

# Report on the 2014-2015 New Doctoral Recipients 

William Yslas Vélez, 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, 2014 through June 30, 2015. Information in this report was provided by 312 of the 318 doctoral-granting departments surveyed, with additional information provided by the individual new doctoral recipients. The report includes an analysis of the fall 2015 employment plans of 2014-15 doctoral recipients and a demographic profile summarizing characteristics of their citizenship status, gender, and racial/ethnic group.

Detailed information, including tables which traditionally appeared in this report, is available on the AMS website at www. ams.org/annua1-survey/survey-reports.

## Doctoral Degrees Awarded

In mathematical sciences 1,901 PhDs were awarded by 286 doctoral-granting departments; 26 departments awarded no doctoral degrees. This year's count represents the first decline in the number of PhDs awarded since 2001-02.

The highest percentage, $34 \%$ (652) of the new PhDs had a dissertation in statistics/biostatistics, followed by algebra/number theory with $14 \%$ (268) and applied mathematics with $12 \%$ (221).

Comparing PhDs awarded in 2014-15 to 2013-14 the number of PhDs awarded:

- Decreased about $1 \%$ from 1,926 to 1,901. Of the 286 departments that responded both this year and last year the number of PhDs awarded decreased to 1,863 from 1,925
- Decreased in all groups except Math Public Large, Math Public Small, and Biostatistics
- Decreased 19\% in Math Private Small and 14\% in Applied Math
- Increased 5\% in Math Public Large and 19\% in Biostatistics
- Math Public Small awarded the same number of PhDs as last year

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


Total Degrees Awarded: 1,901
*See page 765 for a description of the department groupings.

[^0]Figure A.2: New PhDs Awarded by Group


Comparing PhDs awarded in 2014-15 with those awarded in 2004-05:

- PhDs awarded have increased more than $56 \%$ over the last 10 years.
- Degrees awarded by Doctoral Math and by Statistics/Biostatistics combined have increased $48 \%$ and $79 \%$, respectively.


## Employment

The overall US unemployment rate for the new doctoral recipients is $6.1 \%$, essentially the same as the 2013-14 rate. (Details on the calculations are on page 764.) The employment plans are known for 1,754 of the 1,901 new doctoral recipients. The number of new doctoral recipients employed in the US is 1,444 , up $2 \%$ from last year's number of 1,412 . Among those new PhDs employed in Doctoral Math departments, $75 \%$ are in postdoc positions, up from $71 \%$ last year. The number of new PhDs taking positions in Business \& Industry has increased to 492 this year compared to 409 last year. All groups except Math Public Small showed an increase in Business \& Industry, and $43 \%$ of the increase was accounted for by the Math Public Large Group.

Figure E.1: Employment Status


- $50 \%$ (726) of those who are employed in the US are US citizens, down from $53 \%$ last year.
- $\quad 78 \%$ (718) of non-US citizens whose employment status is known are employed in the US, the remaining 208 non-US citizens are either employed outside of the US or are unemployed.
- $9 \%(141)$ of the new PhDs who are employed are working at the institution that granted their degree, up from $8 \%$ last year. These individuals constitute $16 \%$ of total US academic employed.
- $56 \%$ of those still seeking employment in the US are US citizens.

Figure E.2: US Employed by Type of Employer

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

- US academic hiring decreased 7\% to 864 compared to 926 last year.
- Government hiring increased $14 \%$ (from 77 to 88 ); all doctoral-granting groups except Math Public Large, Math Private Large, and Applied Math showed an increase in the number of PhDs taking positions in this sector.

Figure E.3: Employment in the US by Type of Employer and Citizenship Total: 1,444


Of the US citizens whose employment status is known, $88 \%$ (726) are employed in the US, and of these:

- $31 \%$ are employed in PhD-granting departments
- $37 \%$ are employed in all other academic categories
- $32 \%$ are employed in government, business and industry

Figure E.4: PhDs Employed in Postdocs by Degree-Granting Department Group


- Total known to be employed: 1,649
- $37 \%$ (603) of the new PhDs that are employed are reported to be in postdoc positions, down slightly from 626 in 2013-14.
- $\quad 59 \%$ of the new PhDs awarded by the Math Private Large group are employed in postdocs, while only $18 \%$ of new PhDs awarded by the Math Public Small group and 18\% of PhDs awarded by the Biostatistics group are in postdocs.
- $51 \%$ of the new PhDs having US academic employment are in postdocs, up from $48 \%$ last year.

Figure E.5: New PhDs Employment by Citizenship, Type of Position and Type of Employer


[^1]- $22 \%$ of the new PhDs in postdoc positions are employed outside the US; last year, this percentage was $24 \%$.
- $75 \%$ of the new PhDs employed in Doctoral Math departments are in postdoc positions, up from $71 \%$ last year.

Figure E. 6 displays the US unemployment rate for new doctorates; details on the calculations are on page 764

Figure E.6: Percentage of New Doctoral Recipents Unemployed 2006-15*


Among new doctorates reported to be in the US and whose employment status is known:

- Overall unemployment is 6.5\%.
- $6.7 \%$ of US citizens are unemployed, compared to $7.2 \%$ in fall 2014.
- $5.4 \%$ of non-US citizens are unemployed, compared to $4.9 \%$ in fall 2014.
- New doctorates from the Math Public Small Group reported the highest unemployment rate at $13.1 \%$, up from 5.3\% last year.
- New doctorates from the Biostatistics Group reported the lowest unemployment at $1.9 \%$.

Figure E.7: Percentage of Employed New PhDs by Type of Employer


* Includes other academic departments and research institutes/other non-profits.
- US nonacademic hiring has jumped to 35\% (a five-year high), while US academic hiring continues to decrease, dropping to 52\% (a five-year low).
- Detailed information on new PhDs employed in the US by degree-granting department group is available on the AMS website at www.ams.org/annua1-survey.


## Demographics

Gender and citizenship was known for all 1,901 new PhDs reported for 2014-15. The percentage of US citizens is $46 \%$, down from $48 \%$ last year. Females accounted for $31 \%$ of the US citizen total, up from $28 \%$ last year. Non-US citizens receiving a PhD increased to $54 \%$ from $52 \%$ last year. $9 \%$ (64) of the non-US citizens employed in the US have permanent visa status, down from $11 \%$ last year.

Figure D.1: Gender of Doctoral Recipients by Degree-Granting Grouping


- Females account for 31\% (591) of 1,901 PhDs, down from $32 \%$ last year.

Figure D.3: Gender of US Citizen Doctoral Recipients by Degree-Granting Grouping
-Male © Female


- $49 \%$ of the males and $41 \%$ of the females are US citizens.
- Females accounted for $28 \%$ of the US citizens.
- Among the US citizens: 4 are American Indian or Alaska Native, 65 are Asian, 20 are Black or African American, 26 are Hispanic or Latino, 6 are Native Hawaiian or Other Pacific Islander, 740 are White, and 19 are of unknown race/ethnicity.
- Math Public Large awarded the highest number (19) of PhDs to US citizen minorities, while Math Public Small awarded the smallest number (2), followed by Math Private Large with 3.

Figure D.2: Citizenship of Doctoral Recipients by Degree-Granting Grouping


- $56 \%$ of all the PhDs awarded by the Math Public Large group were to US citizens, while only $33 \%$ of the PhDs awarded by the Statistics group were to US citizens.
- All groups except Math Public Large, Math Public Medium and Statistics awarded more PhDs to Non-US citizens than US citizens.

Figure D.4: Citizenship of New PhD Recipients, 2009-14


Looking at the last six years we see that:

- The proportion of PhDs awarded to US citizens is at a six-year low, $46 \%$ (880). While this is a $4 \%$ decrease from last year, it is a $12 \%$ increase from fall 2009-10.
- Non-US citizen counts continue to increase reaching a six-year high of 1,021 . While this is a $21 \%$ increase from fall 2009-10, it represents a $1 \%$ increase from last year.


## Female New Doctoral Recipients

After increasing last year to $32 \%$, the proportion of female new doctoral recipients decreased to $31 \%$ this year. Of the 864 new PhDs hired into academic positions, $31 \%$ (268) were women, down from $32 \%$ last year. Twenty-five percent of those hired into postdoc positions were women, with $45 \%$ of the women in postdocs being US citizens, up from $43 \%$ last year. The US unemployment rate for females is $5.0 \%$, compared to $6.6 \%$ for males and $6.1 \%$ overall.

Figure F.1: Females as a Percentage of New Doctoral Recipients Produced by and Hired by Department Grouping


* Females as a percentage of total hires by the department grouping.

Table F.1: Number of Female New Doctoral Recipients Produced by and Hired by Department Groupings

| Department <br> Grouping | Females <br> Produced | Females <br> Hired |
| :--- | :---: | :---: |
| Math Public Large | 105 | 24 |
| Math Public Medium | 86 | 16 |
| Math Public Small | 64 | 13 |
| Math Private Large | 40 | 9 |
| Math Private Small | 23 | 9 |
| Applied Math | 49 | 8 |
| Statistics | 124 | 21 |
| Biostatistics | 100 | 15 |
| Total | $\mathbf{5 9 1}$ | $\mathbf{1 1 5}$ |

- $42 \%$ of those hired by the Bachelor's Group were women (down from $44 \%$ last year) and $26 \%$ of those hired by the Master's Group were women (down from 34\% last year).
- $26 \%$ of those hired into Research Institutes/Other non-profit positions were women (down from $33 \%$ last year).
- $42 \%$ of those hired into Government positions were women (up from $34 \%$ last year).
- $63 \%$ of the women employed in all doctoral groups are in postdoc positions, compared to $75 \%$ of males employed in these groups.

Figure F.2: Females as a Percentage of US Citizen Doctoral Recipients


## PhDs Awarded by Statistics and Biostatistics Departments

This section contains information about new doctoral recipients in 58 statistics and 47 biostatistics departments. Statistics and biostatistics departments produced 538 new doctorates, of which all had dissertations in statistics/ biostatistics. This is a $4 \%$ increase in the number reported for fall 2014, which was 519. In addition, Math Public, Math Private and Applied Math departments combined had 113 PhD recipients with dissertations in statistics. $36 \%$ (191) of the new PhDs awarded by statistics and biostatistics departments are US citizens (while in the other groups combined, $51 \%$ are US citizens). The US unemployment among this group of new PhDs is $3.1 \%$, up from $2.5 \%$.

Figure S.1: PhDs Awarded by Statistics/Biostatistics Departments


- $28 \%$ of all mathematical sciences PhDs awarded were in statistics/ biostatistics.
- Females account for $36 \%$ of statistics and $52 \%$ of biostatistics PhDs awarded.

Figure S.2: Gender of PhD Recipients from Statistics/Biostatistics Departments


- Females accounted for $42 \%$ of • the 538 PhDs in Statistics and Biostatistics, compared to Doctoral Math, where $27 \%$ are female.


# Figure S.3: Citizenship of PhD Recipients from Statistics/Biostatistics Departments 



37\% of Statistics/Biostatistics US citizen PhD recipients are females, while in Doctoral Math $25 \%$ of the US citizens are females.

Figure S.4: Employment Status of PhD Recipients from Statistics/Biostatistics Departments


Total PhDs Awarded: 538

- $3.1 \%$ of Statistics/Biostatistics PhDs are unemployed compared to $7.3 \%$ among Doctoral Math. This is up from 2.5\% in 2013-14.
- Unemployment among new PhDs with dissertations in statistics/biostatistics is 3.4\%, up from 2.6\%. Among all other dissertation groupings, $6.2 \%$ are unemployed.

Figure S.5: US-Employed PhD Recipients from Statistics/Biostatistics Departments by Type of Employer

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

## Total US Employed: 437

- $49 \%$ of Statistics/Biostatistics PhDs are employed in Business/Industry, compared to $29 \%$ in Math.
- $43 \%$ of those hired by Statistics and Biostatistics were females, compared to $23 \%$ in Math.


## Information from the Employment Experiences of New Doctorates (EENDR) Survey

This section contains additional information on employment gathered from a subset of the 2014-15 new PhDs on the EENDR Survey. It expands on the details of employment which are not available through the departments.

The EENDR survey was sent to the 1,686 new PhDs for which departments provided current contact information by early October of 2015 . Of these individuals, $823(49 \%)$ responded. The employment status is known for 817 of these individuals; the US unemployment among this group is $2.4 \%$. Of the 793 who reported being employed, $29 \%$ indicated they were actively looking for new employment.

Figure EE.1: EENDR Respondents Reporting Permanent US Employment by Sector


* Includes research institutes and other non-profits.

Figure EE.2: EENDR Respondents Reporting Temporary US Employment by Sector


* Includes research institutes and other non-profits.

Of the 341 temporarily employed:

- $30 \%$ are women.
- $47 \%$ were unable to find a suitable permanent position (up from $43 \%$ last year).
- $76 \%$ are employed in postdocs and $40 \%$ of these reported they could not find a suitable permanent position.

Figure EE.3. EENDR Respondents
Employed Outside the US by Sector


* Includes research institutes and other non-profits

Of the 95 employed outside the US:

- $26 \%$ are women.
- $34 \%$ are US citizens.
- $76 \%$ are employed in postdocs.

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

|  |  |  |  |  | Temporary |  | Temporary Postdocs |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Perm <br> Total | \% | Temp Total | \% | Perm <br> Not Avail | \% of Temp Total | Total | \% of Temp Total | Perm Not Avail | \% of Temp Postdocs | \#(\%) <br> Unknown |
| Fall 2011 | 251 | 44\% | 319 | 56\% | 133 | 42\% | 225 | 71\% | 87 | 39\% | 0 |
| Fall 2012 | 261 | 44\% | 328 | 56\% | 127 | 39\% | 242 | 74\% | 108 | 45\% | 0 |
| Fall 2013 | 374 | 53\% | 335 | 47\% | 173 | 52\% | 247 | 74\% | 106 | 43\% | 0 |
| 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 |

A comparison of the employment status of EENDR respondents employed in the US over the last five years, reveals that:

- $51 \%$ of those employed for fall 2015 are in permanent positions. While this is lower than the proportion reported for fall 2013, it is higher than the low of $44 \%$.
- The proportion of those in temporary positions is the same as last year (51\%), but lower than the five-year high of $56 \%$.
- $47 \%$ of those holding temporary positions were unable to find suitable permanent positions. While this is up from last year, it is lower than the five-year high of $52 \%$.
- $40 \%$ of those holding postdoc positions were unable to find suitable permanent positions. This figure is up six percentage points from 2013-14 five-year low of 34\%.


## Information from the Employment Experiences of New Doctorates (EENDR) Survey

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 2011 | $61 \%$ | $8 \%$ | $31 \%$ | $94 \%$ | $5 \%$ | $1 \%$ |
| Fall 2012 | $61 \%$ | $8 \%$ | $32 \%$ | $92 \%$ | $5 \%$ | $2 \%$ |
| Fall 2013 | $53 \%$ | $7 \%$ | $40 \%$ | $92 \%$ | $4 \%$ | $4 \%$ |
| Fall 2014 | $54 \%$ | $6 \%$ | $40 \%$ | $92 \%$ | $5 \%$ | $3 \%$ |
| Fall 2015 | $44 \%$ | $8 \%$ | $48 \%$ | $93 \%$ | $3 \%$ | $4 \%$ |

Looking at Table EE.2, we see that

- Permanent employment in the academic sector continues a downward trend, dropping to a five-year low of 44\%, whereas employment in business/industry continues to climb jumping to $48 \%$.
- Temporary employment has increased slightly in both the academic and business/industry sectors, while decreasing in government.


## Starting Salaries of the 2014-2015 Doctoral Recipients

The starting salary figures were compiled from information gathered on the EENDR questionnaires sent to 1,686 individuals using addresses provided by the departments granting the degrees; 823 individuals responded between late October and April. 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 following tables.

Readers should be warned that the data in this report are obtained from a self-selected sample, and inferences from them may not be representative of the full population. Detailed information, including boxplots which traditionally appeared in this report, is available on the AMS website at www. ams.org/annual-survey/survey-reports.

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

| PhD <br> Year | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Total (167 male/80 female) |  |  |  |  |  |
| 2015 M | 24.0 | 50.0 | 54.0 | 60.0 | 101.0 |
| 2015 F | 32.0 | 50.0 | 57.0 | 65.5 | 110.0 |
| One year | less lexperience | $(147$ male/76 female) |  |  |  |
| 2015 M | 24.0 | 50.0 | 54.2 | 61.0 | 101.0 |
| 2015 F | 32.0 | 50.3 | 57.5 | 65.5 | 110.0 |



Includes postdoctoral salaries.

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

| PhD <br> Year | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Total (72 male/26 | female) |  |  |  |  |
| 2015 M | 33.6 | 50.0 | 57.0 | 60.3 | 84.0 |
| 2015 F | 40.0 | 54.0 | 61.0 | 69.6 | 80.0 |
| One year | or less | experience | $(68$ male | 26 female) |  |
| 2015 M | 33.6 | 50.0 | 57.0 | 61.1 | 84.0 |
| 2015 F | 40.0 | 54.0 | 61.0 | 69.6 | 80.0 |


|  | $2008$ |  | * | * <br> * <br> * <br> * $2011$ |  |  | 太 <br> 2014 | $2015$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

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

## Starting Salaries of the 2014-2015 Doctoral Recipients

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

| PhD Year | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total (25 male/11 female) |  |  |  |  |  |
| 2015 M | 47.0 | 80.8 | 94.3 | 110.0 | 116.0 |
| 2015 F | 58.6 | 61.7 | 89.0 | 93.8 | 130.0 |
| One year or less experience (23 male/4 female) |  |  |  |  |  |
| 2015 M | 47.0 | 82.4 | 94.3 | 110.0 | 115.0 |
| 2015 F | 58.6 | 62.2 | 69.2 | 80.4 | 96.5 |



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

| PhD Year | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total (116 male/58 female) |  |  |  |  |  |
| 2015 M | 60.0 | 94.8 | 111.0 | 125.0 | 160.0 |
| 2015 F | 60.0 | 87.5 | 106.0 | 120.0 | 170.0 |
| One year or less experience (98 male/43 female) |  |  |  |  |  |
| 2015 M | 60.0 | 92.5 | 105.5 | 125.0 | 160.0 |
| 2015 F | 65.0 | 87.0 | 105.0 | 117.5 | 145.0 |



## Remarks on Starting Salaries

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, 2014-June 30, 2015 is designated as 2015. Salaries reported as $9-10$ months exclude stipends for summer grants or summer teaching or the equivalent. M and F are male and female, respectively. Male and female 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.

Graphs. The graphs show standard boxplots summarizing salary distribution information for the years 2008 through 2015. Values plotted for 2008 through 2015 are converted to 2015 dollars using the implicit price deflator prepared annually by the Bureau of Economic Analysis, US Department of Commerce. These categories are based on work activities reported in EENDR. Salaries of postdoctorates are shown separately.

They are also included in other academic categories with matching work activities.

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

## Remarks on US Unemployment Rate Calculations

In the unemployment calculations provided in this report, the individuals employed outside the US have been removed from the denominator used in the calculation of the rate, in addition to the routine removal of all individuals whose employment status is unknown. This is a change from Annual Survey Reports prior to 2009. As a consequence, the unemployment rate now being reported more accurately reflects the US labor market experienced by the new doctoral recipients. This change tends to increase the rate of unemployment over that reported in prior years.

Another small change from prior years is that, those individuals reported as not seeking employment have also been removed from the denominator. The number of individuals so designated is small each year, and the impact of this change is to produce a slight increase in the rate over that reported in prior years.

The unemployment rates for years prior to 2009 shown in this report have been recalculated using this method. One can view a comparison of the unemployment rates using the earlier method and the currentmethod by visiting the AMS website at www.ams.org/annua7survey/surveyreports.htm7.

## Departmental Groupings and Response Rates

Starting with reports on the 2012 AMS-ASA-IMS-MAASIAM Annual Survey of the Mathematical Sciences, the Joint Data Committee has implemented a new method for grouping the doctorate-granting mathematics departments. These departments are first grouped into those at public institutions and those at private institutions. These groups are further subdivided based on the size of their doctoral program as reflected in the average annual number of PhDs awarded between 2000 and 2010, based on their reports to the Annual Survey during this period. Furthermore, doctorate-granting
departments which self-classify their PhD program as being in applied mathematics will join with the other applied mathematics departments previously in Group Va to form their own group. The former Group IV will be divided into two groups, one for departments in statistics and one for departments in biostatistics.

For further details on the change in the doctoral department groupings, see the article in the October 2012 issue of Notices of the AMS at www. ams.org/ notices/201209/rtx120901262p.pdf.

## Department Grouping Response Rates

| Doctorates Granted |
| :--- |
| Departmental Response Rates by Grouping |
| Math Public Large 26 of 26 including 0 with no degrees <br> Math Public Medium 40 of 40 including 0 with no degrees <br> Math Public Small 62 of 64 including 7 with no degrees <br> Math Private Large 24 of 24 including 0 with no degrees <br> Math Private Small 29 of 29 including 4 with no degrees <br> Applied Math 30 of 30 including 1 with no degrees <br> Statistics 58 of 58 including 5 with no degrees <br> Biostatistics 44 of 47 including 9 with no degrees <br> Total 312 of 318 including 26 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

University of Oklahoma
Utah State University

## Biostatistics Departments

University of Cincinnati, Medical College
University of Illinois at Chicago
University of Louisville
University of South Carolina

## Department Groupings

In this report, Mathematical 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; Statistics refers to departments that incorporate (again, with exceptions) "statistics" in the name but do not use "mathematics." The streamlining of language here militates against the possible objection to foreshortening the full subject names.

Starting with reports on the 2012 AMS-ASA-IMS-MAASIAM Annual Survey of the Mathematical Sciences, the Joint Data Committee implemented a new method for grouping doctorate-granting Mathematics departments. These departments are first grouped into those at public institutions and those at private institutions. These groups are further subdivided based on the size of their doctoral program as reflected in the average annual number of PhDs awarded between 2000 and 2010, based on their reports to the Annual Survey during that period.

For further details on the change in the doctoral department groupings, see the article in the October 2012 issue of Notices of the AMS at www. ams.org/ journa1s/notices/201209/rtx120901262p.pdf.

Math Public Large consists of departments with the highest annual rate of production of PhDs , ranging between 7.0 and 24.2 per year. Math Public Medium consists of departments with an annual rate of production of PhDs, ranging between 3.9 and 6.9 per year.
Math Public Small consists of departments with an annual rate of production of PhDs of 3.8 or less per year.
Math Private Large consists of departments with an annual rate of production of PhDs, ranging between 3.9 and 19.8 per year.
Math Private Small consists of departments with an annual rate of production of PhDs of 3.8 or less per year.
Applied Mathematics consists of doctoral-degree-granting applied mathematics departments.
Statistics consists of doctoral-degree-granting statistics departments.
Biostatistics consists of doctoral-degree-granting biostatistics departments.
Masters contains US departments granting a Master's degree as the highest graduate degree.
Bachelors contains US departments granting a Baccalaureate degree only.
Doctoral Math contains all US math public, math private, and applied math mathematics departments granting a PhD as the highest graduate degree.
Mathematics contains all US math public, math private, and applied math, Master's, and Bachelor's groups above.
Listings of the actual departments that compose these groups are available on the AMS website at www.ams.org/ annual-survey/groups.

Annual Survey of the Mathematical Sciences

Table A.1: Field of Thesis of 2014-2015 Doctoral Recipients by Degree-Granting Department

| Granting | Algebra/ Number Theory | Real, Comp., Funct., \& Harmonic Analysis | Geometry/ Topology | Discr. Math./ Combin. /Logic/ Comp. Sci. | Probability | Statistics | Biostatistics | Applied Math. | Numerical <br> Analysis/ <br> Approxi- <br> mations | Linear Nonlinear Optim./ Control | Differential, Integral, \& Difference Equations | Math. Educ. | Other/ Unknown | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Math Public Large | 90 | 33 | 61 | 49 | 15 | 15 | 0 | 57 | 34 | 6 | 56 | 0 | 1 | 417 |
| Math Public Medium | 59 | 21 | 29 | 29 | 6 | 33 | 1 | 50 | 25 | 7 | 35 | 5 | 2 | 302 |
| Math Public Small | 41 | 25 | 9 | 15 | 10 | 28 | 1 | 23 | 7 | 1 | 30 | 10 | 0 | 200 |
| Math Private Large | 63 | 13 | 44 | 20 | 15 | 7 | 0 | 22 | 7 | 4 | 24 | 0 | 0 | 219 |
| Math Private Small | 15 | 7 | 15 | 13 | 4 | 3 | 0 | 5 | 3 | 2 | 8 | 0 | 1 | 76 |
| Applied Mathematics | 0 | 1 | 1 | 3 | 8 | 27 | 1 | 64 | 22 | 8 | 8 | 1 | 5 | 149 |
| Statistics | 0 | 0 | 0 | 0 | 2 | 343 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 345 |
| Biostatistics | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 0 | 0 | 0 | 0 | 0 | 193 |
| Total | 268 | 100 | 159 | 129 | 60 | 456 | 196 | 221 | 98 | 28 | 161 | 16 | 9 | 1901 |
| Female | 55 | 20 | 30 | 32 | 10 | 169 | 101 | 75 | 31 | 8 | 49 | 9 | 2 | 591 |
| Male | 213 | 80 | 129 | 97 | 50 | 287 | 95 | 146 | 67 | 20 | 112 | 7 | 7 | 1310 |

Table D.1: Gender and Citizenship of 2014-2015 Doctoral Recipients, by Type of Degree-Granting Department

|  | Math. Public Large |  | Math. <br> Public Medium |  | Math. Public Small |  | Math. Private Large |  | Math. Private Small |  | Applied Math. |  | Statistics |  | Biostatistics |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Citizen | Mal | Fem | Mal | Fem | Mal | Fem | Mal | Fem | Mal | Fem | Mal | Fem | Mal | Fem | Mal | Fem | Mal | Fem |
| U.S. | 178 | 56 | 117 | 41 | 64 | 27 | 77 | 20 | 29 | 9 | 51 | 20 | 82 | 30 | 38 | 41 | 636 | 244 |
| Non-U.S. | 134 | 49 | 99 | 45 | 72 | 37 | 102 | 20 | 24 | 14 | 49 | 29 | 139 | 94 | 55 | 59 | 674 | 347 |
| Total | 312 | 105 | 216 | 86 | 136 | 64 | 179 | 40 | 53 | 23 | 100 | 49 | 221 | 124 | 93 | 100 | 1310 | 591 |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey
Table D.2: U.S. Citizen Doctoral Recipients, Fall 2005 to Fall 2015

| Year | Total Doctorates <br> Granted by U.s. <br> Institutions | Total U.s. Citizen <br> Doctoral Total | $\%$ |
| :---: | :---: | :---: | :---: |
| $2005-06$ | 1311 | 552 | $42 \%$ |
| $2006-07$ | 1333 | 576 | $43 \%$ |
| $2007-08$ | 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 | $46 \%$ |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey
Table D.3: Gender of U.S. Citizen Doctoral Recipients, Fall 2005 to Fall 2015

| Year | Total U.S. Citizen <br> Doctoral <br> Recipients | Male | Female | \% Female |
| :---: | :---: | :---: | :---: | :---: |
| $2005-06$ | 552 | 399 | 153 | $28 \%$ |
| $2006-07$ | 576 | 396 | 180 | $31 \%$ |
| $2007-08$ | 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 | $28 \%$ |

Table D.4: Gender, Race/Ethnicity \& Citizenship of 2014-2015 New Doctoral Recipients, July 1, 2014 - June 30, 2015


All Math Public Groups Combined
Doctorate Granting Departments of Mathematics

|  | 128 | of | 130 | departments responding |  |  |  | 1 | 7 | with no degrees) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total | Citizenship |  |  |  | Total |  |
|  |  |  | Non-US |  |  | US | Non-US |  |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 21 | 8 | 202 | 4 | 235 | 10 | 11 | 82 | 5 | 108 | 343 |
| BI/Afr Am | 9 | 1 | 8 | 0 | 18 | 4 | 0 | 1 | 0 | 5 | 23 |
| Hisp/Lat | 9 | 4 | 14 | 1 | 28 | 4 | 1 | 5 | 0 | 10 | 38 |
| Haw/Pac Is | 3 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| White | 314 | 6 | 51 | 2 | 373 | 105 | 5 | 21 | 0 | 131 | 504 |
| Unknown | 3 | 0 | 3 | 0 | 6 | 1 | 0 | 0 | 0 | 1 | 7 |
| TOTAL | 359 | 19 | 279 | 7 | 664 | 124 | 17 | 109 | 5 | 255 | 919 |

All Math Private Groups Combined
Doctorate Granting Departments of Mathematics

|  | 53 | of | 53 | departments responding |  |  |  | $1 \quad 4$ |  | with no degrees) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total |  | Citize | ship |  | Total |  |
|  |  | Non-US |  |  |  | US | Non-US |  |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 5 | 3 | 62 | 0 | 70 | 0 | 0 | 22 | 0 | 22 | 92 |
| BI/Afr Am | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Hisp/Lat | 2 | 0 | 11 | 0 | 13 | 2 | 0 | 0 | 0 | 2 | 15 |
| Haw/Pac Is | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| White | 97 | 1 | 46 | 0 | 144 | 27 | 3 | 8 | 0 | 38 | 182 |
| Unknown | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 4 |
| TOTAL | 106 | 4 | 122 | 0 | 232 | 29 | 3 | 31 | 0 | 63 | 295 |

Math Public Large Group
Doctorate Granting Departments of Mathematics

|  | 26 | of | 26 | departments responding |  |  |  | 1 | 0 | with no degrees) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total | Citizenship |  |  |  | Total |  |
|  |  |  | Non-US |  |  | US | Non-US |  |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 14 | 2 | 96 | 0 | 112 | 6 | 6 | 31 | 0 | 43 | 155 |
| Bl/Afr Am | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 1 | 0 | 4 | 7 |
| Hisp/Lat | 7 | 2 | 5 | 0 | 14 | 2 | 1 | 4 | 0 | 7 | 21 |
| Haw/Pac Is | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| White | 151 | 3 | 25 | 0 | 179 | 44 | 1 | 5 | 0 | 50 | 229 |
| Unknown | 2 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 4 |
| TOTAL | 178 | 7 | 127 | 0 | 312 | 56 | 8 | 41 | 0 | 105 | 417 |

Math Public Medium Group
Doctorate Granting Departments of Mathematics

|  | 40 | of | 40 | departments responding |  |  |  | $($ | 0 | with no degrees) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total | Citizenship |  |  |  | Total |  |
|  |  | Non-US |  |  |  | US | Non-US |  |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 5 | 3 | 66 | 0 | 74 | 3 | 2 | 34 | 0 | 39 | 113 |
| Bl/Afr Am | 1 | 0 | 6 | 0 | 7 | 1 | 0 | 0 | 0 | 1 | 8 |
| Hisp/Lat | 1 | 1 | 5 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 8 |
| Haw/Pac Is | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| White | 109 | 1 | 14 | 0 | 124 | 37 | 2 | 7 | 0 | 46 | 170 |
| Unknown | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 117 | 5 | 93 | 1 | 216 | 41 | 4 | 41 | 0 | 86 | 302 |

Math Public Small Group
Doctorate Granting Departments of Mathematics

www.ams.org/ annual-survey

Math Private Large Group
Doctorate Granting Departments of Mathematics


Math Private Small Group
Doctorate Granting Departments of Mathematics

|  | 29 | of | 29 | departments responding |  |  |  | $1 \quad 4$ |  | with no degrees) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total | Citizenship |  |  |  | Total |  |
|  |  | Non-US |  |  |  | US |  | Non-US |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 0 | 0 | 13 | 0 | 13 | 0 | 0 | 8 | 0 | 8 | 21 |
| Bl/Afr Am | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Hisp/Lat | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 3 |
| Haw/Pac Is | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| White | 28 | 1 | 7 | 0 | 36 | 8 | 2 | 4 | 0 | 14 | 50 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 29 | 1 | 23 | 0 | 53 | 9 | 2 | 12 | 0 | 23 | 76 |

Applied Mathematics Group
Doctorate Granting Departments of Applied Mathematics

|  | Doctorate Granting Departments of Applied Mathematics |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 30 | of | 30 | departments responding |  |  |  | $($ | 1 | with no degrees) |  |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total | Citizenship |  |  |  | Total |  |
|  |  | Non-US |  |  |  | US | Non-US |  |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 0 | 0 | 35 | 1 | 36 | 4 | 2 | 22 | 1 | 29 | 65 |
| Bl/Afr Am | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| Hisp/Lat | 3 | 0 | 1 | 0 | 4 | 1 | 0 | 0 | 0 | 1 | 5 |
| Haw/Pac Is | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| White | 43 | 3 | 8 | 1 | 55 | 14 | 2 | 2 | 0 | 18 | 73 |
| Unknown | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| TOTAL | 51 | 3 | 44 | 2 | 100 | 20 | 4 | 24 | 1 | 49 | 149 |

www.ams.org/ annual-survey

Statistics Group
Doctorate Granting Departments of Statistics


Biostatistics Group
Doctorate Granting Departments of Biostatistics

|  | 43 | of | 47 | departments responding |  |  |  | 19 |  | with no degrees) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | WOMEN |  |  |  |  | TOTAL |
|  | Citizenship |  |  |  | Total | Citizenship |  |  |  | Total |  |
|  |  | Non-US |  |  |  | US |  | Non-US |  |  |  |
|  | US | Perm | Temp | Unk |  |  | Perm | Temp | Unk |  |  |
| Am Ind/Alas | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| Asian | 3 | 5 | 36 | 3 | 47 | 6 | 8 | 40 | 2 | 56 | 103 |
| Bl/Afr Am | 0 | 1 | 2 | 0 | 3 | 3 | 0 | 0 | 1 | 4 | 7 |
| Hisp/Lat | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 3 |
| Haw/Pac Is | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| White | 33 | 0 | 5 | 0 | 38 | 28 | 0 | 2 | 0 | 30 | 68 |
| Unknown | 0 | 0 | 3 | 0 | 3 | 2 | 0 | 0 | 5 | 7 | 10 |
| TOTAL | 38 | 6 | 46 | 3 | 93 | 41 | 8 | 43 | 8 | 100 | 193 |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table D.5: Profile of PhDs Awarded to Underrepresented Minorities (URMs)* by Degree Granting Group and Citizenship, July 1, 2014 - June 30, 2015

|  | Number of PhDs Awarded to <br> 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 <br> Resident |  |  |  |
| Math Public Large | 249 | 16 | 3 | 19 | 29\% | 7.6\% |
| Math Public Medium | 167 | 4 | 1 | 5 | 8\% | 3.0\% |
| Math Public Small | 103 | 9 | 2 | 11 | 17\% | 10.7\% |
| Math Private Large | 101 | 3 | 0 | 3 | 5\% | 3.0\% |
| Math Private Small | 41 | 2 | 0 | 2 | 3\% | 4.9\% |
| Applied Math | 78 | 5 | 0 | 5 | 8\% | 6.4\% |
| Statistics | 123 | 10 | 3 | 13 | 20\% | 10.6\% |
| Biostatistics | 93 | 7 | 1 | 8 | 12\% | 8.6\% |
| Total | 955 | 56 | 10 | 66 | 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

Figure F.3: 2014-2015 New Women PhDs in Postdocs by Degree-Granting Department

Total PhDs Awarded to Women Women PhDs Currently in Postdocs


## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table E.1: Employment Status of 2014-2015 Doctoral Recipients in the Mathematical Sciences by Type of Degree-Granting Department

| Type of Employer | Math. Public Large | Math. <br> Public <br> Medium | Math. Public Small | Math. <br> Private <br> Large | Math. Private Small | Applied Math. | Statistics | Biostatistics | Total | Female | Male |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Math. Public Large | 61 | 17 | 3 | 28 | 3 | 2 | 0 | 0 | 114 | 24 | 90 |
| Math. Public Medium | 16 | 25 | 4 | 12 | 2 | 4 | 2 | 0 | 65 | 16 | 49 |
| Math. Public Small | 12 | 10 | 19 | 3 | 3 | 0 | 7 | 0 | 54 | 13 | 41 |
| Math. Private Large | 23 | 4 | 0 | 32 | 2 | 2 | 1 | 0 | 64 | 9 | 55 |
| Math. Private Small | 9 | 2 | 4 | 2 | 5 | 1 | 0 | 1 | 24 | 9 | 15 |
| Applied Mathematics | 6 | 5 | 1 | 3 | 0 | 13 | 0 | 0 | 28 | 8 | 20 |
| Statistics | 3 | 1 | 0 | 0 | 0 | 5 | 37 | 1 | 47 | 21 | 26 |
| Biostatistics | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 25 | 36 | 15 | 21 |
| Master's | 6 | 20 | 16 | 1 | 4 | 0 | 5 | 1 | 53 | 14 | 39 |
| Bachelor's | 28 | 53 | 30 | 10 | 15 | 11 | 7 | 3 | 157 | 66 | 91 |
| Two-Year Colleges | 6 | 5 | 13 | 1 | 1 | 2 | 1 | 0 | 29 | 6 | 23 |
| Other Academic Dept. | 29 | 21 | 8 | 13 | 3 | 13 | 33 | 30 | 150 | 56 | 94 |
| Research Institute/ Other Notprofit | 10 | 4 | 3 | 6 | 0 | 0 | 13 | 7 | 43 | 11 | 32 |
| Government | 15 | 13 | 10 | 1 | 3 | 9 | 18 | 19 | 88 | 37 | 51 |
| Busisness and Industry | 90 | 57 | 21 | 50 | 12 | 47 | 150 | 65 | 492 | 155 | 337 |
| Non-U.S. Academic | 52 | 30 | 29 | 40 | 7 | 13 | 16 | 2 | 189 | 48 | 141 |
| Non-U.S. Nonacademic | 5 | 1 | 1 | 2 | 1 | 1 | 5 | 0 | 16 | 2 | 14 |
| Not Seeking Employment | 2 | 1 | 5 | 0 | 1 | 1 | 0 | 2 | 12 | 5 | 7 |
| Still Seeking Employment | 32 | 15 | 7 | 6 | 8 | 11 | 11 | 3 | 93 | 24 | 69 |
| Unknown (U.S.) | 4 | 7 | 9 | 4 | 2 | 10 | 18 | 8 | 62 | 20 | 42 |
| Unknown (non-U.S.)* | 8 | 11 | 17 | 5 | 4 | 4 | 10 | 26 | 85 | 32 | 53 |
| Total | 417 | 302 | 200 | 219 | 76 | 149 | 345 | 193 | 1901 | 591 | 1310 |
| Female | 105 | 86 | 64 | 40 | 23 | 49 | 124 | 100 | 591 |  |  |
| Male | 312 | 216 | 136 | 179 | 53 | 100 | 221 | 93 | 1310 |  |  |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table E.2: Employment Status of 2014-2015 Doctoral Recipients in the Mathematical Sciences
by Type of Degree-Granting Department with Citizenship

| Type of Employer | Math. <br> Public <br> Large | Math. <br> Public Medium | Math. <br> Public <br> Small | Math. Private Large | Math. Private Small | Applied Math | Statistics | Biostatistics | Total | US Citizen | Non-US <br> Citizen |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Math. Public Large | 61 | 17 | 3 | 28 | 3 | 2 | 0 | 0 | 114 | 59 | 55 |
| Math. Public Medium | 16 | 25 | 4 | 12 | 2 | 4 | 2 | 0 | 65 | 34 | 31 |
| Math. Public Small | 12 | 10 | 19 | 3 | 3 | 0 | 7 | 0 | 54 | 30 | 24 |
| Math. Private Large | 23 | 4 | 0 | 32 | 2 | 2 | 1 | 0 | 64 | 36 | 28 |
| Math. Private Small | 9 | 2 | 4 | 2 | 5 | 1 | 0 | 1 | 24 | 12 | 12 |
| Applied Mathematics | 6 | 5 | 1 | 3 | 0 | 13 | 0 | 0 | 28 | 16 | 12 |
| Statistics | 3 | 1 | 0 | 0 | 0 | 5 | 37 | 1 | 47 | 15 | 32 |
| Biostatistics | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 25 | 36 | 21 | 15 |
| Master's | 6 | 20 | 16 | 1 | 4 | 0 | 5 | 1 | 53 | 28 | 25 |
| Bachelor's | 28 | 53 | 30 | 10 | 15 | 11 | 7 | 3 | 157 | 121 | 36 |
| Two-Year Colleges | 6 | 5 | 13 | 1 | 1 | 2 | 1 | 0 | 29 | 19 | 10 |
| Other Academic Dept. | 29 | 21 | 8 | 13 | 3 | 13 | 33 | 30 | 150 | 83 | 67 |
| Research Institute/Other Notprofit | 10 | 4 | 3 | 6 | 0 | 0 | 13 | 7 | 43 | 18 | 25 |
| Government | 15 | 13 | 10 | 1 | 3 | 9 | 18 | 19 | 88 | 65 | 23 |
| Busisness and Industry | 90 | 57 | 21 | 50 | 12 | 47 | 150 | 65 | 492 | 169 | 323 |
| Non-US Academic | 52 | 30 | 29 | 40 | 7 | 13 | 16 | 2 | 189 | 42 | 147 |
| Non-US Nonacademic | 5 | 1 | 1 | 2 | 1 | 1 | 5 | 0 | 16 | 3 | 13 |
| Not Seeking Employment | 2 | 1 | 5 | 0 | 1 | 1 | 0 | 2 | 12 | 5 | 7 |
| Still Seeking Employment | 32 | 15 | 7 | 6 | 8 | 11 | 11 | 3 | 93 | 52 | 41 |
| Unknown (US) | 4 | 7 | 9 | 4 | 2 | 10 | 18 | 8 | 62 | 52 | 10 |
| Unknown (non-US)* | 8 | 11 | 17 | 5 | 4 | 4 | 10 | 26 | 85 | 0 | 85 |
| Total | 417 | 302 | 200 | 219 | 76 | 149 | 345 | 193 | 1901 | 880 | 1021 |
| US Citizen | 234 | 158 | 91 | 97 | 38 | 71 | 112 | 79 | 880 |  |  |
| Non-US Citizen | 183 | 183 | 109 | 122 | 38 | 78 | 233 | 114 | 1060 |  |  |

Table E.3: Employment Status of 2014-2015 New Doctoral Recipeints by Citizenship Status

| Type of Employer | U.S. Citizen | Non-U.S. Citizens |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Permenant Visa | Temporary Visa | Unknown Visa |  |
| U.S. Employer | 726 | 64 | 626 | 28 | 1444 |
| U.S. Academic | 492 | 34 | 329 | 9 | 864 |
| Math. Public | 123 | 7 | 100 | 3 | 233 |
| Math. Private | 48 | 2 | 38 | 0 | 88 |
| Applied Mathematics | 16 | 0 | 12 | 0 | 28 |
| Statistics | 15 | 1 | 29 | 2 | 47 |
| Biostatistics | 21 | 4 | 11 | 0 | 36 |
| NonPhD | 251 | 19 | 115 | 4 | 389 |
| RI/NP | 18 | 1 | 24 | 0 | 43 |
| US Nonacademic | 234 | 30 | 297 | 19 | 580 |
| NonUS Employer | 45 | 2 | 156 | 2 | 205 |
| NonUS Academic | 42 | 2 | 143 | 2 | 189 |
| NonUS Nonacademic | 3 | 0 | 13 | 0 | 16 |
| Not Seeking | 5 | 1 | 6 | 0 | 12 |
| Seeking | 52 | 7 | 30 | 4 | 93 |
| Subtotal | 828 | 74 | 818 | 34 | 1754 |
| Unknown US | 52 | 1 | 9 | 0 | 62 |
| Unknown NonUS | 0 | 0 | 73 | 12 | 85 |
| Total | 880 | 75 | 900 | 46 | 1901 |

Table E.4: Employment Status of 2014-2015 Doctoral 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/ Approximations | Linear <br> Nonlinear Optim./ Control | Differential, Integral, \& Difference Equations | Math. Educ. | Other/ Unknown | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Math. Public Large | 29 | 8 | 21 | 12 | 5 | 1 | 0 | 13 | 8 | 1 | 15 | 0 | 1 | 114 |
| Math. Public Medium | 11 | 10 | 4 | 4 | 1 | 8 | 0 | 13 | 5 | 1 | 7 | 0 | 1 | 65 |
| Math. Public Small | 15 | 7 | 6 | 6 | 1 | 9 | 0 | 3 | 1 | 0 | 4 | 2 | 0 | 54 |
| Math. Private Large | 18 | 6 | 14 | 3 | 2 | 1 | 0 | 1 | 2 | 0 | 17 | 0 | 0 | 64 |
| Math. Private Small | 8 | 1 | 4 | 2 | 1 | 0 | 2 | 3 | 0 | 0 | 3 | 0 | 0 | 24 |
| Applied Mathematics | 1 | 1 | 0 | 1 | 1 | 3 | 0 | 11 | 3 | 3 | 4 | 0 | 0 | 28 |
| Statistics | 0 | 0 | 1 | 0 | 3 | 40 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 47 |
| Biostatistics | 0 | 0 | 0 | 0 | 0 | 11 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 36 |
| Master's | 15 | 6 | 4 | 3 | 2 | 7 | 1 | 1 | 3 | 0 | 7 | 4 | 0 | 53 |
| Bachelor's | 43 | 9 | 20 | 19 | 2 | 14 | 3 | 17 | 4 | 5 | 16 | 5 | 0 | 157 |
| Two-Year Colleges | 7 | 1 | 4 | 2 | 4 | 2 | 0 | 3 | 1 | 0 | 5 | 0 | 0 | 29 |
| Other Academic Dept. | 9 | 4 | 5 | 13 | 3 | 41 | 31 | 26 | 10 | 0 | 7 | 1 | 0 | 150 |
| Research Institute/Other Notprofit | 5 | 2 | 1 | 3 | 2 | 17 | 7 | 4 | 1 | 0 | 1 | 0 | 0 | 43 |
| Government | 7 | 2 | 0 | 8 | 1 | 26 | 19 | 16 | 4 | 1 | 4 | 0 | 0 | 88 |
| Busisness and Industry | 34 | 12 | 21 | 22 | 17 | 193 | 66 | 53 | 33 | 10 | 29 | 1 | 1 | 492 |
| Non-U.S. Academic | 42 | 18 | 34 | 17 | 8 | 22 | 2 | 14 | 9 | 2 | 20 | 1 | 0 | 189 |
| Non-U.S. Nonacademic | 0 | 0 | 1 | 2 | 0 | 5 | 0 | 2 | 1 | 3 | 2 | 0 | 0 | 16 |
| Not Seeking Employment | 0 | 1 | 2 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 12 |
| Still Seeking Employment | 17 | 7 | 8 | 6 | 5 | 17 | 3 | 13 | 7 | 1 | 8 | 0 | 1 | 93 |
| Unknown (U.S.) | 2 | 2 | 5 | 3 | 1 | 20 | 8 | 10 | 3 | 1 | 4 | 0 | 3 | 62 |
| Unknown (non-U.S.)* | 5 | 3 | 4 | 3 | 1 | 17 | 26 | 15 | 2 | 0 | 6 | 1 | 2 | 85 |
| Total | 268 | 100 | 159 | 129 | 60 | 456 | 196 | 221 | 98 | 28 | 161 | 16 | 9 | 1901 |
| Female | 55 | 20 | 30 | 32 | 10 | 169 | 101 | 75 | 31 | 8 | 49 | 9 | 2 | 591 |
| Male | 213 | 80 | 129 | 97 | 50 | 287 | 95 | 146 | 67 | 20 | 112 | 7 | 7 | 1310 |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table E.5: 2014-2015 New Ph.D.s Employed in the U.S. 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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| All Doctoral Mathematics* | 127 | 63 | 31 | 80 | 15 | 22 | 10 | 1 | 349 |
| Statistics \& Biostatistics | 3 | 1 | 0 | 0 | 0 | 5 | 48 | 26 | 83 |
| Master's, Bachelor's, and 2-Year Colleges | 40 | 78 | 59 | 12 | 20 | 13 | 13 | 4 | 239 |
| Other Academic and Research Institutes | 39 | 25 | 11 | 19 | 3 | 13 | 46 | 37 | 193 |
| Government | 15 | 13 | 10 | 1 | 3 | 9 | 18 | 19 | 88 |
| Business and Industry | 90 | 57 | 21 | 50 | 12 | 47 | 150 | 65 | 492 |
| Total | 314 | 237 | 132 | 162 | 53 | 109 | 285 | 152 | 1444 |

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


## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

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

| US Employer | Cit izenship |  | Total |
| :---: | :---: | :---: | :---: |
|  | US | Non-US |  |
| Academic | 492 | 372 | 864 |
| All Doctoral Mathematics* | 187 | 162 |  |
| Statistics \& Biostatistics | 36 | 47 |  |
| Masters, Bachelors, \& 2-Year | 168 | 71 |  |
| Other Academic \& Research Instititues | 101 | 92 |  |
| Government, Business \& Industry | 234 | 346 | 580 |
| Total | 726 | 718 | 1444 |

* Includes Doc. Mathematics: Public Large, Public Medium, Public Small,

Private Large, Private Small, and Applied Math.

## Annual Survey of the Mathematical Sciences

## www.ams.org/annual-survey

Table E.8: Percentage of Employed New Ph.D.'s by Type of Employer

|  | Employed in US |  | Employed Outside the US |  |
| :---: | :---: | :---: | :---: | :---: |
|  | US Academic* | US Noncademic | Non-US Academic | Non-US Nonacademic |

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


## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table E.9: Academic Positions in the U.S. Filled by New Ph.D.s by Type of Hiring Department, Fall 2011 to Fall 2015

| Year | Math. Public | Math. Private | Applied Math. | Statistics | Biostatistics | Master's and Bachelor's | Other | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fall 2011 |  |  | 13 |  |  | 208 | 234 | 875 |
| Fall 2012 | 208 | 110 | 20 | 51 | 39 | 218 | 248 | 894 |
| Fall 2013 | 247 | 97 | 16 | 45 | 35 | 208 | 230 | 878 |
| Fall 2014 | 237 | 108 | 17 | 48 | 24 | 227 | 265 | 926 |
| Fall 2015 | 233 | 88 | 28 | 47 | 36 | 210 | 222 | 864 |

Table E.10: Number of New Ph.D.s Taking Positions U.S. Academic Positions by Type of Degree-Granting Department, Fall 2011 to Fall 2015

| Year | Math. Public <br> Large | Math. Public <br> Medium | Math. Public <br> Small | Math. Private <br> Large | Math. Private <br> Small | Applied Math. | Statistics | Biostatistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table E.11: Number of New Ph.D.s Taking Positions in Business and Industry in the U.S. by Type of Degree-Granting Department, Fall 2011 to Fall 2015

| Year | Math. Public <br> Large | Math. Public <br> Medium | Math. Public <br> Small | Math. Private <br> Large | Math. Private <br> Small | Applied Math. | Statistics | Biostatistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | | Total |
| :---: |
| Fall 2011 |
| Fall 2012 |

Figure E.12: Percentage of New Doctoral Recipients Unemployed 1992-2015


## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table F.1: Females as a Percentage of 2014-15 New Ph.D.s Produced by and Hired by Doctoral-Granting Department Grouping

|  | Math Public Large | Math Public Medium | Math Public Small | Math Private Large | Math Private Small | Applied Math | Statistics | Biostatistics | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Produced | 25\% | 28\% | 32\% | 18\% | 30\% | 33\% | 36\% | 52\% | 31\% |
| Hired* | 21\% | 25\% | 24\% | 14\% | 38\% | 29\% | 45\% | 42\% |  |

## Annual Survey of the Mathematical Sciences

www.ams.org/annual-survey

Table F2.: Employment Status of 2014-15 Female New Doctoral Recipeints
by Citizenship Status

| Type of Employer | U.S. Citizen | Non-U.S. Citizens |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Permenant Visa | Temporary Visa | Unknown Visa |  |
| U.S. Employer | 213 | 31 | 202 | 14 | 460 |
| U.S. Academic | 147 | 16 | 100 | 5 | 268 |
| Math. Public | 40 | 6 | 29 | 2 |  |
| Math. Private | 29 | 4 | 26 | 2 |  |
| Applied Math. | 66 | 6 | 31 | 2 |  |
| St at ist ics | 25 | 2 | 24 | 2 |  |
| Biostatistics | 8 | 1 | 11 | 1 |  |
| NonPhD | 86 | 9 | 45 | 2 |  |
| RI/NP | 4 | 0 | 7 | 0 |  |
| US Nonacad | 66 | 15 | 102 | 9 | 192 |
| NonUS Employer | 8 | 2 | 39 | 1 | 50 |
| NonUS Acad | 8 | 2 | 37 | 1 |  |
| NonUS Nonacad | 0 | 0 | 2 | 0 |  |
| Not Seeking | 3 | 1 | 1 | 0 | 5 |
| Seeking | 5 | 4 | 14 | 1 | 24 |
| Subtotal | 229 | 38 | 256 | 16 | 539 |
| Unk US | 15 | 1 | 4 | 0 | 20 |
| Unk NonUS | 0 | 0 | 25 | 7 | 32 |
| Total | 244 | 39 | 285 | 23 | 591 |


[^0]:    William Yslas Vélez is a professor in the Department of Mathematics at University of Arizona. Thomas H. Barr is AMS special projects officer. Colleen A. Rose is AMS survey analyst.

[^1]:    *Includes all Math Public, Math Private, and Applied Math departments.

