another for other doctoral hires (so excludes posted doctoral positions that were temporarily filled with a person without a doctorate). Table 2C is derived from Table 2B with the percentage of the filled positions that were tenured/tenure-track included in the table.

From Table 2B we find that the total number of full-time doctoral positions filled in mathematics departments (Groups I, II, III, Va, M, and B combined) is down to 1,116 from 1,319 last year (a decrease of 15%) mainly because the number of full-time doctoral hires in Groups I, II, III, Va combined is down 28%. This year Groups I, II, III, and Va combined filled 427 doctoral positions, of which 220 (52%) were tenured/tenure-track positions. Last year these same groups filled 593 doctoral positions, of which 254 (43%) were tenured/tenure-track. Groups M and B combined filled 689 doctoral positions this year, and 504 (73%) of these were tenured/tenure-track positions. Last year these two groups filled 725 doctoral positions, of which 528 (73%) were tenured/tenure-track.

Beginning with the 2003 Annual Survey, departments were asked to report the number of tenured/tenure-track positions filled by individuals who held a postdoctoral appointment the previous year. For Groups I, II, III, and Va combined, 93 (42%) of the 220 tenured/tenure-track positions filled were filled by such individuals. For Groups M and B combined, 188 (37%) of the 504 tenured/tenure-track positions filled were filled by such individuals.

This year there are fewer new doctoral hires in mathematics departments, but more not-new doctoral hires in Groups M and B combined. The estimated total number of new doctoral hires in mathematics departments is down 38% (384 from 623) this year from last year; it is down 44% (to 174 from 309) in Groups I, II, III, Va combined, and down 33% (to 210 from 314) in Groups M and B combined. The number new doctoral tenured/tenure-track hires is down 43% (193 from 337); it is down 58% (to 33 from 79) in Groups I, II, III, Va com-

Table 2B: A Summary of Recruitment of Doctoral Faculty, Fall 2003

	GROUP		
	I, II, III, & Va	M & B	IV
Posted Doctoral Positions			
Total number	532	972	134
Tenured/tenure-track	296	712	90
Open to new doctoral recipients	398	905	91
Tenured/tenure-track	183	686	59
Reported Hires for Above			
Total new doctoral hires ¹	174	210	43
Tenured/tenure-track	33	160	30
Male	139	131	25
Tenured/tenure-track	27	100	19
Female	35	79	18
Tenured/tenure-track	6	60	10
Total other doctoral hires	253	479	48
Tenured/tenure-track	187	344	34
Male	203	367	38
Tenured/tenure-track	150	247	25
Female	50	113	10
Tenured/tenure-track	37	97	9

¹ New doctoral hires are individuals who've held a doctorate for less than one year at the time of hiring.

Table 2C: Percentage Tenured/Tenure-Track for Positions Posted and Filled, Fall 2003

	GROUP		
	I, II, III, & Va	M & B	IV
Positions opened to			
New doctoral recipients	398	905	91
% tenured/tenure-track	46	76	65
Positions filled by			
New doctoral Recipients	174	210	43
% tenured/tenure-track	19	76	69
Positions filled by			
Not-new doctoral recipients ¹	253	479	48
% tenured/tenure-track	74	72	70

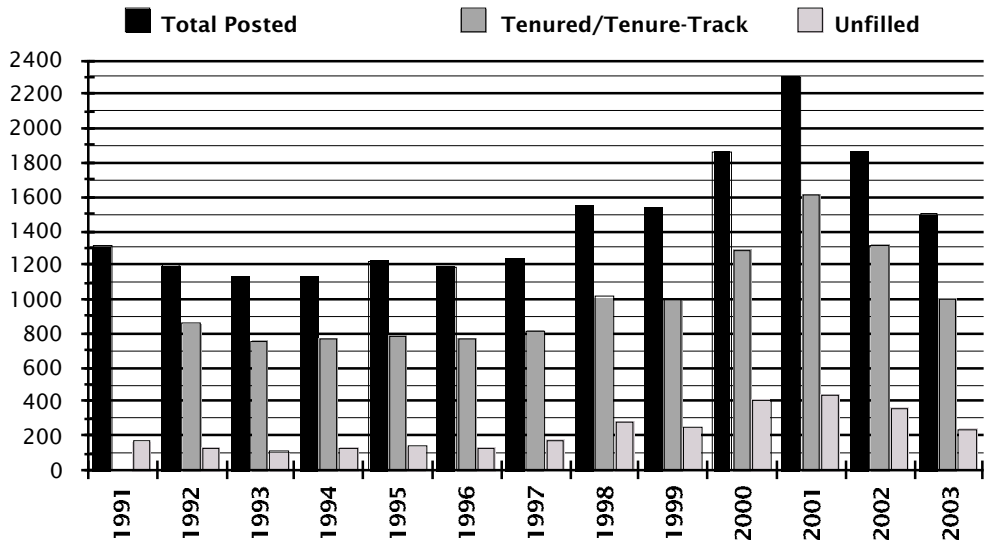
¹ Not-new doctoral recipients are individuals who've held their doctorate for more than one year at the time of hiring.

bined, and down 38% (to 160 from 258) in Groups M and B combined.

The estimated number of not-new doctoral hires in mathematics departments is up 5% to 732 from 695 last year (this number is up in Groups M and B combined, and down in Groups I, II, III, Va combined). The estimated total of not-new doctoral hires into tenured/tenure-track positions is up in Groups I, II, III, and Va combined (187 from 175 last year) and up in Groups M and B combined (344 from 270 last year a 27% increase over last year).

From Tables 2B and 2C we can compare the hiring patterns of Groups I, II, III, and Va with that of Groups M and B. In Groups I, II, III, and Va 41% of the positions hired went to new doctoral recipients (last year 52%), while in Groups M and B 31% of the posi-

Figure 2: Number of Full-Time Doctoral Positions under Recruitment: Total, Tenured/Tenure-Track, and Unfilled in Groups I, II, III, Va, M, & B Combined, Fall 1991 to Fall 2003



Note: The tenured/tenure-track status of positions under recruitment was not surveyed until 1992.

Table 3A: Total Faculty, Fall 2003

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Total full-time faculty <i>(Standard error)</i>	1758	969	2452	2076	323	7578	4101 <i>(134)</i>	8742 <i>(320)</i>	20421 <i>(347)</i>	1482
Doctoral full-time faculty	1700	964	2159	1771	308	6902	3285	6632	16819	1430
Tenured	1143	556	1545	1264	172	4680	2283	4117	11080	796
Untenured, tenure-track	158	76	277	337	32	880	772	2055	3707	307
Postdoctoral appointments	253	170	168	52	69	712	21	74	807	91
Other non-tenure-track <i>(Standard error)</i>	146	162	169	118	36	631	208 <i>(29)</i>	386 <i>(51)</i>	1225 <i>(58)</i>	236
Nondoctoral full-time faculty	58	5	293	305	15	676	816	2110	3602	52
Total part-time faculty <i>(Standard error)</i>	194	52	390	715	38	1389	1952 <i>(211)</i>	3997 <i>(259)</i>	7338 <i>(335)</i>	263

Table 3B: Female Faculty, Fall 2003

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Female full-time faculty <i>(Standard error)</i>	240	105	463	456	49	1313	1217 <i>(74)</i>	2666 <i>(135)</i>	5195 <i>(153)</i>	401
Doctoral full-time faculty	204	103	287	284	41	919	752	1698	3370	372
Tenured	77	28	119	145	18	387	440	921	1748	130
Untenured, tenure-track	28	6	61	95	4	194	237	685	1116	118
Postdoctoral appointments	52	36	37	4	14	143	3	0	146	32
Other non-tenure-track	47	33	70	40	5	195	73	92	360	92
Nondoctoral full-time faculty	36	2	176	172	7	393	464	967	1825	30
Female part-time faculty	70	5	137	262	10	484	720	1672	2875	99

Table 3C: Number and Percentage of Full-Time Faculty, Fall 2003

	GROUP								TOTAL
	I Public	I Private	II	III	Va	M	B	IV	
Full-Time Faculty									
Number	1758	969	2452	2076	323	4101	8742	1482	21903
Percentage of total full-time faculty	8	4	11	9	1	19	40	7	100
Female Full-Time Faculty									
Number	240	105	463	456	49	1217	2666	401	5596
Percentage of female full-time faculty	4	2	8	8	1	22	48	7	100
Female Full-Time Faculty									
Percentage female full-time faculty by group	14	11	19	22	15	30	30	27	26

Table 3D: Number, and Percentage of Those Female, of Non-tenure-track Doctoral Full-Time Faculty and Part-Time Faculty by Group, Fall 1997 to Fall 2003

	1997	1998	1999	2000	2001	2002	2003
Groups I, II, III, & Va							
Non-tenure-track doctoral full-time faculty	708	904	1014	993	1233	1274	1343
Percentage female	22	21	22	21	21	23	25
Part-time faculty	954	1141	1217	1399	1467	1504	1389
Percentage female	37	38	38	37	38	35	35
Group M							
Non-tenure-track doctoral full-time faculty	216	140	146	262	183	276	230
Percentage female	30	27	56	29	24	39	33
Part-time faculty	1612	1768	1768	1906	2323	2393	1952
Percentage female	46	43	43	35	36	37	37
Group B							
Non-tenure-track doctoral full-time faculty	385	427	514	407	504	507	460
Percentage female	26	31	24	30	29	36	20
Part-time faculty	3107	3585	3298	3580	4197	4117	3997
Percentage female	46	42	41	40	43	45	42

tions hired went to new doctoral recipients (last year 43%). In Groups I, II, III, and Va 19% of the hires of new doctoral recipients are in tenured/tenure-track positions (last year it was 26%), while in Groups M and B 76% of the new doctoral hires are in tenured/tenure-track positions (last year it was 82%).

From Table 2B we find that of the new doctoral recipients hired in Groups I, II, III, and Va combined, 19% of the males and 17% of the females took tenured/tenure-track positions. For new doctoral recipients hired in Groups M and B combined, 76% of the males and 76% of the females took tenured/tenure-track positions.

Figure 2 shows the number of full-time doctoral positions available in all groups except Group IV, as well as the number of those that were tenured/tenure-track and the number unfilled for the years 1991 to 2003. There was a sharp decrease in available positions in the first few years of the 1990s, but the number of positions and the number of tenured/tenure-track positions

steadily increased, reaching a maximum in 2001, and has declined the past two years.

The recruitment situation in statistics (Group IV) is much like last year, but with fewer tenure-track positions available and fewer tenure-track hires. This year there were 134 (90 tenure-track) positions under recruitment, while last year there were 169 (141 tenure-track). This year 91 positions were open to new doctorates and last year this number was 121. However, the number of tenure-track positions open to new doctorates declined from 108 last year to 59 this year. The number of hires of new doctoral recipients is 43 (30 tenure-track) this year and 58 (48 tenure-track) last year. The number of not-new doctoral hires is 48 (34 tenure-track) this year and 52 (39 tenure-track) last year. Females were 34% of the new doctoral tenure-track hires, and 26% of the not-new doctoral tenure-track hires.

Faculty

Table 3A gives the number of faculty for different categories of faculty broken down by group. Table 3B gives the same information for females only. The estimated total number of full-time faculty in Groups I, II, III, Va, M, and B combined is 20,421, up 414 from last year, with a standard error of 347. We can be quite confident that the actual total number of faculty in these groups is in the interval 20,421 plus or minus 694. The doctoral mathematics departments I, II, III, and Va are up 67 full-time faculty members, Group M is down 241 faculty members, and Group B is up 588. Since the standard errors for the total number of full-time faculty in Groups M and B are 134 and 320 respectively, there may not be an actual change, as these increases are well within the variability we expect with standard errors of 134 and 320. The total faculty size in Group IV is up to 1,482 this year from 1,397 last year.

This year for the first time the Departmental Profile Survey requested the number of postdoctoral appointments to be broken out of the number of non-tenure track appointments. In the future we will be able to track the changes in the number of postdoctoral appointments.

Table 3C gives some percentages based on the information in Tables 3A and 3B. The number of non-tenure-track doctoral full-time faculty and the number of part-time faculty in mathematics departments had been increasing in recent years, a disturbing trend highlighted in "Staffing shifts in mathematical sciences departments, 1990-2000" (David J. Lutzer and James W. Maxwell, *Notices of the AMS*, June/July 2003, pages 683-6). However, this year the estimated number of part-time faculty is down to 7,338 from 7,771 last year, and the number of non-tenure-track doctoral faculty (including postdoctoral positions) is estimated at 2,032 this year, down from 2,057 last year. But in Groups I, II, III, and Va combined the number of non-tenure-track doctoral faculty increased 5% from 1,274 last year to 1,343 this year.

Table 3E: Summary of Full-Time and Part-Time Faculty by Sex, Fall 2003

	GROUP					
	I, II, III, & Va		M & B		IV	
	Male	Female	Male	Female	Male	Female
Full-time faculty	6265	1313	8961	3882	1080	401
Percentage	83	17	70	30	73	27
Doctoral full-time faculty	5971	919	7467	2450	1058	372
Percentage	87	13	75	25	74	26
Tenured	4293	387	5039	1361	666	130
Percentage	92	8	79	21	84	16
Untenured, tenure-track	686	194	1905	922	189	118
Percentage	78	22	67	33	62	38
Postdoctoral appointments	569	143	92	3	59	32
Percentage	80	20	96	4	65	35
Other non-tenure-track	436	195	430	165	143	92
Percentage	69	31	72	28	61	39
Nondoctoral full-time faculty	282	393	1494	1432	23	30
Percentage	42	58	51	49	43	57
Part-time faculty	906	484	3557	2392	164	99
Percentage	65	35	60	40	62	38

Table 3F: Doctoral and Nondoctoral Full-Time Faculty, Fall 2003

	GROUP					
	I, II, III, & Va		M & B		TOTAL	
	Male	Female	Male	Female	Male	Female
Doctoral full-time faculty	5971	919	7467	2450	13438	3370
Tenured	4293	387	5039	1361	9332	1748
Untenured, tenure-track	686	194	1905	922	2591	1116
Postdoctoral appointments	569	143	92	3	661	146
Other non-tenure-track	436	195	430	165	866	360
Nondoctoral full-time faculty	282	393	1494	1432	1776	1825
Tenured	13	7	573	337	586	344
Untenured, tenure-track	14	4	191	153	205	157
Postdoctoral appointments	8	3	0	0	8	3
Other non-tenure-track	255	382	730	942	985	1324

Table 3G: Part-Time Faculty, Fall 2003

	GROUP				
	I, II, III, & Va		M & B		TOTAL
	Male	Female	Male	Female	
Doctoral part-time faculty	405	125	839	264	1633
Nondoctoral part-time faculty	500	358	2718	2128	5705
TOTAL	906	484	3557	2392	7338

Table 3D gives a seven-year history of these two types of faculty for Groups I, II, III, and Va combined; for Group M; and for Group B. Also shown for each number in this table is the percentage of females.

Table 3E gives a summary of the various types of faculty found in departments of mathematical sciences by sex and group.

Tables 3F and 3G give more information about two types of faculty: full-time faculty without a doctorate and part-time faculty. The top half of Table 3F is a somewhat condensed version of the doctoral full-time faculty in Table 3A broken down by sex. The bottom half of Table 3F shows this same information for the 3,602 full-time faculty who do not have doctoral degrees. The majority of these faculty, 2,926 (81%), are found in Group M and B departments. Table 3G shows the part-time faculty broken down by sex and whether they have a doctoral degree.

Faculty Profile for Females

Table 3B gives a complete breakdown of all categories of female faculty by group and shows increasing estimated numbers of female faculty in most categories. The estimated total number of full-time faculty in Groups I, II, III, Va, M & B combined for 2003–2004 is 20,421, of which 5,195 (25%) are females, up from 5,019 (25%) last year. In the B group doctoral female faculty increased to 1,698 from 1,473 last year, tenured female faculty increased from 791 last year to 921 this year, and non-tenure-track doctoral female faculty dropped from 182 last year to 92 this year. In the M group doctoral full-time female faculty dropped from 811 last year to 752 this year, and the number of females in each category of Table 3B in Group M is down this year over last year.

Table 3C shows the number and percentage of all full-time and female full-time faculty that fall in each group for 2003–2004. The number of faculty in each group and the percentage who are female are given in the bottom section of Table 3C. The number of females as a percentage of full-time faculty varies considerably among the groups, from 11% for Group I Private to 30% for Groups M and B. This is similar to the pattern reported last year. Note: In Table 3C the percentages for each group in rows 2 and 4 are of the row totals. The percentages in row 5 are column percentages using the numbers in rows 1 and 3.

Table 3D contains information about non-tenure-track doctoral full-time faculty and part-time faculty for the years 1997 to 2003 for Groups I, II, III, and Va combined, M, and B. This table includes the total number for each category as well as the percentage female for each number.

Table 3E gives the male/female breakdown by count and percentage for Groups I, II, III, and Va combined, Groups M and B combined, and Group IV for various categories of faculty. It shows that the percentage of women is generally higher in statistics (Group IV) than in the doctoral mathematics groups (Group I, II, III, Va combined), and that the percentage of tenured faculty who are women is highest in Group M and B combined.

Table 3F shows that of the 3,602 nondoctoral full-time faculty in Groups I, II, III, Va, M, and B, 1,825 (51%) are females. In Table 3G we see that in these same groups there are 7,338 part-time faculty, of which 2,876 (39%) are females.