ANNUAL SURVEY

Report on the 2017–2018 New Doctorate Recipients

Amanda L. Golbeck, Thomas H. Barr, and Colleen A. Rose

This report presents a statistical profile of recipients of doctoral degrees awarded by departments in the mathematical sciences at universities in the United States during the period July 1, 2017 through June 30, 2018. Information in this report was provided by 293 of the 324 doctorate-granting departments surveyed, with additional information provided by the individual degree recipients.

The *Report on the 2017–2018 Employment Experiences of the New Doctoral Recipients* immediately following this report provides an analysis of the fall 2018 employment plans of the 390 PhD recipients who responded to this survey, as well as a summary of their demographic characteristics.

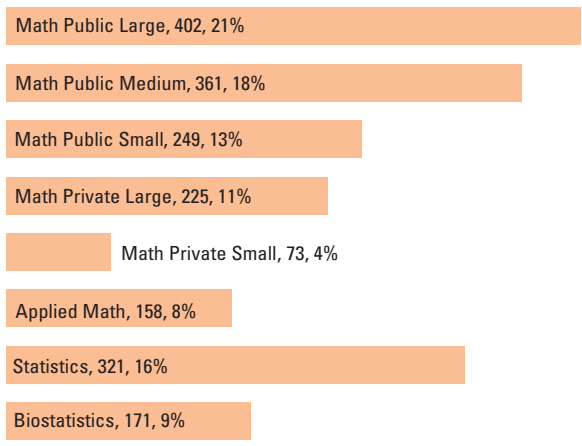
The document containing these two reports along with the tables on which they are based is referenced here by [1], and it is available on the AMS website at `www.ams.org/annual-survey`.

Overall Characteristics of the 2017–2018 Cohort

In mathematical and statistical sciences, 1,960 PhDs were awarded by the responding departments (293); 20 of these departments awarded no doctorates. Figure A.1 gives a breakdown of degree counts by department grouping. This overall count is essentially unchanged from that for the 2016–17 cohort, and the percentages are the same as well. Figure A.2 shows a breakdown of PhD production by mathematical and statistical sciences groups over the years from 2003–04 to 2017–18. Compared, for instance, with the 2007–08 cohort, the combined number of PhDs in 2017–18 is about 42% higher, which translates to an approximate 3.6% year-over-year increase on average.

Dissertation titles are identified by the Mathematics Subject Classification System [2] and then grouped into one of thirteen broad categories (Algebra and Number Theory; Real, Complex, Functional, and Harmonic Analysis; Geometry and Topology; Discrete Mathematics, Combinatorics, Logic, and Computer Science; Probability; Statistics; Biostatistics; Applied Mathematics; Numerical Analysis and Approximation; Linear and Nonlinear Optimization and Control; Differential, Integral, and Difference Equations; Mathematics Education; Other/Unknown). The highest percentage, 32% (622), of the new PhDs had a dissertation in either Statistics or Biostatistics, followed by Algebra and Number Theory with 14% (269) and Applied Mathematics with 14% (265). Further details can be found in Table A.1 in [1].

Figure A.1. Number and Percentage of Degrees Awarded by Department Grouping*
Total Degrees Awarded: 1,960



*See page 1206 for a description of the department groupings.

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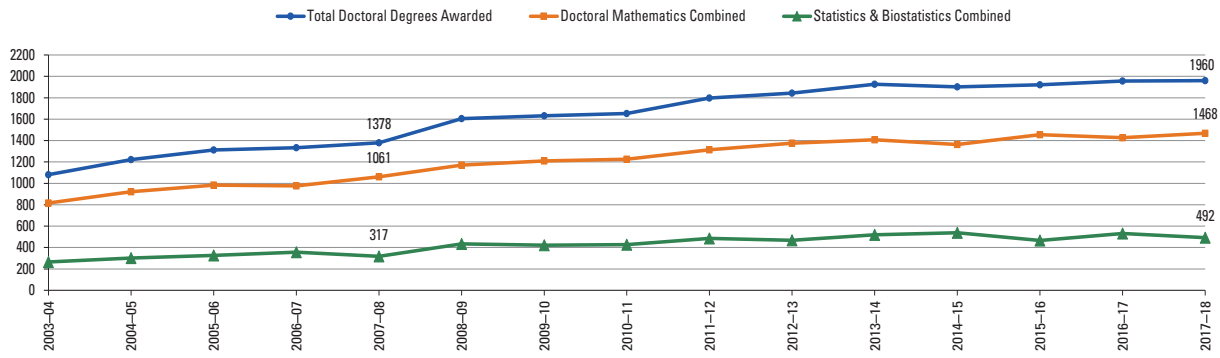
Figure A.2. New PhDs Awarded by Group



Employment

The employment status as of late 2018 was known for 1,696 of the 1,960 doctoral recipients. Figure E.1 gives a percentage breakdown by employment locale and seeking status. Figure E.2 shows the overall percentages of these PhDs reporting employment in various job sectors, and Figure E.3 provides a breakdown of the same information by citizenship.

Of the US citizens whose employment status is known, 86% (714) are employed in the US, and of these:

- 31% are employed in PhD-granting departments.
- 36% are employed in all other academic categories.
- 33% are employed in government, business and industry.

About 30% of the 2017–18 PhDs were in postdoc positions, which marks a decrease of about 3 percentage points from 2016–17. Most were in doctorate-granting departments, and their distribution is shown in Figure E.4. The counts of postdocs in various job sectors are shown in Figure E.5, broken down by citizenship. Of the PhDs in US academic jobs, 51% were postdocs.

Figure E.6 tracks the overall and women's unemployment of new PhDs over a ten-year period. These rates have tended to parallel each other; in all but two of these years, the unemployment rate has been slightly lower for women. The highest unemployment rate in 2017–18 was reported in the Math Private Small (11%) group, and the lowest was about 3% in the Statistics group.

Full details regarding employment outcomes are contained in Tables F.1–F.3 and E.1–E.11 in [1].

Figure E.1. Employment Status (n=1,960)

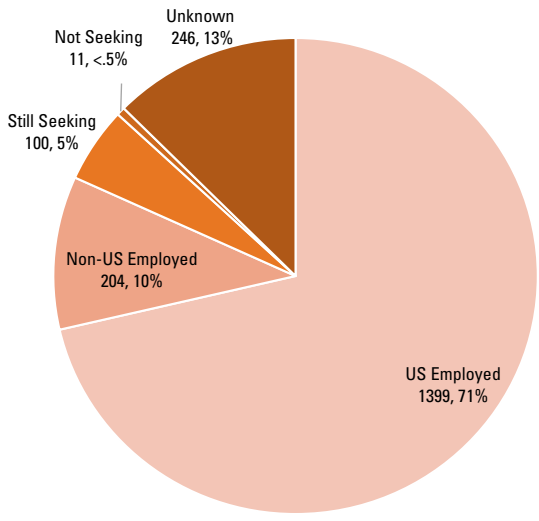
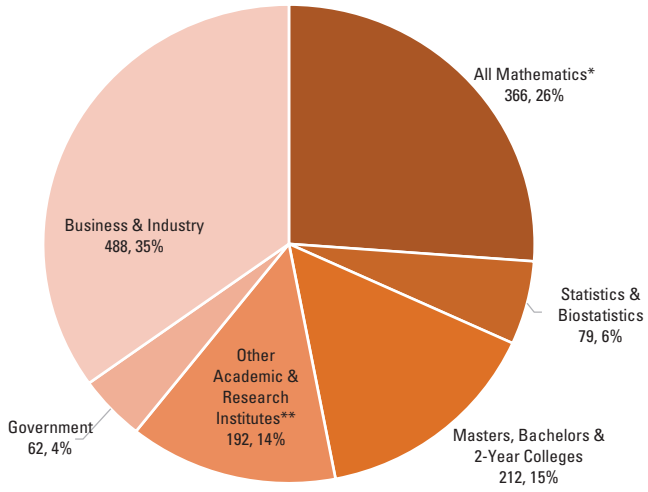
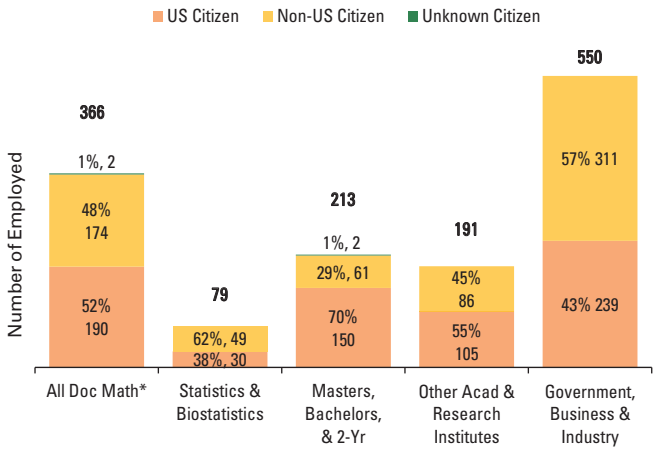


Figure E.2. US Employed by Type of Employer (n=1,399)



* Includes all Math Public, Math Private, and Applied Math departments.
** Other Academic consists of departments outside the mathematical sciences including numerous medical-related units.

Figure E.3. Employment in the US byType of Employer and Citizenship (n=1,399)



*Includes all Math Public, Math Private, and Applied Math departments.

Figure E.4. PhDs Employed in Postdocs by Degree-Granting Department Group (n=1,960)

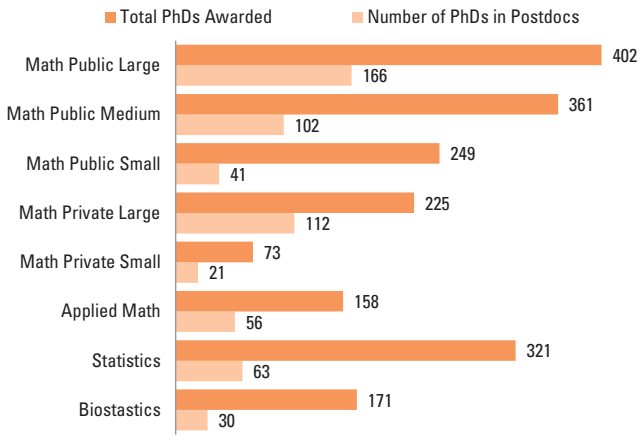
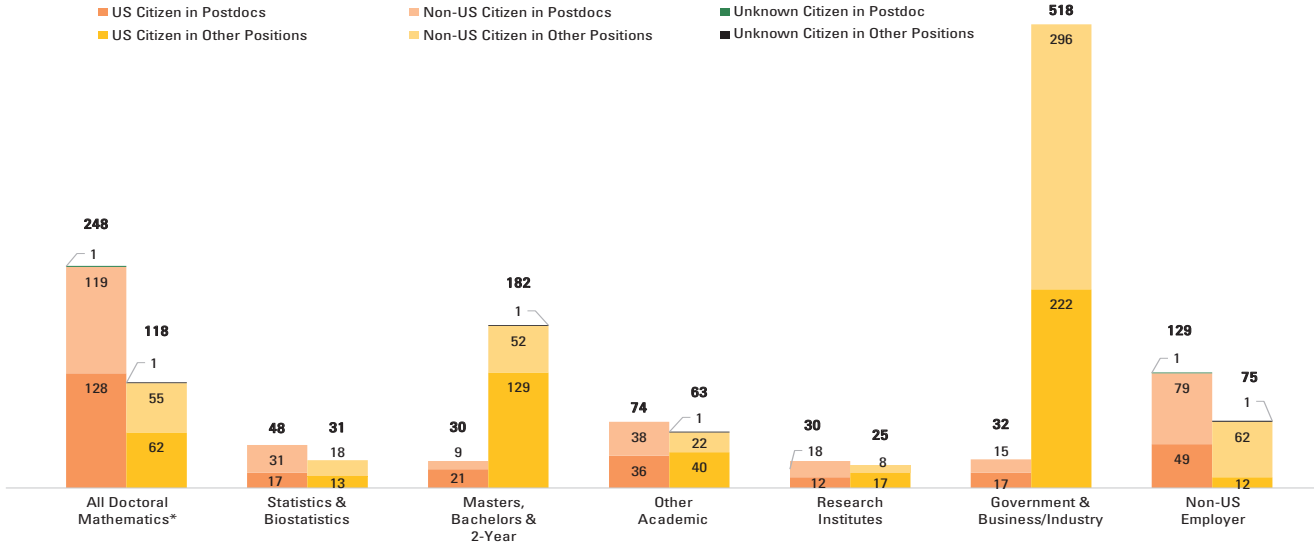


Figure E.5. New PhDs Employment by Citizenship, Type of Position, and Type of Employer (n=1,603)



* Includes all Math Public, Math Private, and Applied Math departments.

Demographics

Gender and citizenship were known for all 1,960 new PhDs reported for 2017–18. Figure D.1 gives a breakdown by departmental grouping of the recipients' gender, and Figure D.2 provides the same categorical breakdown by citizenship. Overall, 48% (935) of recipients were US citizens, 29% (567) were women, and 8% (79) were members of underrepresented minority groups. Figure D.3 shows the gender breakdown of the US citizens, and Figure D.4 shows the overall size of the PhD cohort and citizenship breakdown for 2017–18 and the preceding five years.

Here are a few other features of the 2017–18 data:

- In all math groups except Math Private Large and Applied Math, more than half of the PhD recipients were US citizens.
- In the Statistics groups, 35% of the new PhDs were US citizens.
- 50% of those identifying as men and 42% of those identifying as women were US citizens.
- Among the US citizens earning PhDs, 6 were American Indian or Alaska Native, 81 were Asian, 27 were Black or African American, 34 were Hispanic or Latino, 2 were Native Hawaiian or Other Pacific Islander, 754 were White, and 31 were of unknown race/ethnicity.

Further details on the overall demographics of the 2017–18 cohort are in Tables D.1–D.4 in [1].

Figure E.6. Percentage of New Doctoral Recipients Unemployed 2008–17

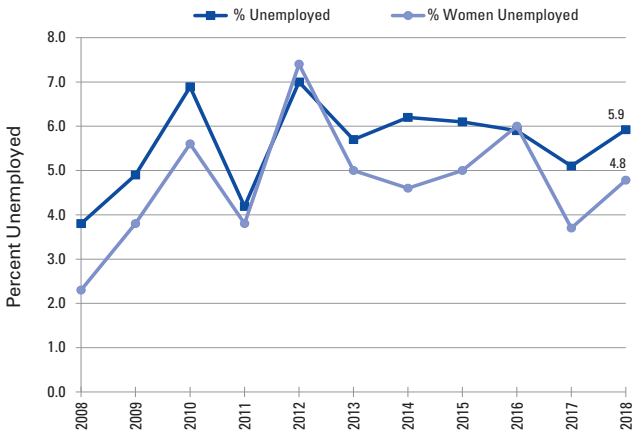
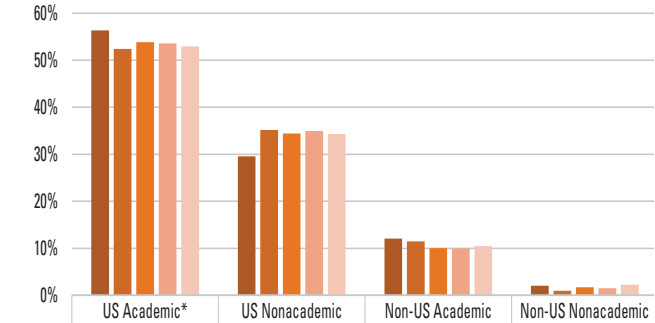


Figure E.7. Percentage of New PhDs Known to be Employed by Type of Employer



	US Academic*	US Nonacademic	Non-US Academic	Non-US Nonacademic
Fall 2014	56%	30%	12%	2%
Fall 2015	52%	35%	11%	1%
Fall 2016	54%	34%	10%	2%
Fall 2017	54%	35%	10%	2%
Fall 2018	53%	34%	10%	2%

* Includes other academic departments and research institutes/other non-profits.

Figure D.1. Gender of Doctoral Recipients by Degree-Granting Grouping (n=1,960)

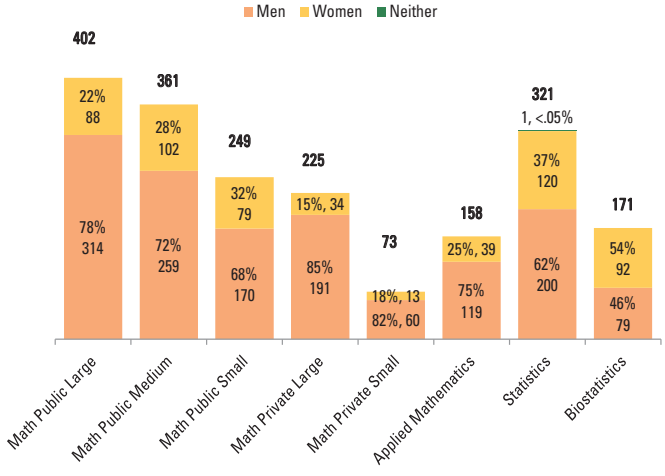


Figure D.2. Citizenship of Doctoral Recipients by Degree-Granting Grouping (n=1,960)

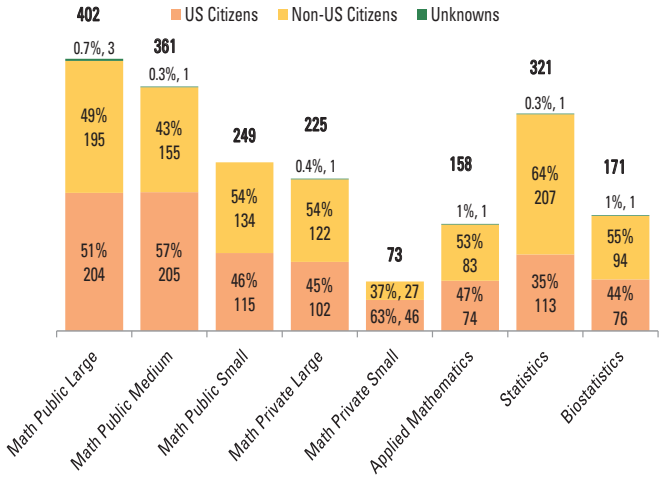


Figure D.3. Gender of US Citizen Doctoral Recipients by Degree-Granting Grouping (n=935)

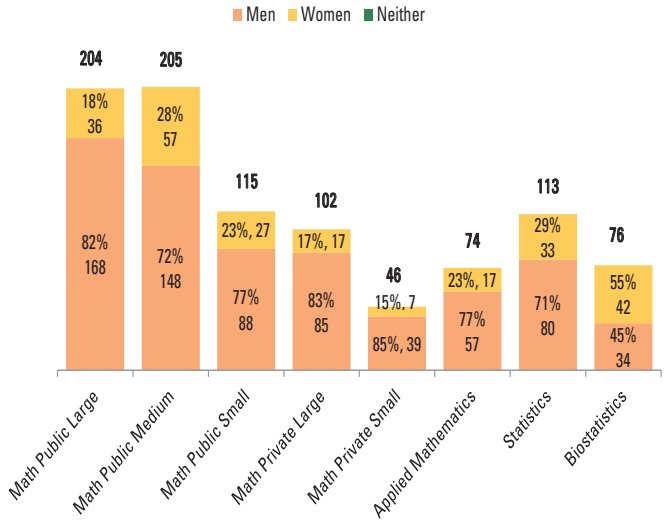


Figure D.4. Citizenship of New PhD Recipients, 2012–18

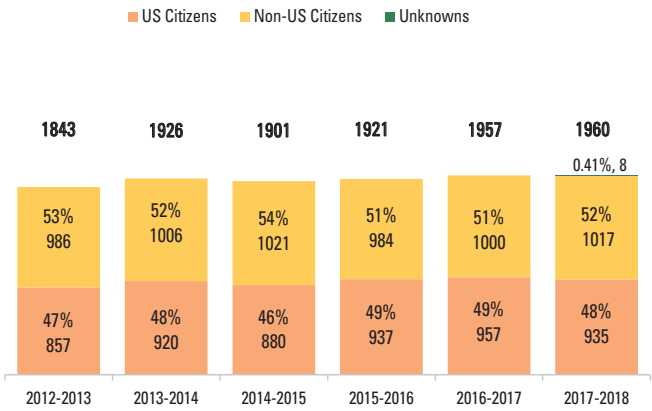


Figure F.1. Women as a Percentage of Doctorate Recipients Produced by and Hired by Department Grouping

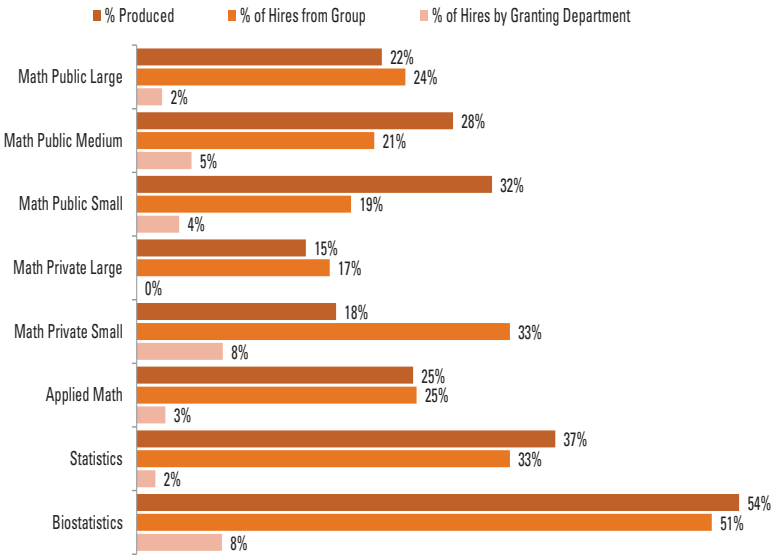
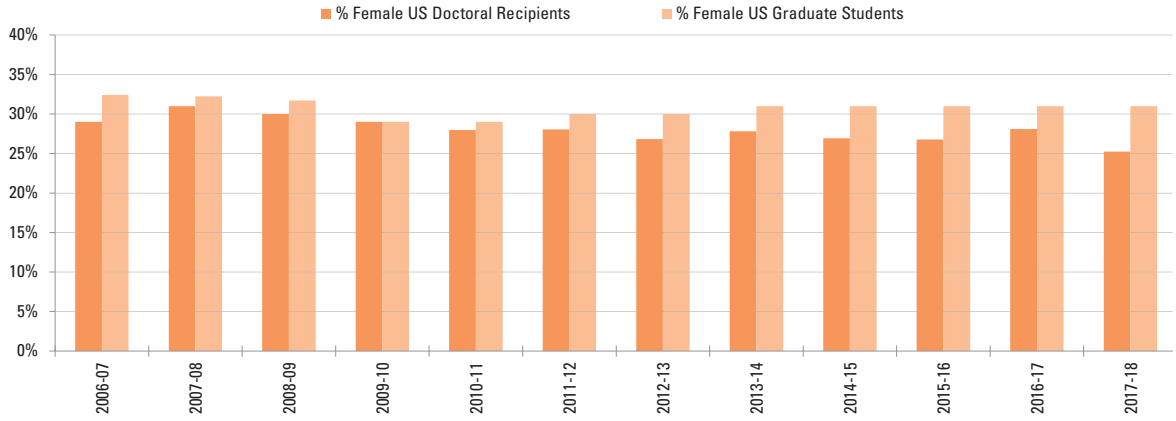


Table F.1. Number of Women Doctorates Produced by and Hired by Department Groupings

Department Grouping	Women		
	Produced	Total Hired	# Hired by Granting Dept.
Math Public Large	88	30	2
Math Public Medium	102	14	5
Math Public Small	79	9	3
Math Private Large	34	15	0
Math Private Small	13	7	1
Applied Math	39	5	1
Statistics	120	14	2
Biostatistics	92	19	7
Total	567	113	21

Figure F.2. Women as a Percentage of US Citizen Doctoral Recipients and Graduate Students



Women Doctorates

Overall, 29% of doctorate recipients were women, the same as for 2016–17. Of the 1,017 PhDs taking academic jobs, 28% (284) were women. Both of these percentages have decreased from their common high of 32% in 2014.

Figure F.1 gives some insight into which groups tend to hire their own women graduates. For example, the graph shows that in Math Public Small departments, women constituted 32% of PhDs produced, 19% of faculty hired in this group were women from this group, and overall 4% of women produced by this group were hired in this group.

Figure F.2 focuses on the percentage, over time, of US-citizen PhDs and graduate students who are women. It is notable that the percentage of women graduate students (tracked in the Departmental Profile reports of the Annual Survey) in the seven years leading up to 2017–18 has been steady at about 30%, whereas the percent of US citizen PhD recipients who are women has generally declined in this period.

Tables D.1, D.3, and F.1 in [1] provide further details.

Statistics/Biostatistics Doctorates

Eighty-nine departments in the Statistics groups (50 of 60 Statistics and 39 of 46 Biostatistics) responded to this survey. They produced 492 doctorates, most of whom had dissertations in statistics or biostatistics (a few were in such areas as probability and applied math), 75 fewer than in 2016–17. Figures S.1 through S.5 give breakdowns of these numbers by gender, citizenship, and employment status. In addition, departments in the Mathematics groups produced 141 PhDs with dissertations in statistics or biostatistics.

Figure S.1. PhDs Awarded by Statistics/Biostatistics Departments (n=492)

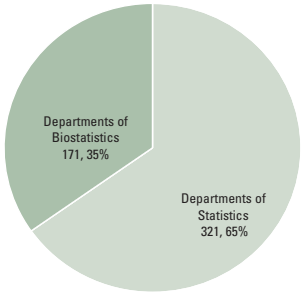


Figure S.2. Gender of PhD Recipients from Statistics/Biostatistics Departments (n=492)

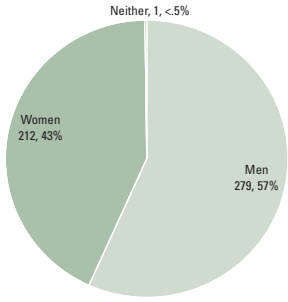


Figure S.3. Citizenship of PhD Recipients from Statistics/Biostatistics Departments (n=492)

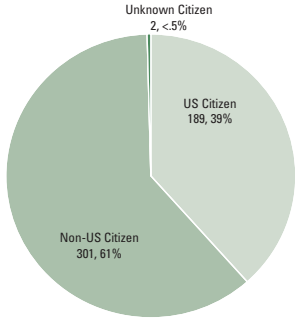


Figure S.4. Employment Status of PhD Recipients from Statistics/Biostatistics Departments (n=492)

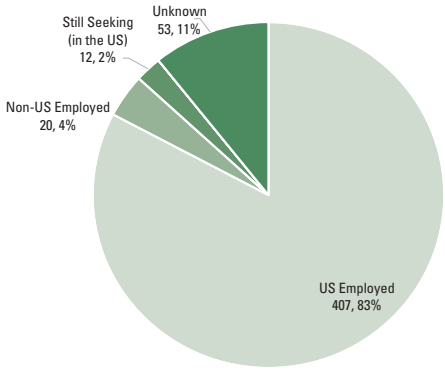
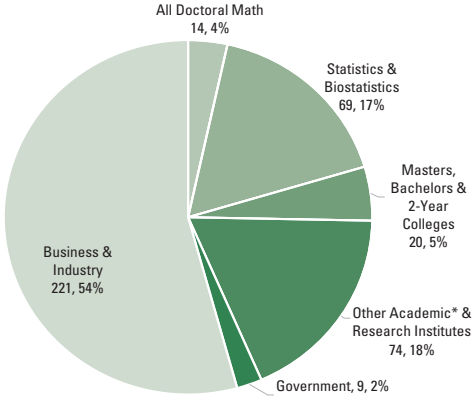


Figure S.5. US-Employed PhD Recipients from Statistics/Biostatistics Departments by Type of Employer (n=407)



* Other Academic consists of departments outside the mathematical sciences including numerous medical-related units.

So the overall number of PhDs specializing in statistical sciences for 2017–18, across all types of departments, was 622, or 32% of the total. Table A.1 in [1] provides details.

Here are some attributes of the 2017–18 PhDs produced by departments in the Statistics groups:

- These doctorates constituted 25% of all those in mathematical sciences.
- 37% of those in Statistics and 54% in Biostatistics were women.
- 40% of the US citizens were women.
- The unemployment rate of 2.7% is about half the corresponding percentage among Math PhDs.
- 42% of those hired by Stat/Biostat departments were women.

Tables A.1, D.1–D.5, F.1–F.3, and E.1–E.11 in [1] include more details about PhDs in the Statistics groups.

References

[1] A. Golbeck, T. Barr, and C. Rose, *Report on the 2017–2018 New Doctorate Recipients, with Tables*, www.ams.org/annual-survey/2018Survey-NewDoctorates-Report.pdf.

[2] MSC2020–Mathematics Subject Classification System, http://mathscinet.ams.org/msnhtml/msc2020.pdf

Departmental 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."

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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, $7.0 \le p$
Math Public Medium	Math PhD, $3.9 \le p < 7.0$
Math Public Small	Math PhD, $p < 3.9$
Math Private Large	Math PhD, $3.9 \le p$
Math Private Small	Math PhD, $p < 3.9$
Applied Math	Applied mathematics, PhD
Statistics	Statistics, PhD
Biostatistics	Biostatistics, PhD
Masters	Math, masters
Bachelors	Math, bachelors
Doctoral Math	Math Public, Math Private, & Applied Math
Stat/Biostat or Stats	Statistics & Biostatistics
Math	All groups except Statistics & Biostatistics

Department Response Rates by Grouping

Group	Received
Math Public Large:	26 of 26 including 0 with no degrees
Math Public Medium:	39 of 40 including 0 with no degrees
Math Public Small:	62 of 70 including 9 with no degrees
Math Private Large:	24 of 24 including 0 with no degrees
Math Private Small:	24 of 28 including 2 with no degrees
Applied Math:	28 of 30 including 2 with no degrees
Statistics:	51 of 60 including 1 with no degrees
Biostatistics:	39 of 46 including 6 with no degrees
Total:	293 of 324 including 20 with no degrees

As of press time for this issue of *Notices*, the following departments had not responded to the survey. Therefore, any PhDs which may have been awarded by these departments are not included in this report.

Mathematics Departments
Clarkson University
Dartmouth College
Illinois State University
Jackson State University
Mississippi State University
Montclair State University
University of Alabama at Birmingham
University of California, Santa Cruz
University of Denver
University of Missouri–Kansas City
University of Oklahoma
University of Pennsylvania
University of Puerto Rico, Mayaguez
Wright State University, Dayton
Yeshiva University

Statistics Departments
George Washington University
Harvard University
Michigan State University
North Dakota State University, Fargo
Southern Methodist University
University of Alabama–Tuscaloosa
University of Arizona
University of California, Irvine
University of Virginia

Biostatistics Departments
Case Western Reserve University
Saint Louis University College for Public Health & Social Justice
University of Arizona, Mel & Enid Zuckerman College of Public Health
University of Cincinnati, Medical College
University of Illinois at Chicago
University of South Carolina
University of Texas–School of Public Health

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 supporting organizations. Every year, college and university departments in the United States are invited to respond, and the Annual Survey relies heavily on the conscientious efforts of the dedicated staff members of these departments. On behalf of the Joint Data Committee and the Annual Survey Staff, we thank the many secretarial and administrative staff in the departments for their cooperation and assistance in responding to the survey questionnaires.

The Annual Survey is co-sponsored by the American Mathematical Society (AMS), American Statistical Association (ASA), Institute for Mathematical Statistics (IMS), Mathematical Association of America (MAA), and Society for Industrial and Applied Mathematics (SIAM).

Report on the 2017–2018 Employment Experiences of the New Doctoral Recipients

Amanda L. Golbeck, Thomas H. Barr, and Colleen A. Rose

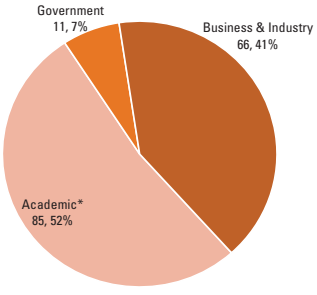
This report focuses on information that comes from the Employment Experiences of New Doctorate Recipients (EENDR) survey of individual PhD recipients regarding their experiences in finding and beginning new jobs. The survey was sent to the 1,487 new PhDs for whom departments provided contact information, and responses were collected during the period July 2017 to October 2018. Three hundred ninety (26%) responded. Some of the demographic features of the respondents to the EENDR are similar to those of the overall group on which the New Doctorates report is based. For instance, of the 390, 28% were women (29% overall), 65% were US citizens (48% overall), 14% were employed outside the US (10% overall), and 4% were members of underrepresented minority groups (8% overall).

Figure EE.1 shows a breakdown by sector of EENDR respondents working in permanent jobs in the US in the broad sectors of academia, business and industry, and government; Figure EE.2 gives the same breakdown for those in temporary jobs. All but 2% of these jobs are full-time. When combined, the information in these two figures can be compared with that in Figure E.2 in the New Doctorates report:

Employment Sector	EENDR Overall % US Employed (n=325)	DR Overall % US Employed (n=1,486)
Academia	73%	61%
Government	6%	6%
Business & Industry	21%	34%

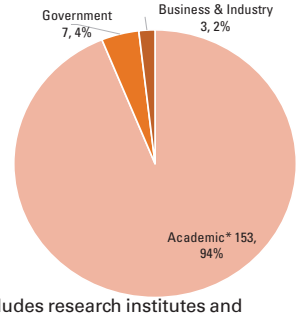
This comparison suggests that 2017–2018 EENDR responses are somewhat biased toward those employed in academia, and thus any conclusions about the entire group of new PhDs based on EENDR responses alone should be made with this qualification. The similarities here suggest that estimates based on the EENDR data (e.g., median starting salaries) may not be wildly different from the actual values

Figure EE.1. EENDR Respondents Reporting Permanent US Employment by Sector (n=162)



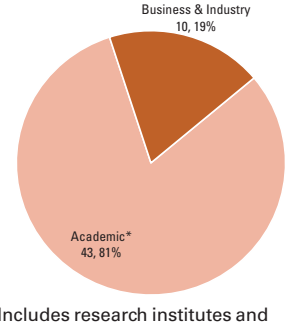
* Includes research institutes and other non-profits.

Figure EE.2. EENDR Respondents Reporting Temporary US Employment by Sector (n=163)



*Includes research institutes and other non-profits.

Figure EE.3. EENDR Respondents Employed Outside the US by Sector (n=53)



* Includes research institutes and other non-profits.

Table EE.1. Number and Percentage of EENDR Respondents Employed in the US by Job Status

					Temporary		Temporary Postdocs				
Year	Perm Total	%	Temp Total	%	Perm Not Avail	% of Temp Total	Total	% of Temp Total	Perm Not Avail	% of Temp Postdocs	#(%) Unknown
Fall 2014	363	51%	343	49%	148	43%	260	76%	88	34%	0
Fall 2015	357	51%	341	49%	160	47%	258	76%	102	40%	0
Fall 2016	323	52%	298	48%	136	46%	214	72%	82	38%	2 (<1%)
Fall 2017	268	49%	276	51%	134	49%	209	76%	147	70%	5 (1%)
Fall 2018	162	50%	163	50%	73	45%	123	75%	88	72%	5 (1%)

Table EE.2. Percentage of EENDR Respondents Employed in the US by Employment Sector within Job Status

Year	Permanent			Temporary		
	Acad	Govn	B/I	Acad	Govn	B/I
Fall 2014	54%	6%	40%	92%	5%	3%
Fall 2015	44%	8%	48%	93%	3%	4%
Fall 2016	47%	7%	46%	93%	5%	3%
Fall 2017	51%	8%	41%	92%	5%	2%
Fall 2018	52%	7%	41%	94%	4%	2%

for all of the new PhDs, but the reader should keep these differences in mind.

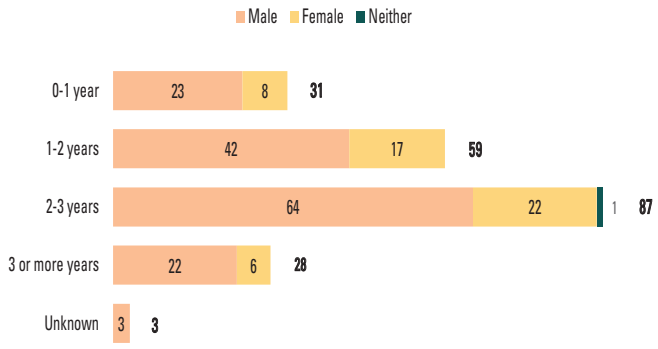
Table EE.1 gives a longitudinal comparison of responses, and the 2018 percentage of 76% is the modal value. Also, in 2018, of those in postdocs, 72% hold that position because a permanent job was not available. Here are a few features to note:

- 50% of those employed in the US for fall 2018 were in permanent positions.
- The percentage of those in temporary jobs because a permanent one was not available has ranged between 43% and 49% in the years 2014 to 2018, and the 2018 value of 45% is in line with these percentages.
- The percentage of those in temporary jobs who are postdocs has remained consistent over this five-year period, and the 2018 percentage of 76% is the modal value. Also in 2018, of those in postdocs, 72% hold that position because a permanent job was not available.

Table EE.2 compares percentages of PhDs taking employment in various sectors, by job durability. Over the five years shown, the percentages in all of these categories have remained remarkably stable.

Figures EE.5, EE.6, and EE.7 show breakdowns of employment in the broad sectors of education, government, and business and industry.

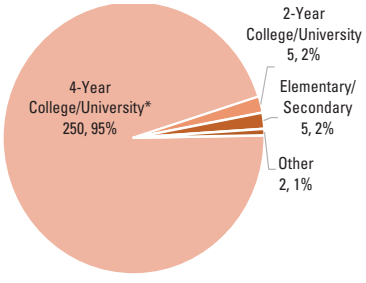
Figure EE.4. Temporary Positions by Duration, Gender, and Count (n=208)



Three hundred sixty-six doctorates provided age information, and Figure EE.8 provides the distribution. The median age was 30, the youngest PhD was 25, and the oldest 59. Almost 66% of these respondents were between the ages of 26 and 30.

Figure EE.9 gives counts by employment sector of EENDR respondents who identify themselves as Hispanic. The designation "unknown" indicates the respondent did not provide ethnicity data. Nineteen respondents to the EENDR survey were Black or African American, 2 were American Indian or Alaska Native, 99 were Asian, 260 were White, and 10 were unknown.

Figure EE.5. Employment by Type of Educational Institution (Educ) (n=262)



*Includes research institutes and other non-profits.

Figure EE.6. Employment by Type of Government (Gov) (n=18)

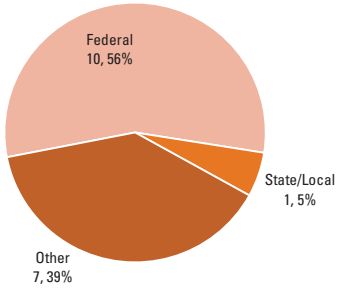
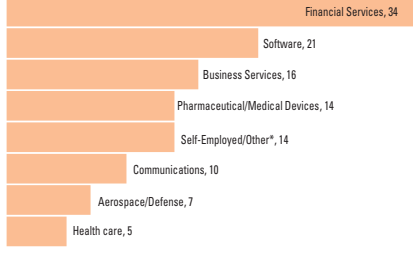


Figure EE.7. Employment by Type of Business/Industry (BI) (n=121)



*Includes Biotechnology (2), Consumer Merchandising (3), Energy (3), Self-employed/Other (5), and Survey/ Market Research (1).

Figure EE.8. Age Distribution of New PhD Respondents (n=366)

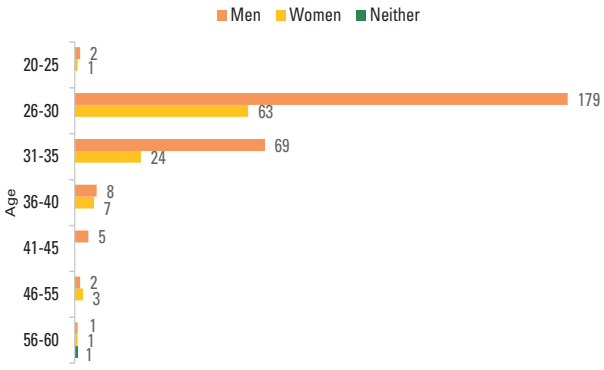
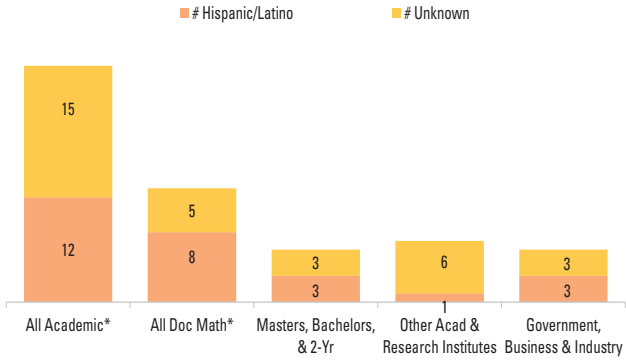


Figure EE.9. Responses to EENDR Ethnicity Question (n=325)



* No new PhDs employed by statistics or biostatistics departments identified as Hispanic/Latino.

Starting Salaries

Starting salary figures were provided by 332 of the 390 respondents to the EENDR survey. Responses with insufficient data or from individuals who indicated they had part-time or non-US employment were excluded. Numbers of usable responses for each salary category are reported in the tables on page 1210.

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

Key to Tables and Graphs. Salaries are those reported for the fall immediately following the survey cycle. Years listed denote the survey cycle in which the doctorate was received—for example, survey cycle July 1, 2017–June 30, 2018 is designated as 2018. Salaries reported as 9–10 months exclude stipends from summer grants, teaching, or the equivalent. M and W are men and women, respectively. Separate figures are not provided when the number of salaries available for analysis in a particular category was five or fewer. All categories of "Teaching/Teaching and Research" and "Research Only" contain those recipients employed at academic institutions only.

The graphs show standard box plots summarizing salary distribution information for the years 2011 through 2018. Values plotted for 2011 through 2018 are converted to 2018 dollars using the implicit price deflator prepared annually by the Bureau of Economic Analysis, US Department of Commerce [`https://www.bea.gov`]. The category for each graph is based on a work activity reported in the EENDR. Salaries of postdocs are shown separately. They are also included in other academic categories with matching work activities.

For each box plot the box shows the first quartile (Q1), the median (M), and the third quartile (Q3). Upper whiskers extend from Q3 to the largest data value below Q3+1.5 x IQR, and lower whiskers from Q1 down to the smallest data value above Q1–1.5 x IQR, where IQR = Q3– Q1 is the interquartile range. Data points falling between Q3+1.5 x IQR and Q3+3 x IQR or Q1–1.5 x IQR and Q1–3 x IQR are designated as outliers and plotted as circles (°). Data outside the range Q1–3 x IQR to Q3+3 x IQR are designated as extreme outliers and plotted as stars (*).

Acknowledgments

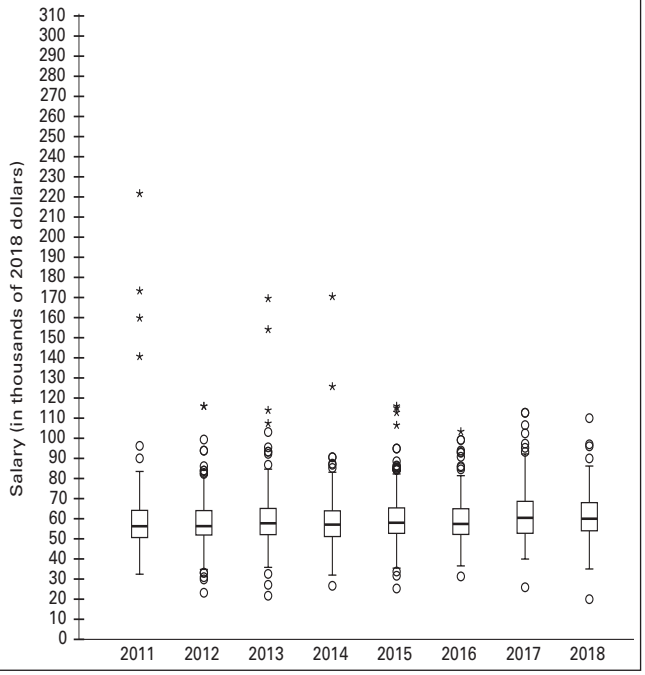
The Annual Survey attempts to provide an accurate appraisal and analysis of various aspects of the academic mathematical sciences scene for the use and benefit of the community and for filling the information needs of the professional organizations. Every year, college and university departments in the 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. For this EENDR report, we thank the PhD recipients who responded to the survey. Their participation is vital to our providing accurate and timely information.

The Annual Survey is co-sponsored by the American Mathematical Society (AMS), American Statistical Association (ASA), Institute for Mathematical Statistics (IMS), Mathematical Association of America (MAA), and Society for Industrial and Applied Mathematics (SIAM).

ANNUAL SURVEY

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

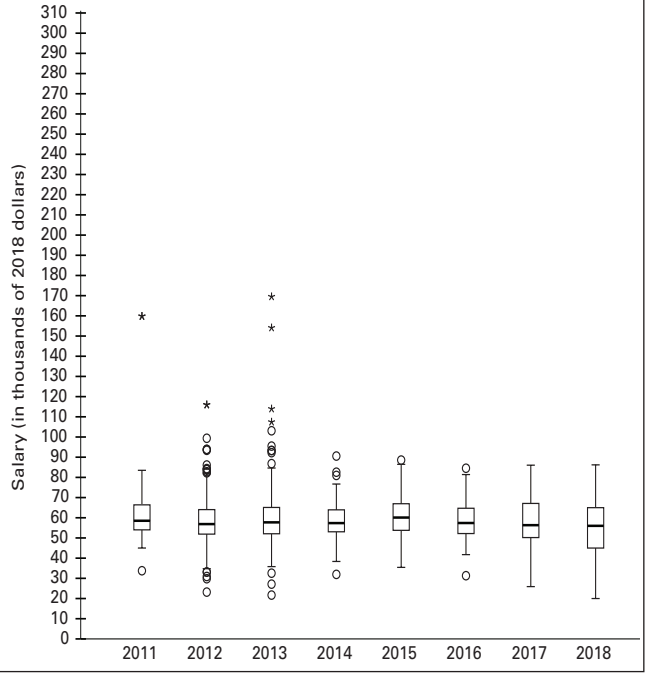
Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2018 $
2000	25.0	38.0	41.5	45.0	65.0	58.7
2005	28.0	43.0	46.5	50.6	100.2	58.7
2010	29.0	45.0	51.5	58.0	101.3	59.2
2011	28.8	45.0	50.0	57.0	103.4	53.6
2012	21.0	47.0	51.5	58.0	105.3	56.9
2013	20.0	48.0	53.2	60.0	107.1	57.7
2014	25.0	48.0	54.0	60.0	108.8	57.5
2015	24.0	50.0	55.0	62.0	110.0	58.0
2016	30.0	50.0	55.0	62.1	99.0	57.4
2017	25.3	51.5	59.0	67.0	110.0	60.4
2018	20.0	54.0	60.0	68.0	110.0	60.0
Total (107 men/41 women/1 neither)						
2018 M	35.0	52.8	60.0	70.0	110.0	
2018 W	48.0	55.0	60.0	67.0	86.2	
2018 N	too few to report					
One year or less experience (99 men/36 women/1 neither)						
2018 M	40.0	52.5	60.0	68.0	110.0	
2018 W	48.0	55.0	60.0	67.0	86.2	
2018 N	too few to report					



* Postdoctoral salaries are included.

Academic Postdoctorates Only* 9–10-Month Starting Salaries (in thousands of dollars)

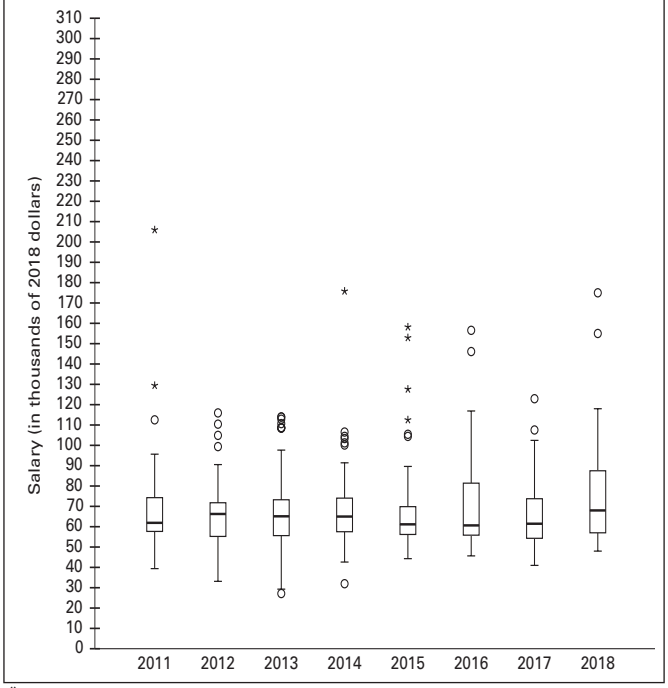
Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2018 $
2000	30.0	38.5	42.0	45.0	55.0	59.4
2005	31.0	45.0	46.0	50.0	61.5	58.1
2010	29.0	48.0	51.0	56.5	72.0	58.6
2011	30.0	48.0	52.0	59.0	142.0	58.5
2012	27.0	49.9	52.3	58.0	76.4	57.7
2013	30.0	48.0	53.0	60.0	76.0	57.5
2014	30.0	49.8	53.8	60.0	85.0	57.3
2015	33.6	51.3	57.0	63.4	84.0	60.1
2016	30.0	50.0	55.0	62.0	81.0	57.4
2017	25.3	49.0	55.0	65.5	84.0	56.3
2018	20.0	45.0	56.0	65.0	86.2	56.0
Total (33 men/7 women/1 neither)						
2018 M	40.0	44.0	54.0	65.0	71.0	
2018 W	51.0	54.0	65.0	68.5	86.2	
2018 N	too few to report					
One year or less experience (30 men/7 women/1 neither)						
2018 M	40.0	43.5	53.5	64.5	70.0	
2018 W	51.0	54.0	65.0	68.5	86.2	
2018 N	too few to report					



*A postdoctoral appointment is a temporary position primarily intended to provide an opportunity to extend graduate training or to further research experience.

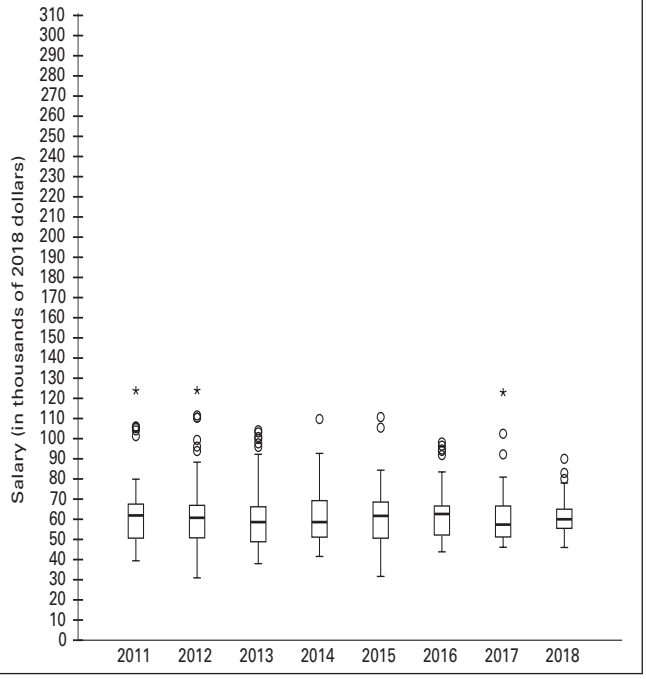
Academic Teaching/Teaching and Research
11–12-Month Starting Salaries*
(in thousands of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2018 $
2000	30.0	40.0	48.5	60.0	117.0	68.6
2005	27.0	45.0	50.0	61.5	90.0	63.2
2010	38.0	50.0	57.0	80.0	120.0	65.5
2011	35.0	51.4	55.0	65.5	183.0	61.9
2012	30.0	50.0	60.0	65.0	120.0	66.3
2013	25.0	51.3	60.0	67.5	105.0	65.1
2014	39.0	48.0	54.0	65.0	87.0	57.5
2015	42.0	53.3	58.0	66.3	150.0	61.2
2016	43.7	53.8	58.1	77.0	150.0	60.6
2017	40.0	53.5	60.0	71.5	120.0	61.5
2018	48.0	57.0	68.0	87.5	175.0	68.0
Total (18 men/5 women/0 neither)						
2018 M	48.0	56.0	64.7	89.3	175.0	
2018 W	50.0	70.7	72.0	81.0	118.0	
2018 N	none to report					
One year or less experience (15 men/4 women/0 neither)						
2018 M	48.0	59.5	67.5	74.3	108.0	
2018 W	50.0	55.5	61.0	66.5	72.0	
2018 N	none to report					



Academic Research Only
11–12-Month Starting Salaries*
(in thousands of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2018 $
2000	30.0	36.5	40.0	52.9	100.0	56.6
2005	35.0	40.0	47.5	57.0	86.0	60.0
2010	30.0	44.0	51.5	61.5	105.0	59.2
2011	35.0	45.0	55.0	60.0	110.0	61.9
2012	28.0	46.0	55.0	60.6	112.2	60.7
2013	35.0	45.0	54.0	61.0	96.0	58.6
2014	39.0	48.0	55.0	65.0	103.0	58.6
2015	30.0	48.5	58.5	65.0	105.0	61.7
2016	42.0	50.0	60.0	63.7	94.0	62.6
2017	45.0	50.0	56.0	65.0	120.0	57.4
2018	46.0	55.8	60.0	65.0	90.0	60.0
Total (18 men/14 women/0 neither)						
2018 M	46.0	55.0	60.0	63.9	78.0	
2018 W	50.0	60.0	60.6	65.0	90.0	
2018 N	none to report					
One year or less experience (17 men/12 women/0 neither)						
2018 M	46.0	55.0	60.0	65.0	78.0	
2018 W	50.0	59.0	60.0	62.8	80.0	
2018 N	none to report					

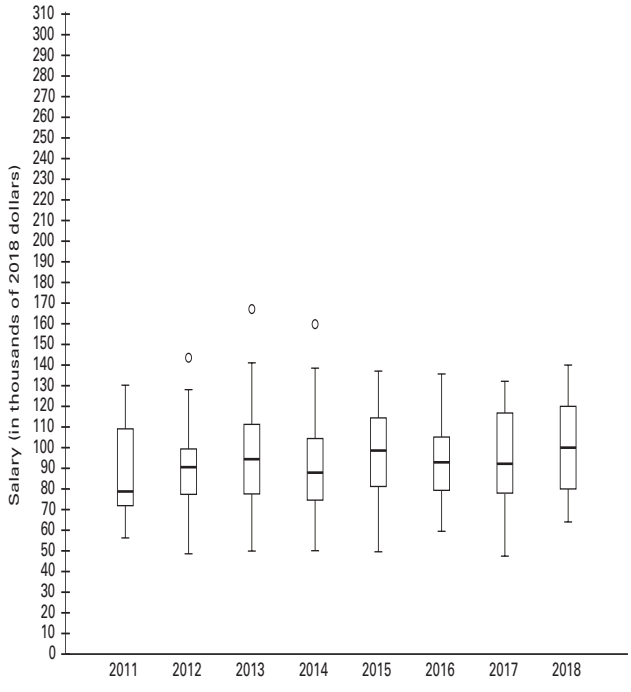


* Postdoctoral salaries are included.

ANNUAL SURVEY

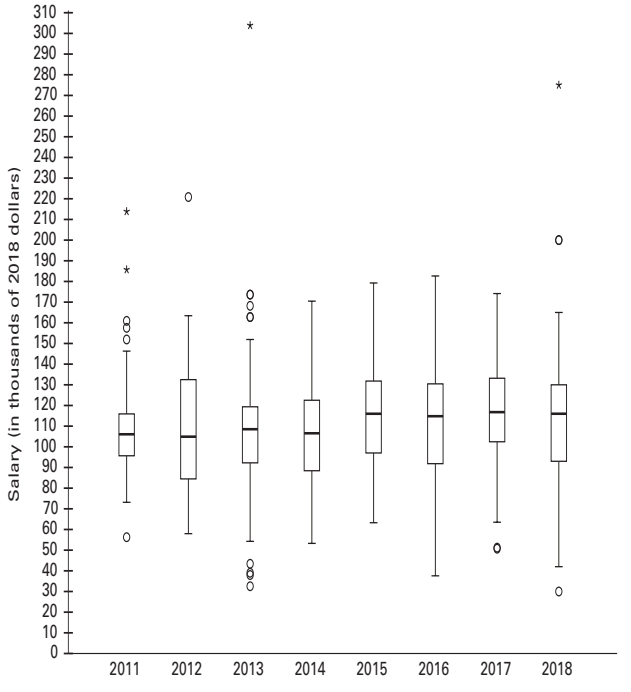
Government
11–12-Month Starting Salaries
(in thousands of dollars)

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2018 $
2000	44.0	54.0	60.0	64.0	83.0	84.9
2005	48.0	61.0	75.2	84.8	97.2	95.0
2010	42.0	69.0	80.0	89.5	124.5	91.9
2011	50.0	64.0	70.0	96.9	115.7	78.8
2012	44.0	70.1	82.0	90.0	130.0	90.5
2013	46.0	71.5	87.0	102.5	154.0	94.4
2014	47.0	70.0	82.5	97.5	150.0	87.9
2015	47.0	77.5	93.5	107.5	130.0	98.6
2016	57.0	76.0	89.0	100.7	130.0	92.9
2017	46.3	76.7	90.0	113.0	129.0	92.2
2018	64.0	80.0	100.0	120.0	140.0	100.0
Total (11 men/6 women/0 neither)						
2018 M	72.0	86.8	100.0	118.5	140.0	
2018 W	64.0	74.8	90.0	115.0	124.9	
2018 N	none to report					
One year or less experience (10 men/6 women/0 neither)						
2018 M	72.0	85.9	97.2	116.5	120.0	
2018 W	64.0	74.8	90.0	115.0	124.9	
2018 N	none to report					



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

Ph.D. Year	Min	Q_1	Median	Q_3	Max	Reported Median in 2018 $
2000	20.0	64.0	72.0	80.0	150.0	101.08
2005	51.0	75.5	87.0	97.8	200.0	109.9
2010	28.0	75.0	90.0	100.0	155.0	103.4
2011	50.0	85.0	94.3	102.3	190.0	106.1
2012	52.5	76.5	95.0	120.0	200.0	104.9
2013	30.0	85.0	100.0	110.0	280.0	108.5
2014	50.0	83.0	100.0	115.0	300.0	106.5
2015	60.0	92.5	110.0	125.0	170.0	116.0
2016	36.0	88.3	110.0	125.0	175.0	114.8
2017	49.5	100.5	114.0	130.0	400.0	110.6
2018	30.0	93.5	116.0	129.6	275.0	116.0
Total (58 men/12 women/0 neither)						
2018 M	30.0	94.0	116.0	129.3	275.0	
2018 W	80.0	94.6	117.5	131.3	146.0	
2018 N	none to report					
One year or less experience (53 men/11 women/0 neither)						
2018 M	30.0	85.0	116.0	125.8	275.0	
2018 W	85.0	105.2	120.0	131.3	146.0	
2018 N	none to report					



Response Rates

Distribution of New PhD Recipient Responses by EmployerType

Employer Type	Received	Percent
Math Public Large:	44	11%
Math Public Medium:	19	5%
Math Public Small:	8	2%
Math Private Large:	15	4%
Math Private Small:	5	1%
Applied Math:	6	2%
Statistics:	10	3%
Biostatistics:	3	1%
Masters:	15	4%
Bachelors:	58	15%
Two-Year Institutions:	5	1%
Other Academic:	40	10%
Research Institute/Other Non-profit:	10	3%
Government:	18	5%
Business/Industry:	69	18%
Non-US Academic:	43	11%
Non-US Nonacademic:	10	3%
Not Seeking (US):	1	<1%
Still Seeking (US):	11	3%
Unknown (US):	0	0%
Non-US: Not Seeking, Still Seeking, Unknown:	0	0%
Total:	**390**	**100%**

New PhD Recipient Response Rates by Granting Department Grouping

Granting Department Group	Received	Percent
Math Public Large:	91 of 368	25%
Math Public Medium:	79 of 292	27%
Math Public Small:	51 of 226	23%
Math Private Large:	50 of 219	23%
Math Private Small:	19 of 47	40%
Applied Math:	42 of 83	51%
Statistics:	45 of 120	38%
Biostatistics:	13 of 132	10%
Total:	**390 of 1,487**	**26%**

Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

Table A.1: Field of Thesis of 2017-2018 Doctorate Recipients by Grouping Department

Degree-granting Group	Algebra/ Number Theory	Real, Comp., Funct., & Harmonic Analysis	Geometry/ Topology	Discr. Math./ Combin. /Logic/ Comp. Sci.	Probability	Statistics	Biostatistics	Applied Math	Numerical Analysis/ Approxi-mations	Linear Nonlinear Optim./ Control	Differential, Integral, & Difference Equations	Math Educ	Other/ Unknown	Total Degrees
Math Public Large	85	22	68	43	14	22	0	53	21	18	45	4	7	**402**
Math Public Medium	66	23	39	31	13	34	2	68	34	11	35	5	0	**361**
Math Public Small	43	18	13	20	8	43	3	33	20	1	28	16	3	**249**
Math Private Large	58	6	48	24	14	18	1	18	6	3	28	1	0	**225**
Math Private Small	16	8	10	9	2	1	1	7	8	0	10	0	1	**73**
Applied Mathematics	1	0	1	9	7	15	1	82	21	4	16	0	1	**158**
Statistics	0	0	0	1	6	304	6	4	0	0	0	0	0	**321**
Biostatistics	0	0	0	0	0	3	168	0	0	0	0	0	0	**171**
Total	**269**	**77**	**179**	**137**	**64**	**440**	**182**	**265**	**110**	**37**	**162**	**26**	**12**	**1960**
Men	226	63	147	101	51	272	82	186	86	24	128	17	9	**1392**
Women	43	14	32	36	13	167	100	79	24	13	34	9	3	**567**
Neither	0	0	0	0	0	1	0	0	0	0	0	0	0	**1**

Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

Table D.1: Gender and Citizenship of 2017-2018 New Doctorate Recipients
by Department Grouping

		Citizenship Status			
Degree-granting Group	Gender	U.S.	Non-U.S.	Unknown	Total
Math Public Large	Men	168	143	3	**314**
	Women	36	52	0	**88**
	Neither	0	0	0	**0**
Math Public Medium	Men	148	110	1	**259**
	Women	57	45	0	**102**
	Neither	0	0	0	**0**
Math Public Small	Men	88	82	0	**170**
	Women	27	52	0	**79**
	Neither	0	0	0	**0**
Math Private Large	Men	85	105	1	**191**
	Women	17	17	0	**34**
	Neither	0	0	0	**0**
Math Private Small	Men	39	21	0	**60**
	Women	7	6	0	**13**
	Neither	0	0	0	**0**
Applied Math	Men	57	61	1	**119**
	Women	17	22	0	**39**
	Neither	0	0	0	**0**
Statistics	Men	80	120	0	**200**
	Women	33	86	1	**120**
	Neither	0	1	0	**1**
Biostatistics	Men	34	44	1	**79**
	Women	42	50	0	**92**
	Neither	0	0	0	**0**
Total by Gender	Men	699	686	7	**1392**
	Women	236	330	1	**567**
	Neither	0	1	0	**1**
Total		**935**	**1017**	**8**	**1960**

Table D.2: US Citizen Doctorate Recipients, 2007–08 to 2017–18

Year	Total Doctorates Granted by US Institutions	Total US Citizen Doctorates	%
2007-08	1378	622	45%
2008-09	1605	742	46%
2009-10	1632	789	48%
2010-11	1653	802	49%
2011-12	1798	863	48%
2012-13	1843	857	47%
2013-14	1926	920	48%
2014-15	1901	880	46%
2015-16	1921	937	49%
2016-17	1957	957	49%
2017-18	1960	935	48%

Table D.3: Gender of US Citizen Doctorate Recipients, 2007–08 to 2017–18

Year	Total US Citizen Doctoral Recipients	Men	Women	Neither	% Women
2007-08	622	431	191		31%
2008-09	742	515	227		31%
2009-10	789	564	225		29%
2010-11	802	574	228		28%
2011-12	863	621	242		28%
2012-13	857	627	230		27%
2013-14	920	664	256		28%
2014-15	880	636	244		28%
2015-16	937	684	251	2	27%
2016-17	957	684	269	4	28%
2017-18	935	699	236	0	25%

Mathematical and Statistical Sciences Annual Survey

www.ams.org/annual-survey

Table D.4: Gender, Race/Ethnicity & Citizenship of
Doctorate Recipients, July 1, 2017- June 30, 2018 by Department Groups (a–k)

(a) All Groups Combined

292 of 323 departments responding (19 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	5	0	0	0	5	1	0	0	0	1	0	0	0	0	0	**6**
Asian	61	15	423	35	534	20	22	211	24	277	0	0	1	0	1	**812**
Bl/Afr Am	12	3	18	1	34	15	2	5	0	22	0	0	0	0	0	**56**
Hisp/Lat	26	4	23	4	57	8	1	5	0	14	0	0	0	0	0	**71**
Haw/Pac Is	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
White	572	12	131	14	729	182	4	53	0	239	0	0	0	0	0	**968**
Unknown	21	1	3	6	31	10	0	0	4	14	0	0	0	0	0	**45**
TOTAL	699	35	598	60	1392	236	29	274	28	567	0	0	1	0	1	1960

(b) All Math Public Groups Combined

Doctorate Granting Departments of Mathematics

126 of 135 departments responding (8 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
Asian	22	7	202	12	243	6	12	88	2	108	0	0	0	0	0	**351**
Bl/Afr Am	7	0	14	0	21	5	1	2	0	8	0	0	0	0	0	**29**
Hisp/Lat	16	4	14	3	37	3	0	3	0	6	0	0	0	0	0	**43**
Haw/Pac Is	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
White	343	5	68	8	424	100	3	37	0	140	0	0	0	0	0	**564**
Unknown	12	0	0	2	14	6	0	0	1	7	0	0	0	0	0	**21**
TOTAL	404	16	298	25	743	120	16	130	3	269	0	0	0	0	0	1012

(c) All Math Private Groups Combined

Doctorate Granting Departments of Mathematics

48 of 52 departments responding (2 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	**3**
Asian	16	2	75	2	95	3	0	15	0	18	0	0	0	0	0	**113**
Bl/Afr Am	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	**4**
Hisp/Lat	7	0	4	1	12	1	1	0	0	2	0	0	0	0	0	**14**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	95	2	37	2	136	19	0	7	0	26	0	0	0	0	0	**162**
Unknown	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
TOTAL	124	5	117	5	251	24	1	22	0	47	0	0	0	0	0	298

(d) Math Public Large Group

Doctorate Granting Departments of Mathematics

26 of 26 departments responding (0 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Asian	10	1	97	3	111	4	6	33	2	45	0	0	0	0	0	**156**
Bl/Afr Am	1	0	1	0	2	1	1	0	0	2	0	0	0	0	0	**4**
Hisp/Lat	5	4	8	0	17	1	0	0	0	1	0	0	0	0	0	**18**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	144	1	28	2	175	26	2	8	0	36	0	0	0	0	0	**211**
Unknown	8	0	0	1	9	4	0	0	0	4	0	0	0	0	0	**13**
TOTAL	168	6	134	6	314	36	9	41	2	88	0	0	0	0	0	402

(e) Math Public Medium Group

Doctorate Granting Departments of Mathematics

39 of 40 departments responding (0 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
Asian	5	5	61	8	79	1	3	24	0	28	0	0	0	0	0	**107**
Bl/Afr Am	4	0	6	0	10	2	0	0	0	2	0	0	0	0	0	**12**
Hisp/Lat	5	0	2	2	9	1	0	2	0	3	0	0	0	0	0	**12**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	131	3	21	2	157	51	1	14	0	66	0	0	0	0	0	**223**
Unknown	2	0	0	1	3	2	0	0	1	3	0	0	0	0	0	**6**
TOTAL	148	8	90	13	259	57	4	40	1	102	0	0	0	0	0	361

(f) Math Public Small Group

Doctorate Granting Departments of Mathematics

61 of 69 departments responding (8 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
Asian	7	1	44	1	53	1	3	31	0	35	0	0	0	0	0	**88**
Bl/Afr Am	2	0	7	0	9	2	0	2	0	4	0	0	0	0	0	**13**
Hisp/Lat	6	0	4	1	11	1	0	1	0	2	0	0	0	0	0	**13**
Haw/Pac Is	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
White	68	1	19	4	92	23	0	15	0	38	0	0	0	0	0	**130**
Unknown	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
TOTAL	88	2	74	6	170	27	3	49	0	79	0	0	0	0	0	249

(g) Math Private Large Group

Doctorate Granting Departments of Mathematics

24 of 24 departments responding (0 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	**3**
Asian	13	2	59	1	75	3	0	11	0	14	0	0	0	0	0	**89**
Bl/Afr Am	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
Hisp/Lat	5	0	4	1	10	1	1	0	0	2	0	0	0	0	0	**12**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	62	2	34	2	100	12	0	5	0	17	0	0	0	0	0	**117**
Unknown	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
TOTAL	85	5	97	4	191	17	1	16	0	34	0	0	0	0	0	225

(h) Math Private Small Group

Doctorate Granting Departments of Mathematics

24 of 28 departments responding (2 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Asian	3	0	16	1	20	0	0	4	0	4	0	0	0	0	0	**24**
Bl/Afr Am	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	**2**
Hisp/Lat	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	33	0	3	0	36	7	0	2	0	9	0	0	0	0	0	**45**
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
TOTAL	39	0	20	1	60	7	0	6	0	13	0	0	0	0	0	73

(i) Applied Mathematics Group

Doctorate Granting Departments of Applied Mathematics

28 of 30 departments responding (2 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Asian	6	0	34	4	44	3	0	14	0	17	0	0	0	0	0	**61**
Bl/Afr Am	1	0	1	0	2	2	0	1	0	3	0	0	0	0	0	**5**
Hisp/Lat	3	0	2	0	5	2	0	0	0	2	0	0	0	0	0	**7**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	43	4	14	3	64	10	1	6	0	17	0	0	0	0	0	**81**
Unknown	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	**4**
TOTAL	57	4	51	7	119	17	1	21	0	39	0	0	0	0	0	158

(j) Statistics Group

Doctorate Granting Departments of Statistics

51 of 60 departments responding (1 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
Asian	13	0	77	17	107	6	3	57	19	85	0	0	0	0	0	**192**
Bl/Afr Am	2	2	1	1	6	5	0	2	0	7	0	0	0	0	0	**13**
Hisp/Lat	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	**3**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	61	1	12	1	75	21	0	1	0	22	0	0	0	0	0	**97**
Unknown	3	1	3	3	10	1	0	0	3	4	0	0	0	0	0	**14**
TOTAL	80	4	94	22	200	33	3	62	22	120	0	0	0	0	0	320

(k) Biostatistics Group

Doctorate Granting Departments of Biostatistics

39 of 46 departments responding (6 with no degrees)

	MEN					WOMEN					Neither					
	Citizenship					Citizenship					Citizenship					
		Non-US					Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	**TOTAL**
Am Ind/Alas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Asian	4	6	35	0	45	2	7	37	3	49	0	0	0	0	0	**94**
Bl/Afr Am	0	0	1	0	1	3	1	0	0	4	0	0	0	0	0	**5**
Hisp/Lat	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	**4**
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
White	30	0	0	0	30	32	0	2	0	34	0	0	0	0	0	**64**
Unknown	0	0	0	1	1	3	0	0	0	3	0	0	0	0	0	**4**
TOTAL	34	6	38	1	79	42	8	39	3	92	0	0	0	0	0	171

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Table D.5: PhDs Awarded to Underrepresented Minorities (URMs)*
by Degree-granting Group, July 1, 2017 - June 30, 2018

	Number of PhDs Awarded to US Citizens & Permanent Residents	Underrespresented Minorities		Number of PhDs awarded to URMs	As % of Total URMs	As % of PhDs awarded to US Citizens & Permanent Residents within Group
		US Citizens	Permanent Resident			
Math Public Large	219	8	5	13	16%	5.9%
Math Public Medium	217	13	0	13	16%	6.0%
Math Public Small	120	14	0	14	18%	11.7%
Math Private Large	108	10	2	12	15%	11.1%
Math Private Small	46	3	0	3	4%	6.5%
Applied Math	79	8	0	8	10%	10.1%
Statistics	120	8	2	10	13%	8.3%
Biostatistics	90	5	1	6	8%	6.7%
Total	**999**	**69**	**10**	79	100%	

* Underrepresented minorites include any person, who is a U.S. Citizen or Permanent Resident, who is Black or African American, Hispanic or Latino, American Indian, Alaska Native, Native Hawaiian or Other Pacfic Islander.

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Table E.1: Employment Status of 2017-2018 Doctorate Recipients in the Mathematical Sciences by Type of Degree-Granting Department

Type of Employer	Math Public Large	Math Public Medium	Math Public Small	Math Private Large	Math Private Small	Applied Math	Statistics	Biostatistics	Total	Women	Men	Neither
US Academic												
Math Public Large	55	20	5	29	6	7	3	0	**125**	30	94	1
Math Public Medium	16	30	8	5	4	0	3	0	**66**	14	52	0
Math Public Small	8	10	21	2	0	2	4	0	**47**	9	38	0
Math Private Large	28	4	1	42	2	10	0	0	**87**	15	72	0
Math Private Small	4	5	2	4	1	2	1	2	**21**	7	14	0
Applied Mathematics	3	4	0	0	0	12	1	0	**20**	5	15	0
Statistics	2	2	1	1	0	0	32	4	**42**	14	28	0
Biostatistics	0	0	1	2	1	0	9	24	**37**	19	18	0
Master's	5	16	14	0	1	4	5	0	**45**	15	30	0
Bachelor's	22	48	39	8	12	8	12	3	**152**	46	106	0
Two-Year Colleges	2	4	6	1	1	1	0	0	**15**	4	11	0
Other Academic Dept	17	23	19	7	2	20	29	20	**137**	39	98	0
Rsrch Inst./Other Nonprof.	12	7	2	5	1	3	8	17	**55**	24	31	0
Government	7	18	6	3	4	15	5	4	**62**	25	37	0
Business & Industry	81	60	25	47	17	37	145	76	**488**	143	345	0
Non-US Academic	46	37	22	36	5	7	12	3	**168**	43	125	0
NonUS Govt. and Bus./Ind.	14	4	3	4	0	6	4	1	**36**	11	25	0
Not Seeking Employment	0	2	2	1	1	0	0	0	**6**	1	5	0
Still Seeking Employment	14	23	11	15	5	7	7	5	**87**	18	69	0
Unknown (US)	43	23	34	8	4	11	17	5	**145**	46	99	0
Unknown (non-US)*	23	21	27	5	6	6	24	7	**119**	39	80	0
Total	**402**	**361**	**249**	**225**	**73**	**158**	**321**	**171**	**1960**	**567**	**1392**	**1**
Women	88	102	79	34	13	39	120	92	**567**			
Men	314	259	170	191	60	119	200	79	**1392**			
Neither	0	0	0	0	0	0	1	0	**1**			

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Table E.2: Employment Status of 2017-2018 Doctorate Recipients in the Mathematical Sciences by Department Group and Citizenship

Type of Employer	Math Public Large	Math Public Medium	Math Public Small	Math Private Large	Math Private Small	Applied Math	Statistics	Biostatistics	Total	US Citizen	Non-US Citizen	Unknown Citizen
US Academic												
Math Public Large	55	20	5	29	6	7	3	0	**125**	59	65	1
Math Public Medium	16	30	8	5	4	0	3	0	**66**	44	22	0
Math Public Small	8	10	21	2	0	2	4	0	**47**	19	28	0
Math Private Large	28	4	1	42	2	10	0	0	**87**	43	43	1
Math Private Small	4	5	2	4	1	2	1	2	**21**	17	4	0
Applied Mathematics	3	4	0	0	0	12	1	0	**20**	8	12	0
Statistics	2	2	1	1	0	0	32	4	**42**	11	31	0
Biostatistics	0	0	1	2	1	0	9	24	**37**	19	18	0
Master's	5	16	14	0	1	4	5	0	**45**	23	22	0
Bachelor's	22	48	39	8	12	8	12	3	**152**	120	31	1
Two-Year Colleges	2	4	6	1	1	1	0	0	**15**	7	8	0
Other Academic Dept	17	23	19	7	2	20	29	20	**137**	76	60	1
Rsrch Inst./Other Nonprof.	12	7	2	5	1	3	8	17	**55**	29	26	0
Government	7	18	6	3	4	15	5	4	**62**	45	17	0
Business & Industry	81	60	25	47	17	37	145	76	**488**	194	294	0
Non-US Academic	46	37	22	36	5	7	12	3	**168**	50	116	2
NonUS Govt. & Bus./Ind.	14	4	3	4	0	6	4	1	**36**	11	25	0
Not Seeking Employment	0	2	2	1	1	0	0	0	**6**	5	1	0
Still Seeking Employment	14	23	11	15	5	7	7	5	**87**	52	35	0
Unknown (US)	43	23	34	8	4	11	17	5	**145**	101	42	2
Unknown (non-US)*	23	21	27	5	6	6	24	7	**119**	2	117	0
Total	**402**	**361**	**249**	**225**	**73**	**158**	**321**	**171**	**1960**	**935**	**1017**	**8**
US Citizen	204	205	115	102	46	74	113	76	**935**			
Non-US Citizen	195	155	134	122	27	83	207	94	**1017**			
Unknown Citizen	3	1	0	1	0	1	1	1	**8**			

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Table E.3: Employment Status of 2017-2018 New Doctorate Recipients by Citizenship Status

Type of Employer	US Citizen	Non-US Citizens			Unknown Citizenship	TOTAL
		Permenant Visa	Temporary Visa	Unknown Visa		
US Employer	714	47	583	51	4	**1399**
US Academic	475	29	320	21	4	**849**
Math Public	122	7	104	4	1	**238**
Math Private	60	3	43	1	1	**108**
Applied Mathematics	8	2	9	1	0	**20**
Statistics	11	3	25	3	0	**42**
Biostatistics	19	2	13	3	0	**37**
NonPhD	226	8	104	9	2	**349**
Rsrch. Inst./Other Nonprof.	29	4	22	0	0	**55**
US Govt. and Bus./Ind.	239	18	263	30	0	**550**
NonUS Employer	61	3	133	5	2	**204**
NonUS Academic	50	2	109	5	2	**168**
NonUS Bus./Ind.	11	1	24	0	0	**36**
Not Seeking	5	0	1	0	0	**6**
Seeking	52	9	26	0	0	**87**
Subtotal	832	59	743	56	6	**1696**
Unknown US	101	4	36	2	2	**145**
Unknown NonUS	2	1	94	22	0	**119**
Total	**935**	**64**	**873**	**80**	**8**	**1960**

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Table E.4: Employment Status of 2017-2018 Doctorate Recipients by Field of Thesis

Type of Employer	Algebra/ Number Theory	Real, Comp., Funct., & Harmonic Analysis	Geometry/ Topology	Discr. Math./ Combin. /Logic/ Comp. Sci.	Probability	Statistics	Biostatistics	Applied Math.	Numerical Analysis/ Approxi-mations	Linear Nonlinear Optim./ Control	Differential, Integral, & Difference Equations	Math. Educ.	Other/ Unknown	Total
US Employer														
Math Public Large	34	8	24	13	2	5	0	15	6	3	15	0	0	**125**
Math Public Medium	22	5	8	3	1	4	1	8	8	0	4	2	0	**66**
Math Public Small	8	4	3	6	3	6	0	5	4	0	7	1	0	**47**
Math Private Large	20	5	28	6	2	1	0	9	4	1	11	0	0	**87**
Math Private Small	0	2	4	1	0	1	2	7	2	0	2	0	0	**21**
Applied Mathematics	0	0	0	3	1	1	0	8	7	0	0	0	0	**20**
Statistics	0	0	0	0	1	33	4	2	1	0	1	0	0	**42**
Biostatistics	0	0	0	0	0	12	24	0	0	0	1	0	0	**37**
Master's	5	3	3	2	2	12	1	4	4	1	4	4	0	**45**
Bachelor's	32	13	24	19	2	17	3	15	9	2	11	5	0	**152**
Two-Year Colleges	3	0	2	3	0	0	0	1	1	0	1	3	1	**15**
Other Academic Dept.	10	0	7	7	4	39	21	37	2	5	2	3	0	**137**
Rsrch. Inst./Other Nonprof.	4	3	4	0	0	12	16	9	3	1	3	0	0	**55**
Government	1	2	1	7	0	13	5	16	10	3	4	0	0	**62**
Busisness & Industry	32	3	21	25	22	185	82	61	25	6	24	0	2	**488**
NonUS Employer														
NonUS Academic	41	14	23	13	7	16	3	16	5	3	26	1	0	**168**
NonUS Govt. & Bus./Ind.	7	0	3	3	2	2	2	7	3	2	4	0	1	**36**
Not Seeking Employment	0	0	1	2	0	1	0	0	0	1	0	1	0	**6**
Still Seeking Employment	9	2	8	7	7	12	5	11	4	2	17	2	1	**87**
Unknown (US)	25	7	11	14	4	35	5	24	2	2	11	4	1	**145**
Unknown (non-US)*	16	6	4	3	4	33	8	10	10	5	14	0	6	**119**
Total	**269**	**77**	**179**	**137**	**64**	**440**	**182**	**265**	**110**	**37**	**162**	**26**	**12**	**1960**
Women	43	14	32	36	13	167	100	79	24	13	34	9	3	**567**
Men	226	63	147	101	51	272	82	186	86	24	128	17	9	**1392**
Neither	0	0	0	0	0	1	0	0	0	0	0	0	0	**1**

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Table E.5: 2017–2018 PhDs Employed in the US by Department Group

Type of Employer	Math Public Large	Math Public Medium	Math Public Small	Math Private Large	Math Private Small	Applied Math	Statistics	Biostatistics	Total
All Doctoral Mathematics*	114	73	37	82	13	33	12	2	**366**
Statistics & Biostatistics	2	2	2	3	1	0	41	28	**79**
Masters, Bachelors, and 2-Year Colleges	29	68	59	9	14	13	17	3	**212**
Rsrch Inst./Other Nonprof.	29	30	21	12	3	23	37	37	**192**
Government	7	18	6	3	4	15	5	4	**62**
Business and Industry	81	60	25	47	17	37	145	76	**488**
Total	**262**	**251**	**150**	**156**	**52**	**121**	**257**	**150**	**1399**

* Includes Doctoral Mathematics: Public Large, Public Medium, Public Small, Private Large, Private Small, and Applied Math.

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Table E.6: Summary of 2017-2018 PhDs Employed in the US
by Type of Employer and Citizenship

US Employer	Citizenship		
	US	Non-US	Unknown
Academic	475	370	4
All Doctoral Mathematics*	190	174	2
Statistics & Biostatistics	30	49	0
Masters, Bachelors, & 2-Year	150	61	2
Other Academic & Research Instititues	105	86	0
Government, Business & Industry	239	311	0
Total	**714**	**681**	**4**

* Includes Doctoral Mathematics: Public Large, Public Medium, Public Small, Private Large, Private Small, and Applied Math.

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Table E.7: Percentages of New PhDs known to be Employed, by Type of Employer, Fall Following Cohort Year

	Employed in US		Employed Outside the US		
Chort Year	US Academic*	US Nonacademic	Non-US Academic	Non-US Nonacademic	Total
2012–2013	56%	29%	13%	2%	**1572**
2013–2014	56%	30%	12%	2%	**1643**
2014–2015	52%	35%	11%	1%	**1649**
2015–2016	54%	34%	10%	2%	**1642**
2016–2017	54%	35%	10%	2%	**1588**
2017–2018	53%	34%	10%	2%	**1603**
2017–2018 Counts	*849*	*550*	*168*	*36*	

* Includes other academic departments and research institutes/other nonprofits.

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Figure E.8 : New PhDs Employed in US Academic and US Business/Industry & Government, by Degree-Granting Department Group, Fall Following Cohort Year

Cohort Year	Math Public Large		Math Public Medium		Math Public Small		Math Private Large		Math Private Small		Applied Math		Statistics		Biostatistics		TOTAL	
	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	Academic	Business/ Industry & Government	**Academic**	**Business/ Industry & Government**
2012–2013	206	78	165	56	126	37	107	39	37	12	55	27	113	141	69	47	**878**	**437**
2013–2014	198	70	187	60	108	39	120	40	58	14	69	27	122	158	64	45	**926**	**453**
2014–2015	209	105	167	70	101	31	111	51	38	15	53	56	117	168	68	84	**864**	**580**
2015–2016	205	106	164	69	140	45	113	58	44	19	53	67	95	143	70	58	**884**	**565**
2016–2017	170	77	180	68	115	48	108	38	43	14	56	62	105	165	74	83	**851**	**555**
2017–2018	174	88	173	78	119	31	106	50	31	21	69	52	107	150	70	80	**849**	**550**

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Table E.9: New PhDs taking Academic Positions in the US, by Hiring Department Group, Fall Following Cohort Year

Chort Year	Math Public	Math Private	Applied Math	Statistics	Biostatistics	Master's and Bachelor's	Other	Total
2012–2013	247	97	16	45	35	208	230	**878**
2013–2014	237	108	17	48	24	227	265	**926**
2014–2015	233	88	28	47	36	210	222	**864**
2015–2016	252	111	22	36	32	217	214	**884**
2016–2017	200	107	21	36	35	193	259	**851**
2017–2018	238	108	20	42	37	197	207	**849**

Table E.10: New PhDs Taking Positions US Academic Positions, by Degree-Granting Department Group, Fall Following Cohort Year

Chort Year	Math Public Large	Math Public Medium	Math Public Small	Math Private Large	Math Private Small	Applied Math	Statistics	Biostatistics	Total
2012–2013	206	165	126	107	37	55	113	69	**878**
2013–2014	198	187	108	120	58	69	122	64	**926**
2014–2015	209	167	101	111	38	53	117	68	**864**
2015–2016	205	164	140	113	44	53	95	70	**884**
2016–2017	170	180	115	108	43	56	105	74	**851**
2017–2018	174	173	119	106	31	69	107	70	**849**

Table E.11: New PhDs Taking Positions in Business and Industry in the US, by Degree-Granting Department Group, Fall Following Cohort Year

Chort Year	Math Public Large	Math Public Medium	Math Public Small	Math Private Large	Math Private Small	Applied Math	Statistics	Biostatistics	Total
2012–2013	57	47	29	31	10	37	128	42	**381**
2013–2014	54	48	33	37	12	44	145	36	**409**
2014–2015	90	57	21	50	12	47	150	65	**492**
2015–2016	96	56	38	54	14	56	133	48	**495**
2016–2017	64	56	38	35	14	52	148	68	**475**
2017–2018	81	60	25	47	17	37	145	76	**488**

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Table EE.3 Employment Status of 2017-2018 EENDR Respondents ONLY by Citizenship and Type of Employer

Type of Employer	US Citizen	Non-US Citizens			TOTAL
		Permenant Visa	Temporary Visa	Unknown Visa	
US Employer	219	13	93	0	325
US Academic	158	9	71	0	238
Doctoral Math Groups	54	5	38	0	97
Statistics & Biostatistics	8	1	4	0	13
NonPhD	89	3	26	0	118
RI/NP	7	0	3	0	10
US Nonacademic	61	4	22	0	87
NonUS Employer	25	0	28	0	53
NonUS Acad	18	0	25	0	43
NonUS Nonacad	7	0	3	0	10
Not Seeking	0	0	1	0	1
Seeking	9	0	2	0	11
Subtotal	253	13	124	0	390
Unknown (US)	0	0	0	0	0
Unknown (Non-US)	0	0	0	0	0
Total	253	13	124	0	390

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Table F.1: Number and Percentage of 2017–18 Women PhDs Produced and Hired, by Department Grouping

	Math Public Large	Math Public Medium	Math Public Small	Math Private Large	Math Private Small	Applied Math	Statistics	Biostatistics	Total
Women Produced	**88**	**102**	**79**	**34**	**13**	**39**	**120**	**92**	**567**
Percentage [1]	22%	28%	32%	15%	18%	25%	37%	54%	29%
Women Hired	**30**	**14**	**9**	**15**	**7**	**5**	**14**	**19**	**113**
Percentage [2]	27%	12%	8%	13%	6%	4%	12%	17%	
Number hired from group [3]	2	5	3	0	1	1	2	7	**21**

[1] Women as a percentage of total produced.

[2] Women as a percentage of total women hired.

[3] Women hired as a percentage of women produce by department grouping.

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Table F.2: Employment Status of 2017-18 Women Doctorate Recipeints by Citizenship Status

Type of Employer	US Citizen	Non-US Citizens			TOTAL
		Permenant Visa	Temporary Visa	Unknown Visa	
US Employer	188	22	179	20	**409**
US Academic	130	14	88	9	**241**
Math Public	25	5	22	1	**53**
Math Private	13	2	7	0	**22**
Applied Math	1	0	3	1	**5**
Statistics	3	1	9	1	**14**
Biostatistics	11	1	5	2	**19**
NonPhD	62	2	36	4	**104**
Rsrch. Inst./Other Nonprof.	15	3	6	0	**24**
US Govt. and Bus./Ind.	58	8	91	11	**168**
NonUS Employer	12	2	39	1	**54**
NonUS Academic	10	1	31	1	**43**
NonUS Govt. and Bus./Ind.	2	1	8	0	**11**
Not Seeking	1	0	0	0	**1**
Seeking	8	3	7	0	**18**
Subtotal	209	27	225	21	482
Unknown US	27	2	15	2	**46**
Unknown NonUS	0	0	34	5	**39**
Total	**236**	**29**	**274**	**28**	**567**

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Table F.3: Employment Status of 2017-2018 Woman Doctorate Recipients by Department Group

	Degree Origin								
Type of Employer	**Math Public Large**	**Math Public Medium**	**Math Public Small**	**Math Private Large**	**Math Private Small**	**Applied Math**	**Statistics**	**Biostatistics**	**Total**
US Academic									
Math Public Large	11	7	2	4	1	3	2	0	**30**
Math Public Medium	2	7	1	1	1	0	2	0	**14**
Math Public Small	1	3	3	1	0	0	1	0	**9**
Math Private Large	8	1	1	4	0	1	0	0	**15**
Math Private Small	1	2	1	0	0	1	1	1	**7**
Applied Mathematics	2	1	0	0	0	1	1	0	**5**
Statistics	1	0	1	0	0	0	11	1	**14**
Biostatistics	0	0	0	0	1	0	3	15	**19**
Master's	0	5	6	0	0	1	3	0	**15**
Bachelor's	6	15	12	2	1	2	6	2	**46**
Two-Year Colleges	1	0	2	0	1	0	0	0	**4**
Other Academic Dept.	4	6	7	0	0	6	8	8	**39**
Rsrch. Inst./Other Nonprof.	4	3	0	1	0	1	4	11	**24**
Government	1	10	2	0	1	6	2	3	**25**
Business & Industry	15	11	5	10	0	9	49	44	**143**
Non-US Academic	5	13	10	6	0	2	6	1	**43**
NonUS Govt. & Bus./Ind.	1	2	3	0	0	2	3	0	**11**
Not Seeking Employment	0	0	0	0	1	0	0	0	**1**
Still Seeking Employment	4	6	2	1	1	0	3	1	**18**
Unknown (US)	15	5	10	2	3	2	6	3	**46**
Unknown (non-US)*	6	5	11	2	2	2	9	2	**39**
Total	**88**	**102**	**79**	**34**	**13**	**39**	**120**	**92**	**567**