

Report on 2017–2018 Academic Recruitment, Hiring, and Attrition

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Each year in academic mathematical sciences departments around the United States, new full-time faculty are recruited, and a subset of those positions are filled. The hiring infuses into the faculty a new cohort of mathematical scientists actively engaged in research and teaching. At the same time, others retire, take jobs elsewhere, or die, and this process removes a segment of the population of mathematical scientists. This report provides a snapshot of that process to aid in understanding the current status of such variables as: hiring rates, gender distribution, position type, and prior experience. Along with current data the report provides historical context to aid the reader in discerning trends and patterns. For further details, including all tables generated to prepare this report, please see www.ams.org/annual-survey.

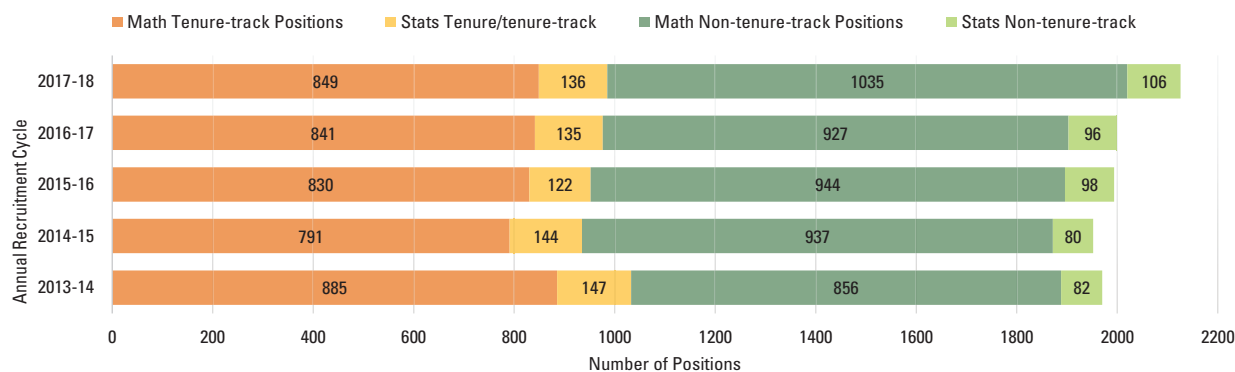
A total of 692 mathematical sciences departments participated in this Recruitment, Hiring, and Attrition survey.

This report is based on the completed questionnaires received from the 403 departments that reported recruiting to fill doctoral tenure-track and non-tenure-track positions during the academic year 2017–18 for employment beginning in the fall of 2018.

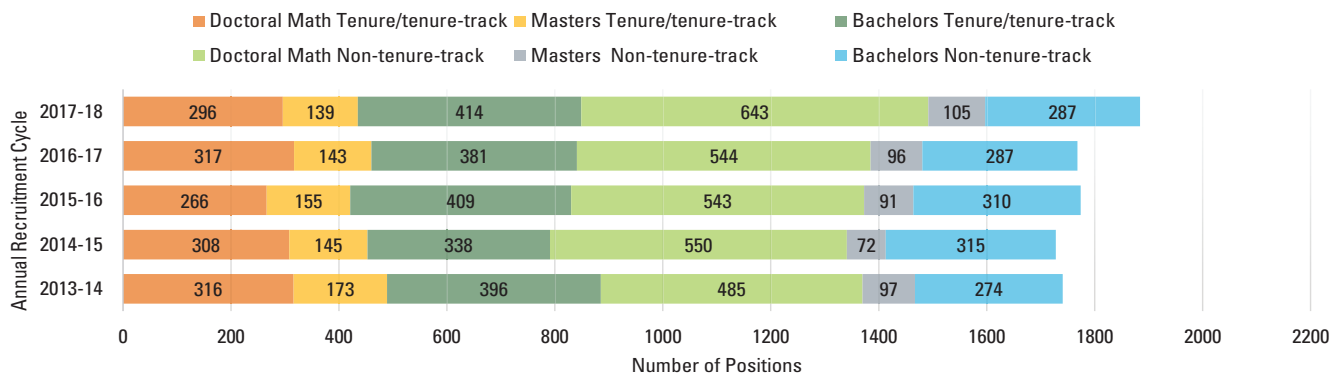
Overview of Recruitment

During the 2017–18 academic year, the estimated number of full-time positions under recruitment in mathematical sciences departments was 2,126 (SE = 58). This figure breaks down as follows: 849 tenure-track mathematics positions, 1,035 non-tenure-track mathematics positions, 136 tenure-track Stats positions, and 106 non-tenure-track Stats positions. See Figure R.1 for comparisons with earlier years. In the period from 2013 to 2018, the overall percentage of positions under recruitment that were tenure-track ranged from 46% to 52%, with the highest percentages in 2013–14 and 2016–17 of this range of time.

Figure R.1. Positions Under Recruitment in Mathematical Sciences



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Figure R.2. Positions Under Recruitment in Mathematics Departments by Highest Mathematical Sciences Degree Offered


- Overall features in the 2017–18 cycle:
 - The estimated number of positions under recruitment was 2,126; this figure represents a slight increase from the 2016–17 estimate of 1,999 positions.
 - Women accounted for 31% of those hired, the same as in 2016–17.
 - Since 2010 recruitment has increased 75% in all Mathematical Sciences, 74% in Math, and 83% in Stats.
- Tenure-track positions under recruitment:
 - The number of open tenure-track positions was essentially the same as in 2016–17.
 - 46% (985) of all positions under recruitment were tenure-track. Of these 985 positions, 86% (851) were open to new PhDs, and 22% (214) were at the rank of associate/full professor.
- Non-tenure-track positions under recruitment:
 - Non-tenure-track positions increased 12% overall, to 1,141 from 1,023 in 2016–17.
 - 54% (1,141) of all positions under recruitment were non-tenure-track.

In Math the number of positions under recruitment (1,884) in 2017–18 was up 7% from the previous year (1,768). See Figure R.2 for a longer-term comparison. Over the period since 2007–08 recruitment has increased in Doctoral departments by 30% and decreased in both Masters departments and Bachelors departments by 27% and 25%, respectively. In the same ten-year period, the net number of mathematics positions under recruitment has decreased by 6%.

In Stats, the number of positions under recruitment in 2017–18 was 242, a 5% increase over 2016–17. Since 2013–14 the number of positions under recruitment has fluctuated between 220 and 242.

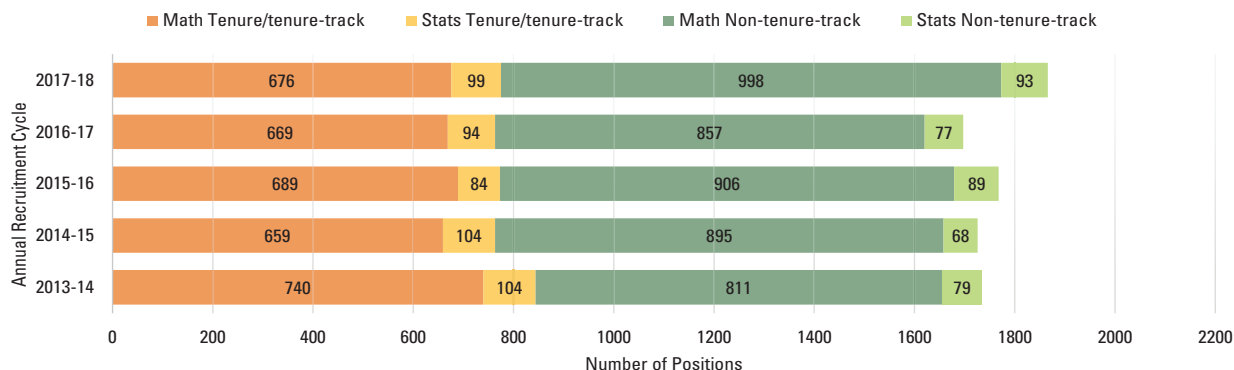
Positions Filled

A total of 1,866 full-time positions in Mathematical Sciences were filled during the 2017–18 academic cycle, 1,674 from Mathematics Departments and 192 from Statistics or Biostatistics. Figure F.1 gives a breakdown for the most recent five years. The total for Math is down 8% from the 2007–08 cycle. For Stats, the number of filled positions is up 56% from 2007–08. One interesting feature implicit in these data is that the success rate for filling mathematical sciences tenure-track positions over the period 2013–18 is about 80%, whereas the success rate for non-tenure-track is about 95%.

Figure F.2 gives a breakdown on hiring by gender and department grouping. Percentages generally are obtained by comparison with Figure R.1. Here are further highlights and comparisons:

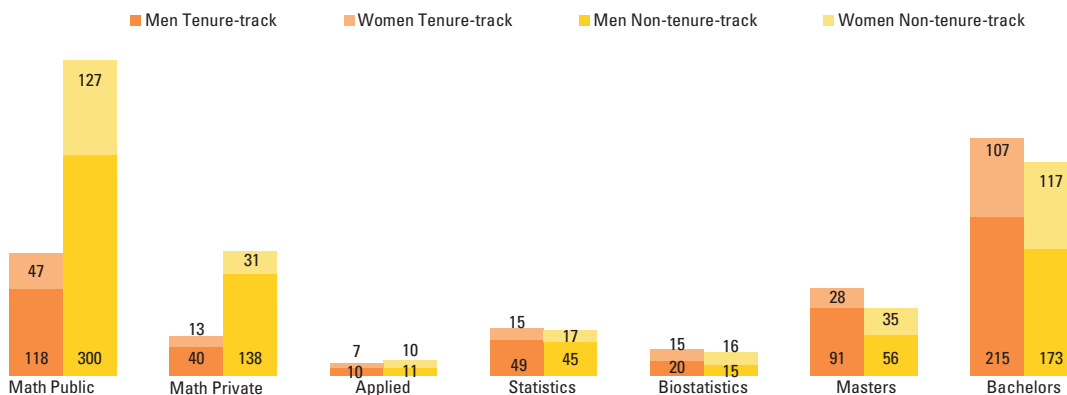
- Overall features of hires in mathematical sciences:
 - Women hold 31% (585) of positions filled.
 - Of all hires, 42% (775) were tenure-track; women constitute 30% (232) of these.
 - Of all hires, 58% (1,091) were non-tenure-track; women constitute 32% (353) of these.
- Math and Stats breakdown:
 - In Math overall, 1,674 of 1,884 positions (89%) were filled; 31% of Math positions filled were by women.
 - In Stats, 192 of 242 positions (79%) were filled; 33% of Stats positions filled were by women.
- Tenure-track hires in mathematical sciences:
 - Of the 985 tenure-track positions under recruitment, 79% (775) were filled.
 - Of tenure-track positions filled, 75% (583) were filled by doctoral faculty who are not new PhDs. Of these positions filled by doctoral faculty, 29% went to women. In comparison with 2016–17, all groups reported increases in tenure-track hires of doctoral faculty except Math Public Medium

Figure F.1. Positions Filled in Mathematical Sciences



- (↓39%), Math Public Small (↓5%), Math Private Small (↓4%), and Biostatistics (↓19%).
 - Of the 192 (25%) of tenure-track hires who were new PhDs, 34% were women.
 - Of tenure-track hires, 18% (141) had a non-tenure-track position in 2016–17; of these individuals, 30% were women.
 - Of tenure-track hires, 34% (261) held a postdoc in 2016–17, and 25% of these postdocs were women.
- Non-tenure-track hires
 - Of the 1,141 non-tenure-track positions under recruitment, 96% were filled. In comparison to 2016–17, all groups reported increased hiring of non-tenure-track faculty except Applied Math (↓30%) and Biostatistics (↓24%).
 - Of non-tenure-track hires, 36% (389) were filled by PhD faculty who were not new PhDs; 31% of these doctoral faculty hires were women.
 - Of non-tenure-track hires, 87% (954) were PhDs; 59% of these PhDs were new PhDs and 28% of these were women.
- Non-tenure-track hires (continued)
 - Of non-tenure-track hires, 13% (137) were filled by non-doctoral faculty; 55% of these non-doctoral hires were women. Fifty-three percent of these non-doctoral, non-tenure-track hires were in Bachelors departments.
 - Of non-tenure-track hires, 22% (237) were temporary (one-year); 38% of these temporary hires were women. Forty percent of all temporary hires were in Bachelors departments.
 - Of non-tenure-track hires, 41% (445) were in postdoctoral positions; 27% of these postdocs were women.
- Women hires (see Figure F.2):
 - Of all hires, 31% (585) were women; of these women, Bachelors departments hired 38%, and Doctoral Math departments hired 40%.
 - In the Doctoral Math Group, women hires increased by 18% to 235.
 - All groups reported increases in the number of women hires over last year except Math Private Small (↓47%), Biostatistics (↓16%), and Masters (↓11%).
 - The number of women hired into tenure-track positions decreased slightly to 232 from 241; the

Figure F.2. Gender of Tenure-track and Non-tenure-track Hires by Department Grouping, Fall 2018 Employment



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number hired into non-tenure-track positions increased by 22% to 353.

- o Women accounted for 30% of all tenure-track and 32% of all non-tenure track hires; in 2016–17 these percentages were, respectively, 32% and 31%.

Faculty Attrition

Figure A.1 shows the variation in attrition from deaths and retirements among full-time faculty for the academic years 2013–14 through 2017–18. On average over the period shown, the percentage of faculty in doctoral departments retiring or dying each year is about 1.9%, and in Masters and Bachelors departments that percentage is about 2.7%.

During the same period, in the respective groups, the percentages of tenured faculty who retired averaged 3.4% for Doctoral Math departments, 4.6% for Bachelors and Masters, and 3.6% for Stats. As reported in previous years, departments continue to report the majority of those retiring as members of the tenured faculty. For instance, for 2015–17 approximately 83%, 82%, and 92% of retirees have been tenured.

Here are a few other highlights from the attrition data from the 2017–18 cycle:

- Overall retirements by tenured faculty decreased by 9% to 531.
- Deaths and retirements increased by 3% to 614.
- Overall deaths and retirements break down by departmental grouping as follows:
 - o 43% (261) were from Bachelors
 - o 31% (189) were from Doctoral Math
 - o 20% (123) were from Masters
 - o 7% (41) were from Stat

Department Groupings

In this report, *Mathematical and Statistical Sciences* departments are those in four-year institutions in the US that refer to themselves with a name that incorporates (with a

few exceptions) “Mathematics” or “Statistics” in some form. For instance, the term includes, but is not limited to, departments of “Mathematics,” “Mathematical Sciences,” “Mathematics and Statistics,” “Mathematics and Computer Science,” “Applied Mathematics,” “Statistics,” and “Biostatistics.” Also, *Mathematics (Math)* refers to departments that (with exceptions) have “mathematics” in the name; *Stat/Biostat* refers to departments that incorporate (again, with exceptions) “statistics” or “biostatistics” in the name but do not use “mathematics.”

Listings of the actual departments that comprise these groups are available on the AMS website at www.ams.org/annual-survey/groupings.

| A department is in Group... | ...when its subject area, highest degree offered, and PhD production rate* p |
|-----------------------------|--|
| Math Public Large | Math PhD, $7.0 \leq p$ |
| Math Public Medium | Math PhD, $3.9 \leq p < 7.0$ |
| Math Public Small | Math PhD, $p < 3.9$ |
| Math Private Large | Math PhD, $3.9 \leq p$ |
| Math Private Small | Math PhD, $p < 3.9$ |
| Applied Math | Applied mathematics, PhD |
| Statistics | Statistics, PhD |
| Biostatistics | Biostatistics, PhD |
| Masters | Math, master's |
| Bachelors | Math, bachelor's |
| Doctoral Math | Math Public, Math Private, & Applied Math |
| Stat/Biostat or Stats | Statistics & Biostatistics |
| Math | All groups except Statistics & Biostatistics |

* The doctorate-granting departments of mathematics PhD production rates are based on the size of the PhD program as reflected in the number of PhDs awarded (as reported by departments to the Annual Survey) during the ten years from July 1, 2000, through June 30, 2010. Since there are some departments that have not reported their PhDs for every Annual Survey during this time, the average annual number of PhDs awarded was used to compare the departments.

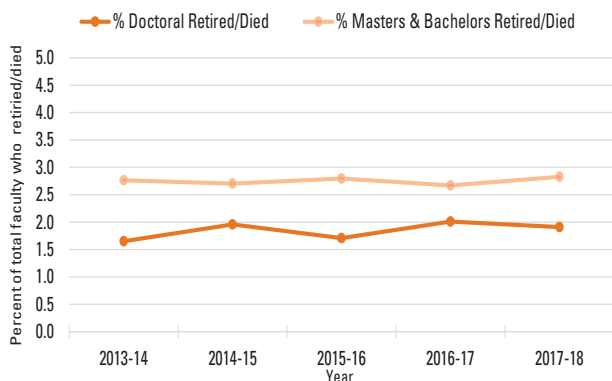
Survey Response Rates by Grouping

Recruitment, Hiring, and Attrition Response Rates

| Group | Number | Percent |
|--------------------|--------------|---------|
| Math Public Large | 23 of 26 | 88% |
| Math Public Medium | 35 of 40 | 88% |
| Math Public Small | 52 of 73 | 71% |
| Math Private Large | 19 of 24 | 79% |
| Math Private Small | 18 of 28 | 64% |
| Applied Math | 16 of 23* | 70% |
| Statistics | 39 of 60 | 65% |
| Biostatistics | 30 of 45* | 67% |
| Masters | 80 of 169 | 47% |
| Bachelors | 380 of 1,014 | 37% |
| Total | 692 of 1,502 | 46% |

* The populations for Applied Math and Biostatistics are slightly less than for the Doctorates Granted Survey because some programs do not formally “house” faculty, teach undergraduate courses, or award undergraduate degrees.

Figure A.1. Percentage Full-time Faculty Died/Retired*



* The percentage of full-time faculty who died or retired is the number of faculty who died or retired at some point during the academic year (September 1 through August 31) divided by the number of full-time faculty at the start of the academic year.

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.

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COMMUNITY**

DOCTORAL RECIPIENTS

New PhD graduates, their employment plans, demographics, and starting salaries

DOCTORAL DEGREES & THESIS TITLES

PhD graduates, their thesis titles, and where they earned their degrees

FACULTY SALARIES

By rank and employment status

RECRUITMENT & HIRING

The academic job market

DEPARTMENTAL PROFILE

The number of—faculty, their employment statuses and demographics; course enrollments; graduate students; masters and bachelors degrees awarded

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Table A.1
Faculty Deaths & Retirements, Fall 2018

| | Math Public Large Group | Math Public Medium Group | Math Public Small Group | Math Private Large Group | Math Private Small Group | Applied Math Group | Statistics Group | Biostatistics Group | Total Doctoral Math | Total Stats | Total Doctoral | Masters | Bachelors | Total Math | Grand Total |
|--|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|--------------------------|---------------------|------------------------|---------------------------|----------------|-------------------|------------|------------|---------------|----------------|
| Full-time faculty who retired or died | 36 | 59 | 60 | 15 | 12 | 7 | 26 | 15 | 189 | 41 | 230 | 123 | 261 | 573 | 614 |
| <i>Standard Error</i> | 2 | 4 | 5 | 2 | 3 | 2 | 7 | 12 | 21 | 25 | 4 | 3 | 5 | 26 | 26 |
| % of Full-time faculty | 2% | 3% | 2% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 3% | 3% | 2% | 2% |
| Died | 7 | 2 | 4 | 1 | - | 1 | - | - | 15 | - | 15 | 13 | 7 | 35 | 35 |
| Retired | 29 | 57 | 56 | 14 | 12 | 6 | 26 | 15 | 174 | 41 | 215 | 110 | 254 | 538 | 712 |
| Tenured Faculty | 28 | 44 | 53 | 14 | 14 | 6 | 25 | 14 | 159 | 39 | 198 | 94 | 239 | 492 | 651 |

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Table A.2

Tenured Faculty Retirements, Fall 2018

| | Math Public Large Group | Math Public Medium Group | Math Public Small Group | Math Private Large Group | Math Private Small Group | Applied Math Group | Statistics Group | Biostatistics Group | Total Doctoral Math | Total Stats | Total Doctoral | Masters | Bachelors | Total Math | Grand Total |
|--|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------|---------------------|------------------------|------------------------|----------------|-------------------|-----------|------------|---------------|----------------|
| Full-time Tenured faculty who retired | 28 | 44 | 53 | 14 | 14 | 6 | 25 | 14 | 159 | 39 | 198 | 94 | 239 | 492 | 531 |
| <i>Standard Error</i> | 2 | 3 | 5 | 2 | 3 | 1 | 4 | 3 | 7 | 5 | | 11 | 19 | 23 | |
| % of Full-time tenured faculty | 2.3% | 4.1% | 4.1% | 2.5% | 2.9% | 2.1% | 3.4% | 3.9% | 3.2% | 3.5% | 14.2% | 4.2% | 4.9% | 4.1% | 2.1% |

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Table R.1: Recruitment and Hiring of Faculty in the Mathematical Sciences, Fall 2018 by Department Grouping

| | Math Public Large Group | Math Public Medium Group | Math Public Small Group | Math Private Large Group | Math Private Small Group | Applied Math Group | Statistics Group | Biostatistics Group | Total Doctoral Math | Total Stats | Total Doctoral | Masters | Bachelors | Total Math | Grand Total |
|--|-------------------------|--------------------------|-------------------------|--------------------------|--------------------------|---------------------|----------------------|---------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|-----------------------|-----------------------|
| Recruited Doctoral Positions Total Number (% of Total) | 255 | 189 | 196 | 171 | 74 | 54 | 155 | 87 | 939 | 242 | 1181 | 244 | 701 | 1884 | 2126 |
| <i>Standard Error</i> | 11 | 11 | 15 | 11 | 11 | 6 | 15 | 8 | 26 | 23 | 31 | 26 | 42 | 56 | 58 |
| Tenured or tenure-track | 61 | 52 | 77 | 42 | 34 | 30 | 86 | 50 | 296 | 136 | 432 | 139 | 414 | 849 | 985 |
| Open to new doctoral recipients | 35 | 41 | 62 | 24 | 31 | 27 | 80 | 30 | 220 | 110 | 330 | 129 | 392 | 741 | 851 |
| Open to assoc/full level | 23 | 9 | 7 | 18 | 9 | 10 | 34 | 21 | 76 | 55 | 131 | 26 | 57 | 159 | 214 |
| Non-tenure-track | 194 | 137 | 119 | 129 | 40 | 24 | 69 | 37 | 643 | 106 | 749 | 105 | 287 | 1035 | 1141 |
| Open to new doctoral recipients | 190 | 136 | 108 | 124 | 40 | 23 | 66 | 37 | 621 | 103 | 724 | 100 | 276 | 997 | 1100 |
| Temporary 1-year appointments | 25 | 28 | 53 | 14 | 2 | 7 | 19 | 6 | 129 | 25 | 154 | 60 | 183 | 372 | 397 |
| Reported Hires for Above Total number (% of Total Recruited In Group) | 228 (89%) | 179 (95%) | 185 (94%) | 161 (94%) | 61 (82%) | 38 (70%) | 126 (81%) | 66 (76%) | 852 (91%) | 192 (79%) | 1044 (88%) | 210 (86%) | 612 (87%) | 1674 (89%) | 1866 (88%) |
| Tenured or tenure-track Hires | 51 | 44 | 70 | 31 | 22 | 17 | 64 | 35 | 235 | 99 | 334 | 119 | 322 | 676 | 775 |
| Doctoral hires | | | | | | | | | | | | | | | |
| Men | 36 | 30 | 52 | 21 | 19 | 10 | 49 | 20 | 168 | 69 | 237 | 91 | 215 | 474 | 543 |
| New doctoral hires | 1 | 4 | 7 | - | 2 | 3 | 26 | 10 | 17 | 36 | 53 | 12 | 62 | 91 | 127 |
| Not new doctoral hires | 35 | 26 | 45 | 21 | 17 | 7 | 23 | 10 | 151 | 33 | 184 | 79 | 153 | 383 | 416 |
| Previously in non-tenure-track | 8 | 2 | 9 | 1 | - | 1 | 3 | 3 | 21 | 6 | 27 | 14 | 58 | 93 | 99 |
| Previously in postdoc | 19 | 16 | 31 | 14 | 12 | 1 | 20 | 1 | 93 | 21 | 114 | 46 | 36 | 175 | 196 |
| Women | 15 | 14 | 18 | 10 | 3 | 7 | 15 | 15 | 67 | 30 | 97 | 28 | 107 | 202 | 232 |
| New doctoral hires | - | 2 | 4 | 1 | - | - | 6 | 3 | 7 | 9 | 16 | 13 | 36 | 56 | 65 |
| Not new doctoral hires | 15 | 12 | 14 | 9 | 3 | 7 | 9 | 12 | 60 | 21 | 81 | 15 | 71 | 146 | 167 |
| Previously in non-tenure-track | 3 | 1 | 1 | - | - | 1 | - | 5 | 6 | 5 | 11 | 3 | 28 | 37 | 42 |
| Previously in postdoc | 10 | 9 | 6 | 5 | 2 | 1 | 6 | 3 | 33 | 9 | 42 | 7 | 16 | 56 | 65 |
| Other | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| New doctoral hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Not new doctoral hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Previously in non-tenure-track | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Previously in postdoc | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Non-tenure-track Hires | 177 | 135 | 115 | 130 | 39 | 21 | 62 | 31 | 617 | 93 | 710 | 91 | 290 | 998 | 1091 |
| Doctoral hires | 174 | 130 | 98 | 130 | 39 | 17 | 58 | 31 | 588 | 89 | 677 | 59 | 218 | 865 | 954 |
| Men | 131 | 86 | 73 | 104 | 34 | 10 | 43 | 15 | 438 | 58 | 496 | 39 | 141 | 618 | 676 |
| New doctoral hires | 101 | 52 | 38 | 80 | 23 | 9 | 17 | 9 | 303 | 26 | 329 | 9 | 71 | 383 | 409 |
| Not new doctoral hires | 30 | 34 | 35 | 24 | 11 | 1 | 26 | 6 | 135 | 32 | 167 | 30 | 70 | 235 | 267 |
| Postdoc appointments | 88 | 55 | 24 | 95 | 20 | 7 | 13 | 8 | 289 | 21 | 310 | 6 | 8 | 303 | 324 |
| 1-year appointments | 11 | 7 | 24 | 9 | - | 1 | 6 | - | 52 | 6 | 58 | 28 | 60 | 140 | 146 |
| Women | 43 | 44 | 25 | 26 | 5 | 7 | 15 | 16 | 150 | 31 | 181 | 20 | 77 | 247 | 278 |
| New doctoral hires | 37 | 20 | 7 | 23 | 5 | 6 | 9 | 10 | 98 | 19 | 117 | 14 | 25 | 137 | 156 |
| Not new doctoral hires | 6 | 24 | 18 | 3 | - | 1 | 6 | 6 | 52 | 12 | 64 | 6 | 52 | 110 | 122 |
| Postdoc appointments | 35 | 30 | 6 | 19 | 3 | 4 | 3 | 8 | 97 | 11 | 108 | 6 | 7 | 110 | 121 |
| 1-year appointments | 6 | 4 | 17 | 1 | 2 | 1 | 5 | - | 31 | 5 | 36 | 21 | 34 | 86 | 91 |
| Other | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| New doctoral hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Not new doctoral hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Postdoc appointments | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1-year appointments | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nondoctoral hires | 3 | 5 | 17 | - | - | 4 | 4 | - | 29 | 4 | 33 | 32 | 72 | 133 | 137 |
| Men | 3 | 4 | 3 | - | - | 1 | 2 | - | 11 | 2 | 13 | 17 | 32 | 60 | 62 |
| Women | - | 1 | 14 | - | - | 3 | 2 | - | 18 | 2 | 20 | 15 | 40 | 73 | 75 |
| Other | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Unfilled positions | 27 | 10 | 11 | 11 | 13 | 16 | 29 | 21 | 88 | 50 | 138 | 23 | 13 | 124 | 174 |

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Table R.2

Summary of Recruitment & Hiring of Doctoral Faculty by Position, and Gender, Fall 2018

| | Doctoral Math | Masters and Bachelors | Statistics & Biostatistics | Total |
|--|---------------|-----------------------|----------------------------|-------------|
| Doctoral Positions under recruitment | | | | |
| Total Number | 939 | 945 | 242 | 2126 |
| Tenure or tenure-track | 296 | 553 | 136 | 985 |
| Open to new doctoral recipients | 220 | 521 | 110 | 851 |
| Open to assoc/full level | 76 | 83 | 55 | 214 |
| Non-tenure-track | 643 | 392 | 106 | 1141 |
| Open to new doctoral recipients | 621 | 376 | 103 | 1100 |
| 1-year appointments | 129 | 243 | 25 | 397 |
| Reported Hires for Above, excluding temporary hires | | | | |
| Total hires | 852 | 822 | 192 | 1866 |
| Tenure or tenure-track | 235 | 441 | 99 | 775 |
| Previously in non-tenure-track | 27 | 103 | 11 | 141 |
| Previously in postdoc | 126 | 105 | 30 | 261 |
| Non-tenure-track | 617 | 381 | 93 | 1091 |
| 1-year appointments | 83 | 143 | 11 | 237 |
| Postdoc appointments | 386 | 27 | 32 | 445 |
| Total doctoral hires | 422 | 599 | 143 | 1729 |
| New doctoral hires | 425 | 242 | 90 | 757 |
| Tenured or tenure-track | 24 | 123 | 45 | 192 |
| Men | 320 | 154 | 62 | 536 |
| Women | - | 88 | 28 | 116 |
| Tenured or tenure-track | 7 | 49 | 9 | 65 |
| Other | - | - | - | - |
| Tenured or tenure-track | - | - | - | - |
| Not-new doctoral hires | 398 | 476 | 98 | 972 |
| Tenured or tenure-track | 211 | 318 | 54 | 583 |
| Men | 286 | 332 | 65 | 683 |
| Women | 112 | 144 | 33 | 289 |
| Tenured or tenure-track | 60 | 86 | 21 | 167 |
| Other | - | - | - | - |
| Tenured or tenure-track | - | - | - | - |
| Total Non-doctoral hires | 29 | 104 | 4 | 137 |
| Men | 11 | 49 | 2 | 62 |
| Women | 18 | 55 | 2 | 75 |
| Other | - | - | - | - |

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Table R.3

Summary of Doctoral Faculty Positions under Recruitment and Filled
with the Percentage of Tenured or tenure-track, Fall 2018

| Positions | Doctoral Math | Masters and Bachelors | Statistics & Biostatistics | Total |
|--|---------------|-----------------------------|-------------------------------|-------|
| Recruited tenured or tenure-track positions open to new doctoral recipients | 220 | 521 | 110 | 851 |
| % Tenured or tenure-track | 74% | 94% | 81% | 86% |
| Recruited positions filled by new doctoral recipients | 425 | 242 | 90 | 757 |
| % Tenured or tenure-track | 6% | 51% | 50% | 25% |
| Recruited positions filled by not-new doctoral recipients | 398 | 476 | 98 | 972 |
| % Tenured or tenure-track | 53% | 67% | 55% | 60% |

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Table R.4
Summary of Total Recruitment & Hiring of Faculty in the Mathematical Sciences by Department Grouping for Fall 2018

| | Math Public Large Group | Math Public Medium Group | Math Public Small Group | Math Private Large Group | Math Private Small Group | Applied Math Group | Statistics Group | Biostatistics Group | Total Doctoral Math | Total Stats | Total Doctoral | Masters | Bachelors | Total Math | Grand Total |
|---|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------|---------------------|------------------------|------------------------|----------------|-------------------|------------|------------|---------------|----------------|
| Total Doctoral Positions Under Recruitment | 255 | 189 | 196 | 171 | 74 | 54 | 155 | 87 | 939 | 242 | 1181 | 244 | 701 | 1884 | 2126 |
| <i>Standard Error</i> | 11 | 11 | 15 | 11 | 11 | 6 | 15 | 8 | 26 | 23 | 31 | 26 | 42 | 56 | 58 |
| Tenured or tenure-track Hires | 61 | 52 | 77 | 42 | 34 | 30 | 86 | 50 | 296 | 136 | 432 | 139 | 414 | 849 | 985 |
| Non-tenure-track Hires | 194 | 137 | 119 | 129 | 40 | 24 | 69 | 37 | 643 | 106 | 749 | 105 | 287 | 1035 | 1141 |
| Total Hires | 228 | 179 | 185 | 161 | 61 | 38 | 126 | 66 | 852 | 192 | 1044 | 210 | 612 | 1674 | 1866 |
| Tenured or tenure-track Hires | 51 | 44 | 70 | 31 | 22 | 17 | 64 | 35 | 235 | 99 | 334 | 119 | 322 | 676 | 775 |
| Non-tenure-track Hires | 177 | 135 | 115 | 130 | 39 | 21 | 62 | 31 | 617 | 93 | 710 | 91 | 290 | 998 | 1091 |
| Total Hires by Gender | 228 | 179 | 185 | 161 | 61 | 38 | 126 | 66 | 852 | 192 | 1044 | 210 | 612 | 1674 | 1866 |
| Men hires | 170 | 120 | 128 | 125 | 53 | 21 | 94 | 35 | 617 | 129 | 746 | 147 | 388 | 1152 | 1281 |
| Women hires | 58 | 59 | 57 | 36 | 8 | 17 | 32 | 31 | 235 | 63 | 298 | 63 | 224 | 522 | 585 |
| Other hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Unfilled positions | 27 | 10 | 11 | 11 | 13 | 16 | 29 | 21 | 88 | 50 | 138 | 23 | 13 | 124 | 174 |

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Table R.5
Percentage of Women Hired into Positions Requiring a Doctorate for Fall 2018 in the Mathematical Sciences

| | Math Public Large Group | Math Public Medium Group | Math Public Small Group | Math Private Large Group | Math Private Small Group | Applied Math Group | Statistics Group | Biostatistics Group | Total Doctoral Math | Total Stats | Total Doctoral | Masters | Bachelors | Total Math | Grand Total |
|---------------------------------------|-------------------------|--------------------------|-------------------------|--------------------------|--------------------------|--------------------|------------------|---------------------|---------------------|-------------|----------------|------------|------------|-------------|-------------|
| Total Hires | 228 | 179 | 185 | 161 | 61 | 38 | 126 | 66 | 852 | 192 | 1044 | 210 | 612 | 1674 | 1866 |
| % Women | 25% | 33% | 31% | 22% | 13% | 45% | 25% | 47% | 28% | 33% | 29% | 30% | 37% | 31% | 31% |
| Women as a percentage of hires | | | | | | | | | | | | | | | |
| Tenured or tenure-track | 29% | 32% | 26% | 32% | 14% | 41% | 23% | 43% | 29% | 30% | 30% | 24% | 33% | 30% | 30% |
| New doctoral | - | 33% | 36% | 100% | - | - | 19% | 23% | 29% | 20% | 34% | 52% | 37% | 38% | 34% |
| Not new doctoral | 30% | 32% | 24% | 30% | 15% | 50% | 28% | 55% | 28% | 39% | 29% | 16% | 32% | 28% | 29% |
| Previously in non-tenure-track | 27% | 33% | 10% | - | - | 50% | - | 63% | 22% | 45% | 30% | 18% | 33% | 28% | 30% |
| Previously in postdoc | 34% | 36% | 16% | 26% | 14% | 50% | 23% | 75% | 26% | 30% | 25% | 13% | 31% | 24% | 25% |
| Non-tenured-track | 24% | 33% | 34% | 20% | 13% | 48% | 27% | 52% | 27% | 35% | 32% | 38% | 40% | 32% | 32% |
| New doctoral hires | 27% | 28% | 16% | 22% | 18% | 40% | 35% | 53% | 24% | 42% | 28% | 61% | 26% | 26% | 28% |
| Not new doctoral hires | 17% | 41% | 34% | 11% | - | 50% | 19% | 50% | 28% | 27% | 31% | 17% | 43% | 32% | 31% |
| Nondoctoral hires | - | 20% | 82% | - | - | 75% | 50% | - | 62% | 50% | 55% | 47% | 56% | 55% | 55% |
| Postdoc appointments | 28% | 35% | 20% | 17% | 13% | 36% | 19% | 50% | 25% | 34% | 27% | 50% | 47% | 27% | 27% |
| 1-year appointments | 35% | 36% | 41% | 10% | 100% | 50% | 45% | - | 37% | 45% | 38% | 43% | 36% | 38% | 38% |

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Table R.6
Recruitment & Hiring of Doctoral Faculty, Fall 2018

| | Math Public Large Group | Math Public Medium Group | Math Public Small Group | Math Private Large Group | Math Private Small Group | Applied Math Group | Statistics Group | Biostatistics Group | Total Doctoral Math | Total Stats | Total Doctoral | Masters | Bachelors | Total Math | Grand Total |
|--|-------------------------|--------------------------|-------------------------|--------------------------|--------------------------|--------------------|------------------|---------------------|---------------------|-------------|----------------|------------|------------|-------------|-------------|
| Posted Doctoral Positions Total Number | 255 | 189 | 196 | 171 | 74 | 54 | 155 | 87 | 939 | 242 | 1181 | 244 | 701 | 1884 | 2126 |
| <i>Standard Error</i> | 11 | 11 | 15 | 11 | 11 | 6 | 15 | 8 | 26 | 23 | 31 | 26 | 42 | 56 | 58 |
| Tenured or tenure-track | 61 | 52 | 77 | 42 | 34 | 30 | 86 | 50 | 296 | 136 | 432 | 139 | 414 | 849 | 985 |
| Open to new doctoral recipients | 35 | 41 | 62 | 24 | 31 | 27 | 80 | 30 | 220 | 110 | 330 | 129 | 392 | 741 | 851 |
| Open to assoc/full level | 23 | 9 | 7 | 18 | 9 | 10 | 34 | 21 | 76 | 55 | 131 | 26 | 57 | 159 | 214 |
| Non-tenure-track | 194 | 137 | 119 | 129 | 40 | 24 | 69 | 37 | 643 | 106 | 749 | 105 | 287 | 1035 | 1141 |
| Open to new doctoral recipients | 190 | 136 | 108 | 124 | 40 | 23 | 66 | 37 | 621 | 103 | 724 | 100 | 276 | 997 | 1100 |
| Temporary 1-year appointments | 25 | 28 | 53 | 14 | 2 | 7 | 19 | 6 | 129 | 25 | 154 | 60 | 183 | 372 | 397 |
| Reported Hires for Above by Gender Total number | 228 | 179 | 185 | 161 | 61 | 38 | 126 | 66 | 852 | 192 | 1044 | 210 | 612 | 1674 | 1866 |
| Men doctoral hires | 167 | 116 | 125 | 125 | 53 | 20 | 92 | 35 | 606 | 127 | 733 | 130 | 356 | 1092 | 1219 |
| Tenured or tenure-track | 36 | 30 | 52 | 21 | 19 | 10 | 49 | 20 | 168 | 69 | 237 | 91 | 215 | 474 | 543 |
| Non-tenure-track | 131 | 86 | 73 | 104 | 34 | 10 | 43 | 15 | 438 | 58 | 496 | 39 | 141 | 618 | 676 |
| Postdoc appointments | 88 | 55 | 24 | 95 | 20 | 7 | 13 | 8 | 289 | 21 | 310 | 6 | 8 | 303 | 324 |
| 1-year appointments | 11 | 7 | 24 | 9 | - | 1 | 6 | - | 52 | 6 | 58 | 28 | 60 | 140 | 146 |
| Women doctoral hires | 58 | 58 | 43 | 36 | 8 | 14 | 30 | 31 | 217 | 61 | 278 | 48 | 184 | 449 | 510 |
| Tenured or tenure-track | 15 | 14 | 18 | 10 | 3 | 7 | 15 | 15 | 67 | 30 | 97 | 28 | 107 | 202 | 232 |
| Non-tenure-track | 43 | 44 | 25 | 26 | 5 | 7 | 15 | 16 | 150 | 31 | 181 | 20 | 77 | 247 | 278 |
| Postdoc appointments | 35 | 30 | 6 | 19 | 3 | 4 | 3 | 8 | 97 | 11 | 108 | 6 | 7 | 110 | 121 |
| 1-year appointments | 6 | 4 | 17 | 1 | 2 | 1 | 5 | - | 31 | 5 | 36 | 21 | 34 | 86 | 91 |
| Other doctoral hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nondoctoral hires | 3 | 5 | 17 | - | - | 4 | 4 | - | 29 | 4 | 33 | 32 | 72 | 133 | 133 |
| Men | 3 | 4 | 3 | - | - | - | 1 | 2 | 11 | 2 | 13 | 17 | 32 | 60 | 60 |
| Women | - | 1 | 14 | - | - | 3 | 2 | - | - | - | - | 15 | 40 | 55 | - |
| Other | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total new doctoral hires | 139 | 78 | 56 | 104 | 30 | 18 | 58 | 32 | 425 | 90 | 515 | 48 | 194 | 667 | 757 |
| Men new doctoral hires | 102 | 56 | 45 | 80 | 25 | 12 | 43 | 19 | 320 | 62 | 382 | 21 | 133 | 474 | 536 |
| Tenured or tenure-track | 1 | 4 | 7 | - | 2 | 3 | 26 | 10 | 17 | 36 | 53 | 12 | 62 | 91 | 127 |
| Women new doctoral hires | 37 | 22 | 11 | 24 | 5 | 6 | 15 | 13 | 105 | 28 | 133 | 27 | 61 | 193 | 221 |
| Tenured or tenure-track | - | 2 | 4 | 1 | - | - | 6 | 3 | 7 | 9 | 16 | 13 | 36 | 56 | 65 |
| Other new doctoral hires | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tenured or tenure-track | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Unfilled positions | 27 | 10 | 11 | 11 | 13 | 16 | 29 | 21 | 88 | 50 | 138 | 23 | 13 | 124 | 174 |

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Table R.7

Summary of Recruitment & Hiring of Faculty, Fall 2018

| | Doctoral Math | Masters and Bachelors | Statistics & Biostatistics | Total |
|--|---------------|-----------------------|----------------------------|-------------|
| Doctoral Positions under recruitment | | | | |
| Total Number | 939 | 945 | 242 | 2126 |
| Tenure or tenure-track | 296 | 553 | 136 | 985 |
| Non-tenure-track | 643 | 392 | 106 | 1141 |
| Reported Hires for Above, excluding temporary hires | | | | |
| Hires by type of position | 852 | 822 | 192 | 1866 |
| Tenure or tenure-track | 235 | 441 | 99 | 775 |
| Previously in non-tenure-track | 27 | 103 | 11 | 141 |
| Previously in postdoc | 126 | 105 | 30 | 261 |
| Non-tenure-track | 617 | 381 | 93 | 1091 |
| 1-year appointments | 83 | 143 | 11 | 237 |
| Previously in postdoc | 386 | 27 | 32 | 445 |
| Gender of hires | 852 | 822 | 192 | 1866 |
| Men | 617 | 535 | 129 | 1281 |
| Women | 235 | 287 | 63 | 585 |
| Other | - | - | - | - |
| Hires by type of position & gender | 852 | 822 | 192 | 1866 |
| Tenure or tenure-track | 235 | 441 | 99 | 775 |
| Men | 168 | 306 | 69 | 543 |
| Women | 67 | 135 | 30 | 232 |
| Other | - | - | - | - |
| Non-tenure-track | 617 | 381 | 93 | 1091 |
| Men | 449 | 229 | 60 | 738 |
| Women | 168 | 152 | 33 | 353 |
| Other | - | - | - | - |
| Total hires by doctoral degree | 852 | 822 | 192 | 1866 |
| Doctoral hires | 823 | 718 | 188 | 1729 |
| Men | 606 | 486 | 127 | 1219 |
| Women | 217 | 232 | 61 | 510 |
| Other | - | - | - | - |
| Non-doctoral hires | 29 | 104 | 4 | 137 |
| Men | 11 | 49 | 2 | 62 |
| Women | 18 | 55 | 2 | 75 |
| Other | - | - | - | - |