

# Academic Recruitment, Hiring, and Attrition during 2018–2019

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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, a segment is removed from the population of mathematical scientists by way of faculty changing jobs, retirement, and death. This report provides a snapshot of that process to aid in understanding the status of such variables as: hiring rates, gender distribution, position type, and prior experience. Also, 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](http://www.ams.org/annual-survey).

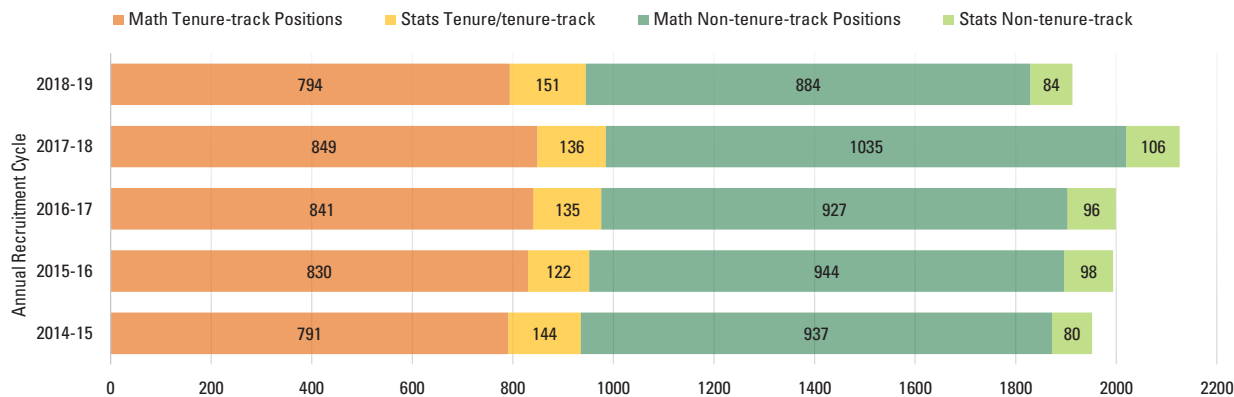
A total of 634 mathematical sciences departments were in the frame for this Recruitment, Hiring, and Attrition sur-

vey. This report is based on the completed questionnaires received from the 310 departments that reported recruiting to fill doctoral tenure-track and non-tenure-track positions during the academic year 2018–19 for employment beginning in the fall of 2018.

## Overview of Recruitment

During the 2018–19 academic year, the estimated number of full-time positions under recruitment in mathematical and statistical sciences departments was 1,913 (SE = 69). This figure breaks down as follows: 794 tenure-track math positions, 884 non-tenure-track math positions, 151 tenure-track stats positions, and 84 non-tenure-track stats positions. See Figure R.1 for comparisons with earlier years. In the period from 2014 to 2019, the overall percentage of positions under recruitment that were tenure-track ranged from 46% to 49%, with the highest percentages in 2014–15 and 2018–19 of this range of time.

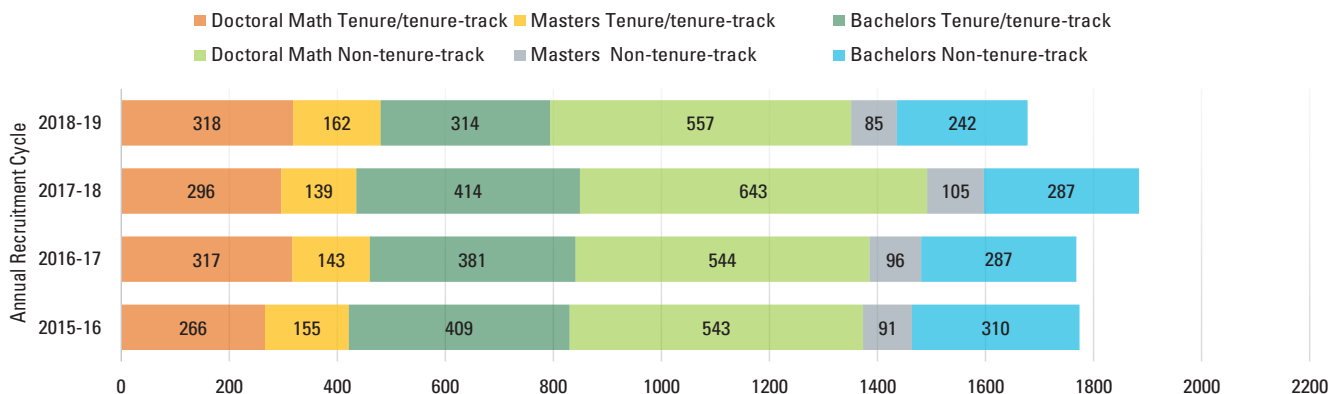
**Figure R.1. Positions Under Recruitment in Mathematical Sciences**



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



- Overall features in the 2018–19 cycle:
  - The estimated number of positions under recruitment was 1,913; this figure represents a 10% decrease from the 2017–18 estimate of 2,126 positions.
  - Women accounted for 34% of those hired, up from 31% in 2017–18.
  - Since 2009–2010 recruitment has increased 65% in all Mathematical Sciences, 62% in Math, and 82% in Stats.
- Tenure-track positions under recruitment:
  - The estimated number of open tenure-track positions was 945 down 4% from the 2017–18 estimate of 985.
  - 49% (945) of all positions under recruitment were tenure-track. Of these 945 positions, all were open to new PhDs, and 26% (246) were potentially at the rank of associate/full professor.
- Non-tenure-track positions under recruitment:
  - Non-tenure-track positions decreased 15% overall, to 968 from 1,141 in 2017–18.
  - 51% (968) of all positions under recruitment were non-tenure-track.

In Math the number of positions under recruitment (1,678) in 2018–19 was down 11% from the previous year (1,884). See Figure R.2 for a longer-term comparison. Over the period since 2008–09 recruitment has increased in both Doctoral departments and Masters departments 64% and 43%, respectively and decreased in Bachelors departments by 26%. In the same ten-year period, the net number of mathematics positions under recruitment has decreased by 11%.

In Stats, the number of positions under recruitment in 2018–19 was 235, essentially the same as in 2017–18.

**Positions Filled**

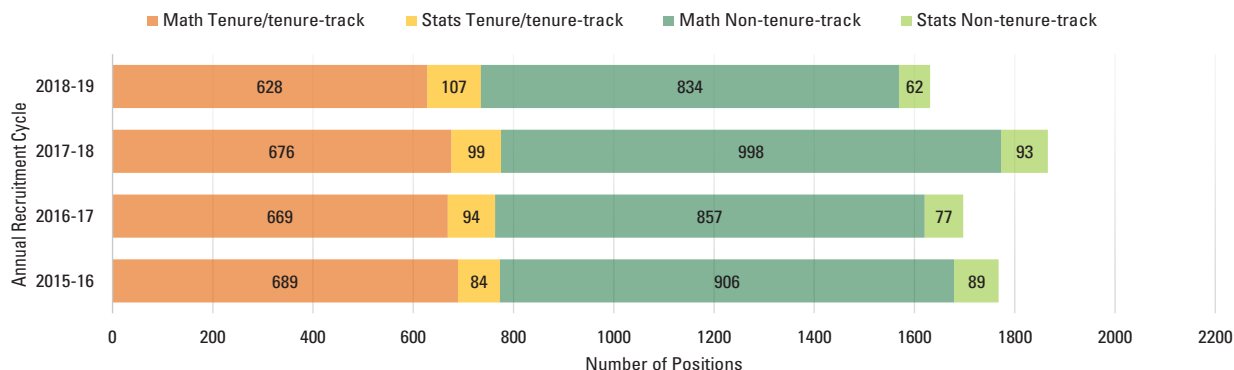
A total of 1,631 full-time positions in Mathematical and Statistical Sciences were filled during the 2018–19 academic

cycle, 1,462 in Mathematics Departments and 169 in Statistics or Biostatistics. Figure F.1 gives a breakdown for the most recent four years. The total for Math is down 10% from the 12-year high in 2007–08 cycle of 1,816 filled. For Stats, the number of filled positions is up 37% from the 2007–08 estimate of 123. One interesting feature implicit in these data is that the success rate for filling mathematical sciences tenure-track positions over the period 2013–19 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:

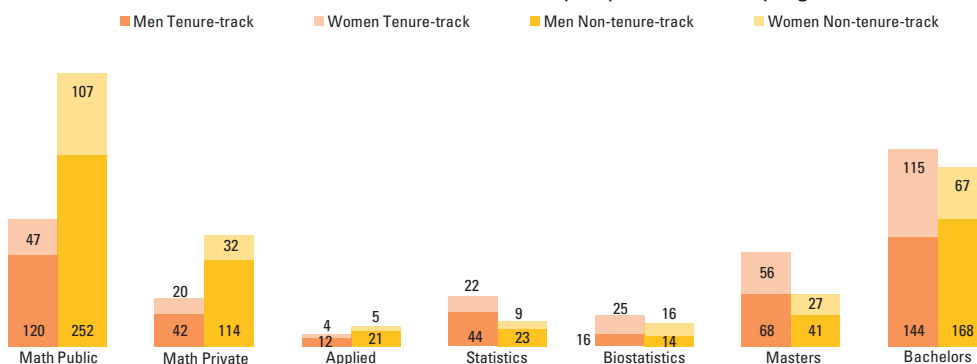
- Overall features of hires in mathematical sciences:
  - Women hold 34% (552) of positions filled.
  - Of all hires, 45% (735) were tenure-track; women constitute 39% (289) of these.
  - Of all hires, 55% (896) were non-tenure-track; women constitute 29% (263) of these.
- Math and Stats breakdown:
  - In Math overall, 1,397 of 1,678 positions (83%) were filled; 32% of Math positions filled were by women.
  - In Stats, 163 of 235 positions (69%) were filled; 42% of Stats positions filled were by women.
- Tenure-track hires in mathematical sciences:
  - Of the 945 tenure-track positions under recruitment, 78% (735) were filled.
  - Of tenure-track positions filled, 72% (526) were filled by doctoral faculty who are not new PhDs. In comparison with 2017–18, all groups reported increases in tenure-track hires of doctoral faculty except Math Public Large (↓22%), Math Public Small (↓21%), Applied Math (↓6%), and Bachelors (↓20%).
  - Of the 209 (28%) of tenure-track hires who were new PhDs, 50% were women.

Figure F.1. Positions Filled in Mathematical Sciences



- Of tenure-track hires, 18% (123) had a non-tenure-track position in 2017–18; of these individuals, 30% were women.
- Of tenure-track hires, 32% (236) held a postdoc in 2017–18, and 32% of these postdocs were women.
- Non-tenure-track hires:
  - Of the 968 non-tenure-track positions under recruitment, 93% were filled. In comparison to 2017–18, all groups reported decreased hiring of non-tenure-track faculty except Math Public Large (↑2%) and Applied Math (↑24%).
  - Of non-tenure-track hires, 38% (341) were filled by PhD faculty who were not new PhDs; 25% of these doctoral faculty hires were women.
  - Of non-tenure-track hires, 92% (825) were PhDs; 59% of these PhDs were new PhDs and 29% of these were women. Non-tenure-track hires (continued)
  - Of non-tenure-track hires, 8% (71) were filled by non-doctoral faculty; 51% of these non-doctoral hires were women. Thirty-four percent of these non-doctoral, non-tenure-track hires were in Bachelors departments.
  - Of non-tenure-track hires, 19% (168) were temporary (one-year); 22% of these temporary hires were women. Sixty-two percent of all temporary hires were in Bachelors departments.
- Of non-tenure-track hires, 43% (389) were in postdoctoral positions; 30% of these postdocs were women.
- Women hires (see Figure F.2):
  - Of all hires, 34% (552) were women; of these women, Bachelors departments hired 37%, and Doctoral Math departments hired 28%.
  - In the Doctoral Math Group, women hires decreased by 9% to 215.
  - All groups reported increases in the number of women hires over 2017–18 except Math Public Medium (↓5%), Math Private Small (↓47%), Applied Math (↓47%), Statistics (↓3%), and Bachelors (↓19%).
  - The number of women hired into tenure-track positions increased 25% to 289 from 232; the number hired into non-tenure-track positions increased by 22% to 353.
  - Women accounted for 39% of all tenure-track and 29% of all non-tenure track hires; in 2017–18 these percentages were, respectively, 30% and 32%.

Figure F.2. Gender of Tenure-track and Non-tenure-track Hires by Department Grouping, Fall 2018–19 Employment



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**Faculty Retirements and Deaths**

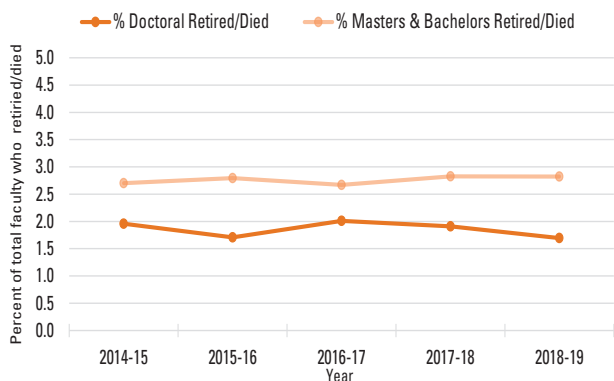
Figure A.1 shows the attrition from deaths and retirements among full-time faculty for the academic years 2014–15 through 2018–19. On average over the period shown, in doctoral departments the yearly percentage of retired or deceased faculty is about 1.7%, and in Masters and Bachelors departments that percentage is about 2.8%.

During the same period, in the respective groups, the percentages of tenured faculty who retired averaged 3.4% for Doctoral Math departments, 4.9% for Bachelors and Masters, and 3.9% for Stats. As reported in previous years, departments continue to report the majority of those retiring as members of the tenured faculty.

Here are a few other highlights from the attrition data from the 2018–19 cycle:

- Overall retirements by tenured faculty decreased to 450 from 531 in 2017–18.
- Deaths and retirements decreased to 592 from 614 in 2017–18.
- Overall deaths and retirements break down by departmental grouping as follows:
  - 42% (246) were from Bachelors
  - 26% (156) were from Doctoral Math
  - 23% (138) were from Masters
  - 9% (52) were from Stat

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



\* 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.

**Faculty Departures**

Departments also reported an estimated 378 full-time faculty left their department for employment elsewhere. Seventy-eight percent of these individuals took another academic position with a different department or institution, 16% took employment in Business, Industry, and Government (BIG), and 6% took positions in secondary education or a different sector. Of the positions vacated, 37% were postdocs, 22% were tenured, and 41% were tenure-eligible.

**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](http://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	20 of 26	76%
Math Public Medium	26 of 40	65%
Math Public Small	50 of 73	68%
Math Private Large	12 of 24	50%
Math Private Small	14 of 28	50%
Applied Math	14 of 23*	61%
Statistics	33 of 61	54%
Biostatistics	20 of 45*	44%
Masters	78 of 178	45%
Bachelors	367 of 1,007	36%
Total	634 of 1,505	42%

\*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.

### 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 Joint 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.

# Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

Table A.1  
Faculty Deaths & Retirements, Fall 2018–2019

	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	Total Math & Stats
<b>Full-time faculty who retired or died</b>	<b>39</b>	<b>27</b>	<b>50</b>	<b>18</b>	<b>15</b>	<b>7</b>	<b>18</b>	<b>34</b>	<b>156</b>	<b>52</b>	<b>208</b>	<b>138</b>	<b>246</b>	<b>540</b>	<b>592</b>
<i>Standard Error</i>	5	4	6	4	4	2	10	24	24	35	4	17	17	39	39
% of Full-time faculty	2%	1%	2%	2%	2%	1%	1%	3%	2%	2%	2%	3%	3%	2%	2%
Died	3	-	7	2	-	-	-	-	12	-	12	9	7	28	28
Retired	36	27	43	16	15	7	18	34	144	52	196	129	239	512	564
Tenured Faculty	35	26	36	16	15	7	18	9	135	27	162	83	205	423	450

# Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

**Table A.2**

Tenured Faculty Retirements, Fall 2018–2019

	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	Total Math & Stats
<b>Full-time Tenured faculty who retired</b>	<b>35</b>	<b>26</b>	<b>36</b>	<b>16</b>	<b>15</b>	<b>7</b>	<b>18</b>	<b>9</b>	<b>135</b>	<b>27</b>	<b>162</b>	<b>83</b>	<b>205</b>	<b>423</b>	<b>450</b>
<i>Standard Error</i>	4	4	4	4	4	2	4	3	9	5		12	22	27	
% of Full-time tenured faculty	2.9%	2.5%	2.6%	2.7%	3.3%	2.4%	2.4%	2.2%	2.7%	2.3%	10.8%	3.8%	4.1%	3.5%	1.7%

Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

Table R.1: Recruitment and Hiring of Faculty in the Mathematical Sciences for Employment Starting Fall 2019 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	Total Math & Stats
<b>Recruited positions requiring a doctorate</b>	<b>232</b>	<b>202</b>	<b>142</b>	<b>174</b>	<b>74</b>	<b>51</b>	<b>125</b>	<b>110</b>	<b>875</b>	<b>235</b>	<b>1110</b>	<b>247</b>	<b>556</b>	<b>1678</b>	<b>1913</b>
<i>Standard Error</i>	15	20	16	22	22	8	15	20	39	35	46	34	39	64	69
Tenured or tenure-track	53	80	76	56	28	25	79	72	318	151	469	162	314	794	945
Open to new doctoral recipients	53	80	76	56	28	25	79	72	318	151	469	162	314	794	945
Open to assoc/full level	16	15	15	36	12	7	15	36	101	51	152	34	60	195	246
Non-tenure-track	179	122	66	118	46	26	46	38	557	84	641	85	242	884	968
Open to new doctoral recipients	166	122	53	118	46	25	35	38	530	73	603	85	231	846	919
Temporary 1-year appointments	17	5	10	10	6	3	9	14	51	23	74	54	153	258	281
<b>Estimated Hires for Above Total number (% of Total Recruited in Group)</b>	<b>220 (95%)</b>	<b>191 (95%)</b>	<b>115 (81%)</b>	<b>150 (86%)</b>	<b>58 (78%)</b>	<b>42 (82%)</b>	<b>98 (78%)</b>	<b>71 (65%)</b>	<b>776 (89%)</b>	<b>169 (72%)</b>	<b>945 (85%)</b>	<b>192 (78%)</b>	<b>494 (89%)</b>	<b>1462 (87%)</b>	<b>1631 (85%)</b>
<b>Tenured or tenure-track Hires</b>	<b>40</b>	<b>72</b>	<b>55</b>	<b>40</b>	<b>22</b>	<b>16</b>	<b>66</b>	<b>41</b>	<b>245</b>	<b>107</b>	<b>352</b>	<b>124</b>	<b>259</b>	<b>628</b>	<b>735</b>
Doctorates hired															
Men	27	50	43	30	12	12	44	16	174	60	234	68	144	386	446
New doctorates hired	4	2	4	-	-	2	22	2	12	24	36	14	55	81	105
Not new doctorates hired	23	48	39	30	12	10	22	14	162	36	198	54	89	305	341
Previously in non-tenure-track	3	5	4	6	2	-	5	5	20	10	30	14	39	73	83
Previously in postdoc	20	32	23	8	6	5	16	7	94	23	117	25	18	137	160
Women	13	22	12	10	10	4	22	25	71	47	118	56	115	242	289
New doctorates hired	4	2	3	-	-	2	9	7	11	16	27	16	61	88	104
Not new doctorates hired	9	20	9	10	10	2	13	18	60	31	91	40	54	154	185
Previously in non-tenure-track	1	3	3	2	2	-	4	5	11	9	20	7	13	31	40
Previously in postdoc	4	11	3	2	4	2	5	7	26	12	38	22	16	64	76
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New doctorates hired	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Not new doctorates hired	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Previously in non-tenure-track	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Previously in postdoc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Non-tenure-track Hires</b>	<b>180</b>	<b>119</b>	<b>60</b>	<b>110</b>	<b>36</b>	<b>26</b>	<b>32</b>	<b>30</b>	<b>531</b>	<b>62</b>	<b>593</b>	<b>68</b>	<b>235</b>	<b>834</b>	<b>896</b>
Doctorates hired	173	115	47	110	34	26	26	30	505	56	561	53	211	769	825
Men	122	83	35	84	30	21	21	14	375	35	410	34	154	563	598
New doctorates hired	88	46	15	80	22	8	5	5	259	10	269	17	58	334	344
Not new doctorates hired	34	37	20	4	8	13	16	9	116	25	141	17	96	229	254
Postdoc appointments	109	57	10	58	20	10	-	-	264	-	264	4	6	274	274
1-year appointments	12	3	4	8	6	3	-	-	36	-	36	32	63	131	131
Women	51	32	12	26	4	5	5	16	130	21	151	19	57	206	227
New doctorates hired	35	23	6	22	2	2	-	5	90	5	95	13	32	135	140
Not new doctorates hired	16	9	6	4	2	3	5	11	40	16	56	6	25	71	87
Postdoc appointments	42	26	4	24	2	2	-	5	100	5	105	10	-	110	115
1-year appointments	5	-	1	2	-	-	-	-	8	-	8	6	23	37	37
Nondoctorates hired	7	4	13	-	2	-	6	-	26	6	32	15	24	65	71
Men	3	2	7	-	-	-	2	-	12	2	14	7	14	33	35
Women	4	2	6	-	2	-	4	-	14	4	18	8	10	32	36
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Unfilled positions</b>	<b>13</b>	<b>11</b>	<b>27</b>	<b>24</b>	<b>16</b>	<b>9</b>	<b>27</b>	<b>39</b>	<b>100</b>	<b>66</b>	<b>166</b>	<b>26</b>	<b>19</b>	<b>145</b>	<b>211</b>



# Mathematical and Statistical Sciences Annual Survey

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Table R.2

Recruitment & Hiring of Doctoral Faculty by Position, and Gender for Employment Starting Fall 2019

	Doctoral Math	Masters and Bachelors	Statistics & Biostatistics	Total
<b>Positions under recruitment requiring a doctorate</b>				
<b>Total Number</b>	875	803	235	1913
Tenure or tenure-track	318	476	151	945
Open to new doctorate recipients	318	476	151	945
Open to assoc/full level	101	94	51	246
Non-tenure-track	557	327	84	968
Open to new doctoral recipients	530	316	73	919
1-year appointments	51	207	23	281
<b>Reported Hires for Above, excluding temporary hires</b>				
<b>Total hires</b>	776	686	169	1631
Tenure or tenure-track	245	383	107	735
Previously in non-tenure-track	31	73	19	123
Previously in postdoc	120	81	35	236
Non-tenure-track	531	303	62	896
1-year appointments	44	124	-	168
Postdoc appointments	364	20	5	389
<b>Total doctorates hired</b>	750	647	163	1560
New doctorates hired	372	266	55	693
Tenured or tenure-track	23	146	40	209
Men	271	144	34	449
Tenured or tenure-track	12	69	24	105
Women	101	122	21	244
Tenured or tenure-track	11	77	16	104
Other	-	-	-	-
Tenured or tenure-track	-	-	-	-
Not-new doctorates hired	378	381	108	867
Tenured or tenure-track	222	237	67	526
Men	278	256	61	595
Tenured or tenure-track	162	143	36	341
Women	100	125	47	272
Tenured or tenure-track	60	94	31	185
Other	-	-	-	-
Tenured or tenure-track	-	-	-	-
<b>Total Non-doctorates hired</b>	26	39	6	71
Men	12	21	2	35
Women	14	18	4	36
Other	-	-	-	-

# Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

**Table R.3**  
Summary of Total Recruitment & Hiring of Faculty in the Mathematical Sciences by Department Grouping for Employment Starting Fall 2019

	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	Total Math & Stat
<b>Total Doctoral Positions Under Recruitment</b>	<b>232</b>	<b>202</b>	<b>142</b>	<b>174</b>	<b>74</b>	<b>51</b>	<b>125</b>	<b>110</b>	<b>875</b>	<b>235</b>	<b>1110</b>	<b>247</b>	<b>556</b>	<b>1678</b>	<b>1913</b>
<i>Standard Error</i>	<b>15</b>	20	16	22	22	8	15	20	39	35	46	34	39	64	69
Tenured or tenure-track Hires	<b>53</b>	80	76	56	28	25	79	72	318	151	469	162	314	794	945
Non-tenure-track Hires	<b>179</b>	122	66	118	46	26	46	38	557	84	641	85	242	884	968
<b>Total Hires</b>	<b>220</b>	<b>191</b>	<b>115</b>	<b>150</b>	<b>58</b>	<b>42</b>	<b>98</b>	<b>71</b>	<b>776</b>	<b>169</b>	<b>945</b>	<b>192</b>	<b>494</b>	<b>1462</b>	<b>1631</b>
Tenured or tenure-track Hires	<b>40</b>	72	55	40	22	16	66	41	245	107	352	124	259	628	735
Non-tenure-track Hires	<b>180</b>	119	60	110	36	26	32	30	531	62	593	68	235	834	896
<b>Total Hires by Gender</b>	<b>220</b>	<b>191</b>	<b>115</b>	<b>150</b>	<b>58</b>	<b>42</b>	<b>98</b>	<b>71</b>	<b>776</b>	<b>169</b>	<b>945</b>	<b>192</b>	<b>494</b>	<b>1462</b>	<b>1631</b>
Men hires	<b>152</b>	135	85	114	42	33	67	30	561	97	658	109	312	982	1079
Women hires	<b>68</b>	56	30	36	16	9	31	41	215	72	287	83	182	480	552
Other hires	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Unfilled positions</b>	<b>13</b>	<b>11</b>	<b>27</b>	<b>24</b>	<b>16</b>	<b>9</b>	<b>27</b>	<b>39</b>	<b>100</b>	<b>66</b>	<b>166</b>	<b>26</b>	<b>19</b>	<b>145</b>	<b>211</b>

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**Table R.4**  
Percentage of Women Hired into Mathematical Sciences Positions Requiring a Doctorate for Fall 2019

	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	Total Math & Stats
<b>Total Hires</b>	<b>220</b>	<b>191</b>	<b>115</b>	<b>150</b>	<b>58</b>	<b>42</b>	<b>98</b>	<b>71</b>	<b>776</b>	<b>169</b>	<b>945</b>	<b>192</b>	<b>494</b>	<b>1462</b>	<b>1631</b>
% Women	<b>31%</b>	29%	26%	24%	28%	21%	32%	58%	28%	43%	30%	43%	37%	33%	34%
<b>Women as a percentage of hires</b>															
<b>Tenured or tenure-track</b>	<b>33%</b>	<b>31%</b>	<b>22%</b>	<b>25%</b>	<b>45%</b>	<b>25%</b>	<b>33%</b>	<b>61%</b>	<b>29%</b>	<b>44%</b>	<b>39%</b>	<b>45%</b>	<b>44%</b>	<b>39%</b>	<b>39%</b>
New doctoral	<b>50%</b>	50%	43%	-	-	50%	29%	78%	48%	40%	50%	53%	53%	52%	50%
Not new doctoral	<b>28%</b>	29%	19%	25%	45%	17%	37%	56%	27%	46%	35%	43%	38%	34%	35%
Previously in non-tenure-track	<b>25%</b>	38%	43%	25%	50%	-	44%	50%	35%	47%	33%	33%	25%	30%	33%
Previously in postdoc	<b>17%</b>	26%	12%	20%	40%	29%	24%	50%	22%	34%	32%	47%	47%	32%	32%
<b>Non-tenured-track</b>	<b>31%</b>	<b>29%</b>	<b>30%</b>	<b>24%</b>	<b>17%</b>	<b>19%</b>	<b>28%</b>	<b>53%</b>	<b>27%</b>	<b>40%</b>	<b>29%</b>	<b>40%</b>	<b>29%</b>	<b>29%</b>	<b>29%</b>
New doctoral hires	<b>28%</b>	33%	29%	22%	8%	20%	-	50%	26%	33%	29%	43%	36%	29%	29%
Not new doctoral hires	<b>32%</b>	20%	23%	50%	20%	19%	24%	55%	26%	39%	26%	26%	21%	24%	26%
Nondoctoral hires	<b>57%</b>	50%	46%	-	100%	-	67%	-	54%	67%	51%	53%	42%	49%	51%
Postdoc appointments	<b>28%</b>	31%	29%	29%	9%	17%	-	100%	27%	100%	30%	71%	-	29%	30%
1-year appointments	<b>29%</b>	-	20%	20%	-	-	-	-	18%	-	22%	16%	27%	22%	22%

# Mathematical and Statistical Sciences Annual Survey

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**Table R.5**  
Recruitment & Hiring of Doctoral Faculty for Employment Starting Fall 2019

	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	Total Math & Stats
<b>Recruited positions requiring a doctorate</b>	<b>232</b>	<b>202</b>	<b>142</b>	<b>174</b>	<b>74</b>	<b>51</b>	<b>125</b>	<b>110</b>	<b>875</b>	<b>235</b>	<b>1110</b>	<b>247</b>	<b>556</b>	<b>1678</b>	<b>1913</b>
<i>Standard Error</i>	15	20	16	22	22	8	15	20	39	35	46	34	39	64	69
Tenured or tenure-track	53	80	76	56	28	25	79	72	318	151	469	162	314	794	945
Open to new doctorate recipients	53	80	76	56	28	25	79	72	318	151	469	162	314	794	945
Open to assoc/full level	16	15	15	36	12	7	15	36	101	51	152	34	60	195	246
Non-tenure-track	179	122	66	118	46	26	46	38	557	84	641	85	242	884	968
Open to new doctorate recipients	166	122	53	118	46	25	35	38	530	73	603	85	231	846	919
Temporary 1-year appointments	17	5	10	10	6	3	9	14	51	23	74	54	153	258	281
<b>Reported Doctorate Hires for Above by Gender</b>	<b>213</b>	<b>187</b>	<b>102</b>	<b>150</b>	<b>56</b>	<b>42</b>	<b>92</b>	<b>71</b>	<b>750</b>	<b>163</b>	<b>913</b>	<b>177</b>	<b>470</b>	<b>1397</b>	<b>1560</b>
<b>Men doctorate hires</b>	<b>149</b>	<b>133</b>	<b>78</b>	<b>114</b>	<b>42</b>	<b>33</b>	<b>65</b>	<b>30</b>	<b>549</b>	<b>95</b>	<b>644</b>	<b>102</b>	<b>298</b>	<b>949</b>	<b>1044</b>
Tenured or tenure-track	27	50	43	30	12	12	44	16	174	60	234	68	144	386	446
Non-tenure-track	122	83	35	84	30	21	21	14	375	35	410	34	154	563	598
Postdoc appointments	109	57	10	58	20	10	-	-	264	-	264	4	6	274	274
1-year appointments	12	3	4	8	6	3	-	-	36	-	36	32	63	131	131
<b>Women doctorate hires</b>	<b>64</b>	<b>54</b>	<b>24</b>	<b>36</b>	<b>14</b>	<b>9</b>	<b>27</b>	<b>41</b>	<b>201</b>	<b>68</b>	<b>269</b>	<b>75</b>	<b>172</b>	<b>448</b>	<b>516</b>
Tenured or tenure-track	13	22	12	10	10	4	22	25	71	47	118	56	115	242	289
Non-tenure-track	51	32	12	26	4	5	5	16	130	21	151	19	57	206	227
Postdoc appointments	42	26	4	24	2	2	-	5	100	5	105	10	-	110	115
1-year appointments	5	-	1	2	-	-	-	-	8	-	8	6	23	37	37
<b>Other doctorate hires</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Tenured or tenure-track	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-tenure-track	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Postdoc appointments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-year appointments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total new doctorates hired</b>	<b>131</b>	<b>73</b>	<b>28</b>	<b>102</b>	<b>24</b>	<b>14</b>	<b>36</b>	<b>19</b>	<b>372</b>	<b>55</b>	<b>427</b>	<b>60</b>	<b>206</b>	<b>638</b>	<b>693</b>
Men new doctorates hired	92	48	19	80	22	10	27	7	271	34	305	31	113	415	449
Tenured or tenure-track	4	2	4	-	-	2	22	2	12	24	36	14	55	81	105
Women new doctorates hired	39	25	9	22	2	4	9	12	101	21	122	29	93	223	244
Tenured or tenure-track	4	2	3	-	-	2	9	7	11	16	27	16	61	88	104
Other new doctorates hired	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tenured or tenure-track	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Unfilled positions</b>	<b>13</b>	<b>11</b>	<b>27</b>	<b>24</b>	<b>16</b>	<b>9</b>	<b>27</b>	<b>39</b>	<b>100</b>	<b>66</b>	<b>166</b>	<b>26</b>	<b>19</b>	<b>145</b>	<b>211</b>

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**Table R.6**  
Recruitment & Hiring of Faculty for Employment Starting Fall 2019

	Doctoral Math	Masters and Bachelors	Statistics & Biostatistics	Total
<b>Doctoral Positions under recruitment</b>				
<b>Total Number</b>	<b>875</b>	<b>803</b>	<b>235</b>	<b>1913</b>
Tenure or tenure-track	318	476	151	945
Non-tenure-track	557	327	84	968
<b>Reported Hires for Above, excluding temporary hires</b>				
<b>Hires by type of position</b>	<b>776</b>	<b>686</b>	<b>169</b>	<b>1631</b>
Tenure or tenure-track	245	383	107	735
Previously in non-tenure-track	31	73	19	123
Previously in postdoc	120	81	35	236
Non-tenure-track	531	303	62	896
1-year appointments	44	124	-	168
Previously in postdoc	364	20	5	389
<b>Gender of hires</b>	<b>776</b>	<b>686</b>	<b>169</b>	<b>1631</b>
Men	561	421	97	1079
Women	215	265	72	552
Other	-	-	-	-
<b>Hires by type of position &amp; gender</b>	<b>776</b>	<b>686</b>	<b>169</b>	<b>1631</b>
Tenure or tenure-track	245	383	107	735
Men	174	212	60	446
Women	71	171	47	289
Other	-	-	-	-
Non-tenure-track	531	303	62	896
Men	387	209	37	633
Women	144	94	25	263
Other	-	-	-	-
<b>Total hires by doctoral degree</b>	<b>776</b>	<b>686</b>	<b>169</b>	<b>1631</b>
Doctorates hired	750	647	163	1560
Men	549	400	95	1044
Women	201	247	68	516
Other	-	-	-	-
Non-doctorates hired	26	39	6	71
Men	12	21	2	35
Women	14	18	4	36
Other	-	-	-	-