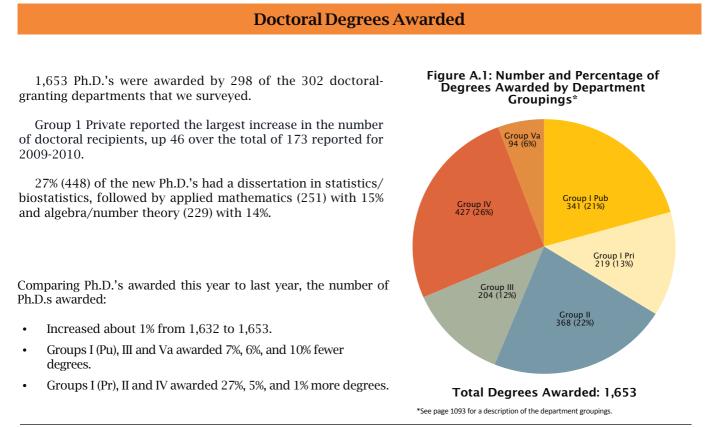


# Report on the 2010-2011 New Doctoral Recipients

Richard Cleary, James W. Maxwell, and Colleen Rose

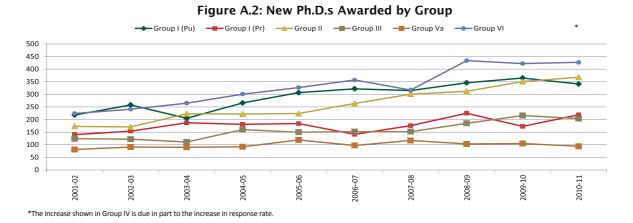
This report presents a statistical profile of recipients of doctoral degrees awarded by departments in the mathematical sciences at universities in the United States during the period July 1, 2010, through June 30, 2011. All information in the report was provided between July 2011 and April 2012 by the departments that awarded the degrees with information provided by the individual new doctoral recipients. The report includes an analysis of the fall 2011 employment plans of 2010–2011 doctoral recipients and a demographic profile summarizing characteristics of citizenship status, gender, and racial/ethnic group. This report provides a more extensive look at the 2010–2011 new doctorates and includes information about 2010-2011 doctoral recipients that were not included in the preliminary report in the April 2012 issue of *Notices*.

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



Richard Cleary is a professor in the Department of Mathematical Sciences at Bentley University. James W. Maxwell is AMS associate executive director for special projects. Colleen A. Rose is AMS survey analyst.

### **Doctoral Degrees Awarded**



Looking at Ph.D.'s awarded this year with those awarded in 2001–2002:

- Ph.D.'s awarded have increased more than 72% over the last 10 years in all groups combined.
- Groups II continues to report record numbers each year, up 113% from 2001-2002.

### Employment

The overall unemployment rate is 4.3%, down from 6.9% last year. (Details on the calculations are on page 1093.) The employment plans are known for 1,485 of the 1,653 new doctoral recipients. The number of new doctoral recipients employed in the U.S. is 1,191, up slightly from last year's number of 1,163. Employment in the U.S. increased in all employer types except Groups IV, Va, B, and Other Academic. The number of new Ph.D.'s taking positions in government has increased to 81 this year compared to 75 last year. Academic hiring of new doctoral recipients increased slightly to 875.

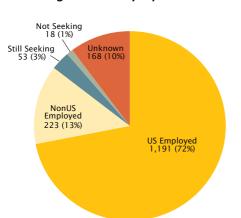
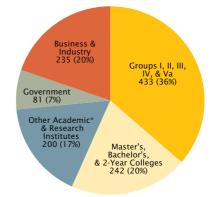


Figure E.1: Employment Status

- 54% (642) of those employed in the U.S. are U.S. citizens, up from 53% last year.
- 74% (549) of non-U.S. citizens whose employment status is known are employed in the U.S., the remaining 194 non-U.S. citizens are either employed outside of the U.S. or are unemployed.
- 8% (110) of all new Ph.D.'s are working at the institution which granted their degree, the same percent as last year. These individuals constitute 13% of total U.S. Academic Employed.

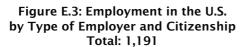
Figure E.2: U.S. Employed by Type of Employer

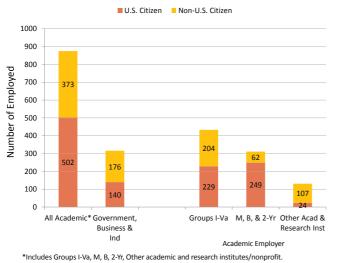


\*Other Academic consists of departments outside the mathematical sciences including numerous medical related units.

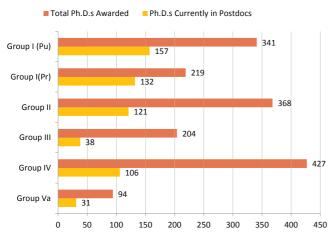
- Total U.S. employed: 1,191
- U.S. Academic hiring increased slightly to 875 and all groups except IV, Va, B, and Other Academic reported increases.
- Business & Industry hiring increased 8% (from 217 to 235); all groups except Groups 1 (Pr) and II showed an increase in the number of Ph.D.'s taking positions in this sector.

### Employment





### Figure E.4: New Ph.D.'s Employed in Postdocs by Degree-Granting Group

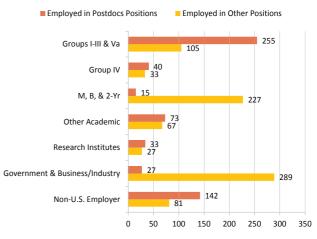


- 41% (585) of the new Ph.D.'s are reported to be in postdoc positions, up from 40% last year.
- 24% of the new Ph.D.'s in postdoc positions are employed outside the U.S., last year this percentage was 20%.
- 48% of the new Ph.D.'s having U.S. academic employment are in postdocs; last year this percentage was 49%.
- 60% of the new Ph.D.'s awarded by Group I (Pr) are employed in postdocs, while only 19% of new Ph.D.'s awarded by Group III are in postdocs.

Looking at U.S. citizens whose employment status is known:

- 87% (642) are employed in the U.S., of these:
  - 36% are employed in Ph.D.-granting departments
  - 43% are employed in all other academic categories
  - 22% are employed in government, business and industry

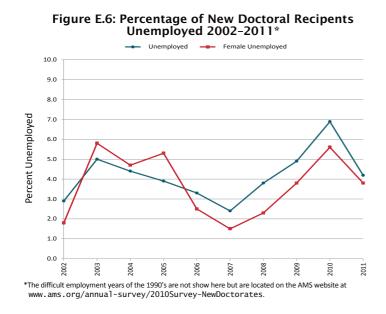
### Figure E.5: Postdoc vs Non-Postdoc Employment by Type of Employer



- Total known to be employed: 1,414
- 70% of the new Ph.D.'s employed in Groups I-Va are in postdoc positions, up from 68% last year. The analogous percent for Group I is 79%.

### Employment

Figure E.6 displays the U.S. unemployment rate for new doctorates; details on the calculations are on page 1093.



- Unemployment among those whose employment status is known is 4.3%, down from 6.9% for fall 2010.
- Group I Pri reported highest unemployment at 5.2%.
- Group Va reported the lowest unemployment at 3.2%.
- 4.6% of U.S. citizens are unemployed, compared to 7% in fall 2010.
- 3.9% of non-U.S. citizens are unemployed; the rates by visa status are
  - 3.8% (3) for those holding a permanent visa, down significantly from last year's figure of 10.1% (7).
  - 4.0% for those holding a temporary visa.

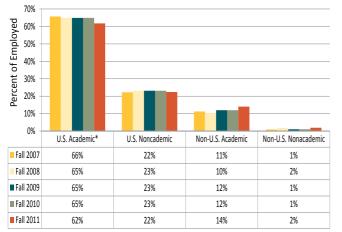
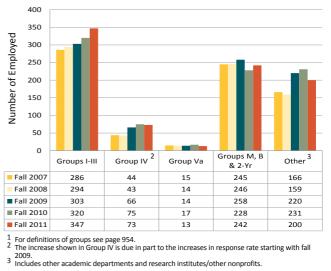


Figure E.7: Percentage of Employed New Ph.D.'s by Type of Employer

### Figure E.8: New Ph.D.'s Employed in U.S. Academic Positions by Hiring Department Group<sup>1</sup>



Hiring of newP h.D.'s has increased in all groups except Groups M and B combined which hired 3% fewer new Ph.D.'s than last year.

• The percentage of Ph.D.'s hired into academic and nonacademic positions shows little variablility over the years.

Comparing the last 5 years in Figure E.8 we see that:

- Groups I-III have showed an increasing trend in the hiring of new Ph.D.'s, hiring 21% more new Ph.D.'s than for Fall 2007.
- Groups IV, Va, M, B & 2-Yr and Other all show some variability over the years, but Groups IV and Other have hired 66% and 20% more new Ph.D.'s this year than they did in Fall 2007.
- Detailed information on new Ph.D.'s employed in the U.S. by degree-granting department group is available on the website at www.ams.org/annual-survey/2011Survey-NewDoctorates.

<sup>\*</sup> Includes other academic departments and research institutes/other non-profits.

### **Demographics**

Gender and citizenship was known for all 1,653 new Ph.D.'s reported for 2010–2011. The number of U.S. citizens is 802 (49%) (up from 48% last year). The number of females accounted for 28% of the U.S. citizen total (down from 29% last year). The number of non-U.S. citizens receiving a Ph.D decreased to 51% from 52% last year; this is down 8 percentage points from the 10 year high of 59% reported in 2004–2005. 15% (83) of the non-U.S. citizens employed in the U.S. have permanent visa status (up from 13% last year).

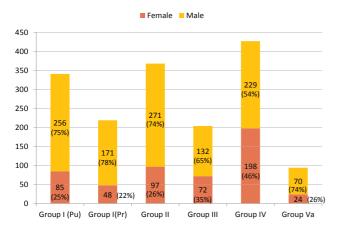
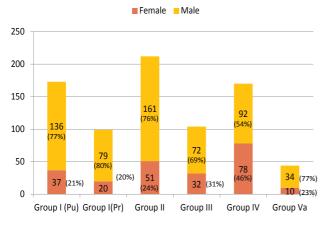


Figure D.1: Gender of Doctoral Recipients

by Degree-Granting Group

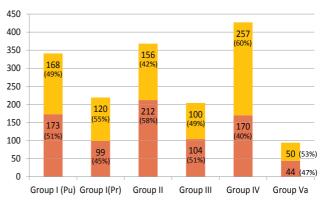
• Females account for 32% (524) of the 1,653 Ph.D.'s, up from last year's figure of 31%.

### Figure D.3: Gender of U.S. Citizen Doctoral Recipients by Degree-Granting Group



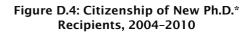
- 51% of the males and 44% of the females are U.S. citizens.
- Females accounted for 28% of the U.S. citizens.
- Among the U.S. citizens: 4 are American Indian or Alaska Native, 40 are Asian, 21 are Black or African American, 20 are Hispanic or Latino, 3 are Native Hawaiian or Other Pacific Islander, 635 are White, and 79 are of unknown race/ ethnicity.

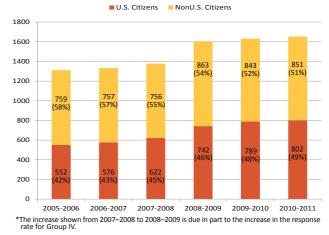
### Figure D.2: Citizenship of Doctoral Recipients by Degree-Granting Group



U.S. Citizens Non-U.S. Citizens

 Groups I (Pu), IV, and Va awarded more degrees to U.S. Citizens than Non-U.S. citizens, awarding 51%, 58% and 51% of their Ph.D.'s to U.S. citizens.





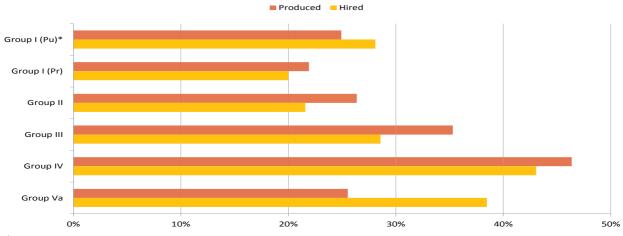
Looking at the last six years we see that:

- U.S. citizen counts have been increasing steadily, reaching a high of 802 this year. This is a 45% increase from Fall 2005–2006.
- Non-U.S. citizen counts which had been hovering around 750, are showing more variability increasing to 851 this year. While this is a 12% increase from Fall 2005–2006, it represents a 1% increase from last year.

### September 2012

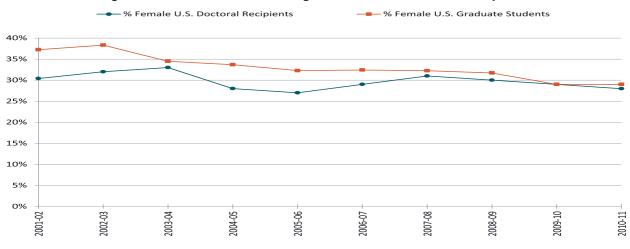
### **Female New Doctoral Recipients**

After trailing off slightly to 31% last year, the number of female new doctoral recipients is up slightly to 32% this year. Of the 875 new Ph.D.'s hired into academic positions 33% (289) were women, the same as last year. 28% of those hired into postdoc positions were women, with 41% of the women in postdocs being U.S. citizens, down from 57% last year. The U.S. unemployment rate for females is 3.8%, compared to 4.5% for males and 4.3% overall.





- 36% of those hired by Group B were women (down from 43% last year) and 33% of those hired by Group M were women (down from 39% last year).
- 62% of those hired into Research Institutes/Other non-profit positions were women (up rom 35% last year).
- 37% of those hired into Government positions were women (up from 36% last year).
- 62% of the women employed in Groups I-Va are in postdoc positions, compared to 70% of the men employed in postdocs in these groups.

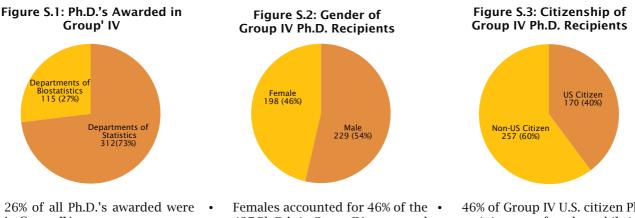


### Figure F.2: Females as a Percentage of U.S. Citizen Doctoral Recipients

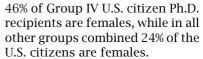
<sup>\*</sup> For definitions of groups see page 1093.

### Ph.D.'s Awarded in Group IV (Statistics/Biostatistics)

This section contains information about new doctoral recipients in Group IV (58 statistics and 35 biostatistics departments). Group IV produced 427 new doctorates, of which all but 52 had dissertations in statistics/ biostatistics. This is a 1% increase in the number reported for fall 2010 of 422. In addition, Groups I-III and Va combined had 67 Ph.D. recipients with dissertations in statistics. In Group IV, 170 (40%) of the new doctoral recipients are U.S. citizens (while in the other groups combined 52% are U.S. citizens). The 90 departments responding last year and this year reported a total of 427 new doctoral recipients, an increase of 4% from last year. The unemployment among the Group IV new Ph.D.'s is 3.8% up from 2.3.



- in Group IV.
- Females account for 41% of statistics and 60% of biostatistics Ph.D.'s awarded.
- 427 Ph.D.'s in Group IV, compared to all other groups combined, where 27% are female.



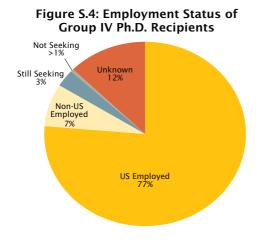
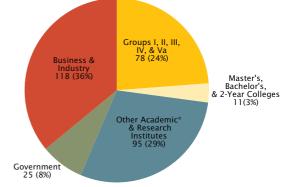


Figure S.5: U.S. Employed Group IV Ph.D. Recipients by Type of Employer



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

- Group IV total U.S. employed: 328
- 36% of Group IV Ph.D.'s are employed in Business/Industry, compared to 14% in all other groups.
- 42% of those hired by Group IV were females, compared to 24% in all other groups.

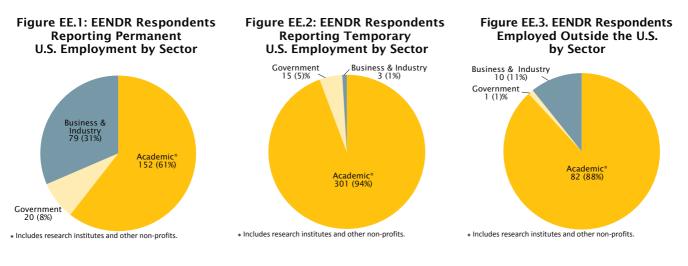
### 3.8% of Group IV Ph.D.'s are unemployed compared to 4.4% among all other groups. This is up from 2.3% last year.

Unemployment among new Ph.D.'s with dissertations in statistics/probability is 3.6%, up from 3.4%. Among all other dissertation groupings 3.5% are unemployed.

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

This section contains additional information on employment gathered from a subset of the 2010-2011 new Ph.D.'s on the EENDR Survey. It expands on the details of employment which are not available through the departments.

The 1,289 new Ph.D.'s reported in our Preliminary Report were sent this survey; of those individuals 699 (54%) responded. The employment status is known for 692 of these individuals, the U.S. unemployment among this group is 2.2%. The median age among this group of respondents is 30.



Of the 251 permanently employed:

- 34% are women.
- 74% of those reporting academic employment hold tenured/ tenure-track positions.

Of the 319 temporarily employed:

- 31% are women.
- 27% were unable to find a suitable permanent position (down from 51% last year).
- 71% are employed in postdocs and 39% of these reported they could not find a suitable permanent position.

Of the 93 employed outside the U.S.:

- 17% are women.
- 27% are U.S. Citizens.
- 79% of the U.S. Citizens are employed in postdocs and 50% of these reported they could not find a suitable permanent position.

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

					Tempo	orary	Temporary Postdocs				
Year	Perm	%	Temp	%	Perm	%	Total	%	Perm	%	Unkown
rear	Total	70	Total	70	Not Avail	70	TOLAT	70	Not Avail	70	UTROWT
Fall 2007	259	53%	227	47%	88	39%	172	76%	57	33%	0
Fall 2008	245	49%	222	45%	74	33%	172	77%	47	27%	0
Fall 2009	318	49%	326	51%	146	45%	234	72%	68	29%	0
Fall 2010	320	48%	341	52%	140	41%	246	72%	68	28%	0
Fall 2011	251	44%	319	56%	87	27%	225	71%	87	39%	0

Comparing the employment status of EENDR respondents employed in the U.S. over the last five years we see that:

• Permanent positions have dropped to 38% this year, a five-year low and down 22% from Fall 2010.

- Temporary positions have decreased to 48% this year, while this is up from Fall 2007 it is down from last year.
- 27% of those holding temporary positions were unable to find suitable permanent positions, a five-year low and down 38% from Fall 2010.
- 39% of those holding postdoc positions were unable to find suitable permanent positions, a five-year high.

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

Year		Permanent	t	Temporary			
	Acad	Govn	B/I	Acad	Govn	B/I	
Fall 2007	68%	3%	29%	93%	4%	3%	
Fall 2008	63%	6%	31%	95%	4%	1%	
Fall 2009	64%	6%	29%	91%	5%	4%	
Fall 2010	64%	8%	28%	93%	5%	2%	
Fall 2011	61%	8%	31%	94%	5%	1%	

Table EE.2: Percentage of EENDR Respondents Employed in the U.S. by Employment Sector within Job Status Looking at at Table EE.2 we see that

- Permanent academic employment has dropped to 61%, reaching a five-year low and down 7 percentage points from 2007. While temporary employment in this sector has increased to 94%.
- Permanent government employment has leveled of at 8%.
- Business/Industry shows some variability in permanent employment, while temporary positions are showing a downward trend.

### Starting Salaries of the 2010-2011 Doctoral Recipients

The starting salary figures were compiled from information gathered on the EENDR questionnaires sent to 1,289 individuals using addresses provided by the departments granting the degrees; 699 individuals responded between late October and April. Responses with insufficient data or from individuals who indicated they had part-time or non-U.S. 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.

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

Ph.D.	
Year Min Q <sub>1</sub> Medi	ın Q <sub>3</sub> Max
Total (165 male/73 female)	
2011 M 28.8 45.0 50.0	
2011 F 36.0 46.0 51.0	
One year or less experience (165	
2011 M 28.8 45.0 50.0	
2011 F 36.0 46.0 51.0	60.0 154.0
210 +	
200 -	
198 -	*
180 -	
170 -	
160 +	*
<b>5</b> 150 + <b>*</b>	· · ·
<b>D</b> 140 - <b>D</b> 130 -	· · · · · · · · · · · · · · · · · · ·
J 120	*
<b>1</b> 10 + <b>* *</b>	
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Salary (in thousands of 2011 dollars)	$\perp$ $\perp$ $\perp$ $\perp$ $\perp$
20 - •	• —
18 -	
2004 2005 2006	2007 2008 2009 2010 2011

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

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Includes postdoctoral salaries.

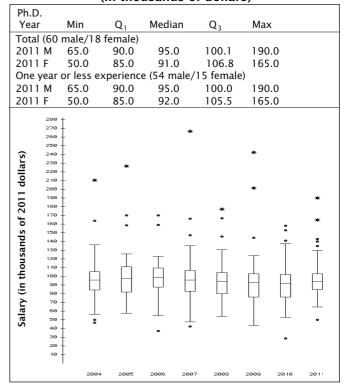
A postdoctoral appointment is a temporary position primarily intended to provide an opportunity to extend graduate training or to further research experience.

### Starting Salaries of the 2010-2011 Doctoral Recipients

			usanus u	i dona	/	
Ph.D. Year	Min	<b>Q</b> <sub>1</sub>	Median	Q <sub>3</sub>	Max	
Total (18	male/14			- 3		
2011 M	50.0	65.0	83.2	100.6	115.7	
2011 F	52.0	63.9	68.5	85.0	105.0	
One year	or less ex	kperienc	e (17 male/	'11 femal	le)	
2011 M	50.0	65.0	81.4	97.0	115.7	
2011 F	52.0	63.9	70.0	80.0	105.0	
Salary (in thousands of 2011 dollars)	8 			•		
	2004	2005	2006 2007	2008	2009 2010	2011

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

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



### **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, 2010–June 30, 2011, is designated as 2011. 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 2004 through 2011. Values plotted for 2004 through 2011 are converted to 2011 dollars using the implicit price deflator prepared annually by the Bureau of Economic Analysis, U.S. 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 and 1.5 IQR above Q3. 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  $\bullet$  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.

### **Other Information**

#### Survey Response Rates

### Doctorates Granted Departmental Response Rates

Group I (Pu)	25 of 25 including 0 with no degrees
Group I (Pr)	23 of 23 including 0 with no degrees
Group II	55 of 56 including 1 with no degrees
Group III	81 of 81 including 22 with no degrees
Group IV	90 of 93 including 10 with no degrees
Statistics	57 of 58 including 4 with no degrees
Biostatistics	33 of 35 including 6 with no degrees
Group Va	24 of 24 including 4 with no degrees

#### **Doctoral Degrees Not Reported**

The following mathematical sciences departments did not respond with their doctoral degrees awarded:

Baylor University, Department of Statistical Sciences

- The University of Albany, SUNY, Department of Epidmiology & Biostatistics
- University of Louisville, Department of Bioinformations & Biostatistics
- University of Miami, Department of Mathematics

#### **Group Descriptions**

- **Group I** is composed of 48 departments with scores in the 3.00–5.00 range. Group I Public and Group I Private are Group I departments at public institutions and private institutions, respectively.
- **Group II** is composed of 56 departments with scores in the 2.00–2.99 range.
- **Group III** contains the remaining U.S. departments reporting a doctoral program, including a number of departments not included in the 1995 ranking of program faculty.
- **Group IV** contains U.S. departments (or programs) of statistics, biostatistics, and biometrics reporting a doctoral program.
- **Group Va** is applied mathematics/applied science; Group Vb, which was no longer surveyed as of 1998–99, was operations research and management science.
- **Group M** contains U.S. departments granting a master's degree as the highest graduate degree.
- **Group B** contains U.S. departments granting a baccalaureate degree only.

Listings of the actual departments which compose these groups are available on the AMS website at www. ams.org/annual-survey/groups\_des.

### **U.S. Unemployment Rate Calculations**

In the unemployment calculations provided in this report the individuals employed outside the U.S. 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 U.S. labor market experienced by the new doctoral recipients. This change tends to increase the rate of unemployment over that reported in prior years.

In a further small change from prior years, 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 new method. One can view a comparison of the unemployment rates using the traditional method and the new method by visiting the AMS website at www.ams.org/annual-survey/surveyreports.html.

#### About the Annual Survey

The Annual Survey series, begun in 1957 by the American Mathematical Society, is currently under the direction of the Data Committee, a joint committee of the American Mathematical Society, the American Statistical Association, the Mathematical Association of America, and the Society of Industrial and Applied Mathematics. The current members of this committee are Pam Arroway, Richard Cleary (chair), Steven R. Dunbar, Susan Geller, Abbe H. Herzig, Ellen Kirkman, Joanna Mitro, James W. Maxwell (ex officio), Bart S. Ng, Douglas Ravanel, and Marie Vitulli. The committee is assisted by AMS survey analyst Colleen A. Rose. In addition, the Annual Survey is sponsored by the Institute of Mathematical Statistics. Comments or suggestions regarding this Survey Report may be directed to the committee.

### **Other Sources of Data**

Visit the AMS website at www.ams.org/annualsurvey/other-sources for a listing of additional sources of data on the Mathematical Sciences.



### Section on Doctoral Degrees Awarded

Supplemental Table A.1: Field of Thesis of 2010-2011 Doctoral Recipients by Degree-Granting Department

Quanting	Algebra/	Real, Comp.,		Discr. Math./				Numerica I	Linear Nonlinear	Differential, Integral, &			Tetal
Granting	Number	,	Geometry/	-		Statistics/	Applied	Analysis/		Difference	Math.	Other/	Total
	Theory	Harmonic	Topology	Logic/	Probability	Biostatistics	Math.	Approxi-	Control	Equations	Educ.	Unknown	
Group I (Public)	77	30	52	29	12	7	64	14	6	43	1	6	341
Group I (Private)	54	12	56	17	14	5	27	13	0	18	1	2	219
Group II	71	32	49	32	17	11	66	26	12	38	6	8	368
Group III	26	17	11	23	5	34	36	12	4	23	12	1	204
Group IV	0	0	1	1	2	381	3	0	0	0	0	39	427
Group Va	1	2	8	1	2	10	55	13	1	1	0	0	94
Total	229	93	177	103	52	448	251	78	23	123	20	56	1653
Male	172	76	141	81	39	242	170	68	12	86	7	35	1129
Female	57	17	36	22	13	206	81	10	11	37	13	21	524



### Section on Employment

# Supplemental Table E.1: Employment Status of 2010-2011 Doctoral Recipients in the Mathematical Sciences by Type of Degree-Granting Department with Gender

Type of Employer	Group I (Public)	Group I (Private)	Group II	Group III	Group IV	Group Va Applied	Total		
	Math.	Math.	Math.	Math.	Statistics	Math.		Male	Female
Group I (Public)	49	19	14	4	0	3	89	64	25
Group I (Private)	35	49	9	1	4	2	100	80	20
Group II	26	15	52	2	6	1	102	80	22
Group III	8	1	14	28	4	1	56	40	16
Group IV	2	1	0	5	62	3	73	42	31
Group Va	0	3	1	3	2	4	13	8	5
Master's	9	0	20	18	4	0	51	34	17
Bachelor's	24	13	76	33	7	4	157	100	57
Two-Year Colleges	6	3	13	12	0	0	34	27	7
Other Academic Dept.	17	10	22	16	65	10	140	88	52
Research Institute/									
Other Not-for-Profit	7	6	6	4	31	6	60	23	37
Government	10	8	18	12	25	8	81	51	30
Busisness and Industry	36	19	23	20	118	19	235	152	83
Non-U.S. Academic	57	51	48	13	19	8	196	163	33
Non-U.S. Nonacademic	7	2	0	5	12	1	27	20	7
Unknown (U.S.)	14	4	19	8	27	13	85	60	25
Not Seeking Employment	5	2	6	3	2	0	18	5	13
Still Seeking Employment	9	8	12	9	13	2	53	37	16
Unknown (non-U.S.)*	20	5	15	8	26	9	83	55	28
Total	341	219	368	204	427	94	1653	1129	524
Male	256	171	271	132	229	70	1129		
Female	85	48	97	72	198	24	524		



### Section on Employment

### Supplemental Table E.2: Employment Status of 2010-2011 Doctoral Recipients in the Mathematical Sciences by Type of Degree-Granting Department with Citizenship

Type of Employer	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.	Group IV Statistics	Group Va Applied Math.	Total	U.S. Citizen	Non-U.S. Citizen
Group I (Public)	49	19	14	4	0	3	89	56	33
Group I (Private)	35	49	9	1	4	2	100	53	47
Group II	26	15	52	2	6	1	102	56	46
Group III	8	1	14	28	4	1	56	29	27
Group IV	2	1	0	5	62	3	73	32	41
Group Va	0	3	1	3	2	4	13	3	10
Master's	9	0	20	18	4	0	51	28	23
Bachelor's	24	13	76	33	7	4	157	124	33
Two-Year Colleges	6	3	13	12	0	0	34	28	6
Other Academic Dept.	17	10	22	16	65	10	140	69	71
Research Institute/ Other Not-for-Profit		6	6	4	31	6	60	24	36
Government	10	8	18	12	25	8	81	62	19
Busisness and Industry	36	19	23	20	118	19	235	78	157
Non-U.S. Academic	57	51	48	13	19	8	196	51	145
Non-U.S. Nonacademic	7	2	0	5	12	1	27	8	19
Unknown (U.S.)	14	4	19	8	27	13	85	59	26
Not Seeking Employment	5	2	6	3	2	0	18	10	8
Still Seeking Employment	9	8	12	9	13	2	53	31	22
Unknown (non-U.S.)*	20	5	15	8	26	9	83	1	82
Total	341	219	368	204	427	94	1653	802	851
U.S. Citizen	173	99	212	104	170	44	802		
Non-U.S. Citizen	168	120	156	100	257	50	851		



### Section on Employment

# Supplemental Table E.3: Employment Status of 2010-11 New Doctoral Recipeints by Citizenship Status

Type of Employer	U.S. Citizen		Non-U.S. Citizens		TOTAL
Type of Employer	0.3. Citizen	Permenant Visa	<b>Temporary Visa</b>	Unknown Visa	TOTAL
U.S. Employer	642	75	454	20	1191
U.S. Academic	502	43	314	16	875
Group I (Public)	56	1	32	0	89
Group I (Private)	53	2	43	2	100
Group II	56	1	45	0	102
Group III	29	3	23	1	56
Group IV	32	6	31	4	73
Group Va	3	0	9	1	13
Master's	28	7	16	0	51
Bachelor's	124	7	26	0	157
Two Year Colleges	28	1	3	2	34
Other Academic Dept.	69	8	57	6	140
Research Institute/					
Other Non-Profit	24	7	29	0	60
U.S. Nonacademic	140	32	140	4	316
Government	62	5	13	1	81
Business and Industry	78	27	127	3	235
Non-U.S. Employer	59	1	157	6	223
Non-U.S. Academic	51	1	138	6	196
Non-U.S. Nonacademic	8	0	19	0	27
Not Seeking	10	4	4	0	18
Seeking	31	3	19	0	53
Subtotal	742	83	634	26	1485
Unknown (U.S.)	59	7	17	2	85
Unknown (Non-U.S.)*	1	3	63	16	83
Total	802	93	714	44	1653



### Section on Employment

### Supplemental Table E.4: Employment Status of 2010-2011 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/ Approxi- mations	Linear Nonlinear Optim./ Control	Differential, Integral, & Difference Equations	Math. Educ.	Other/ Unknown	Total
Group I (Public)	19	6	21	9	4	0	15	8	0	7	0	0	89
Group I (Private)	26	4	22	7	5	2	11	3	0	15	0	5	100
Group II	16	12	14	10	4	7	21	4	0	9	2	3	102
Group III	10	2	4	7	1	9	12	3	0	7	1	0	56
Group IV	0	0	0	0	3	65	0	0	0	2	0	3	73
Group Va	0	1	0	0	0	2	7	3	0	0	0	0	13
Master's	11	5	6	2	1	9	4	4	1	5	3	0	51
Bachelor's	34	15	25	22	2	9	21	5	2	10	7	5	157
Two-Year Colleges	10	3	7	2	1	2	3	3	0	2	1	0	34
Other Academic Dept.	9	2	6	3	3	68	30	4	4	7	3	1	140
Research Institute/ Other Not-for-Profit	0	0	3	1	1	35	11	3	2	4	0	0	60
Government	8	2	3	7	1	30	19	4	1	6	0	0	81
Busisness and Industry	8	6	9	8	12	128	33	12	4	8	0	7	235
Non-U.S. Academic	44	14	31	14	10	20	24	12	5	19	2	1	196
Non-U.S. Nonacademic	3	1	1	0	0	15	2	1	0	4	0	0	27
Unknown (U.S.)	8	9	8	3	1	15	12	4	2	7	0	16	85
Not Seeking Employment	3	2	5	0	0	1	4	2	0	0	1	0	18
Still Seeking Employment	12	4	5	6	1	16	2	1	0	5	0	1	53
Unknown (non-U.S.)*	8	5	7	2	2	15	20	2	2	6	0	14	83
Total	229	93	177	103	52	448	251	78	23	123	20	56	1653
Male	172	76	141	81	39	242	170	68	12	86	7	35	1129
Female	57	17	36	22	13	206	81	10	11	37	13	21	524



### Section on Employment

# Supplemental Table E.5: 2010–11 New Ph.D.s Employed in the U.S. by Type of Degree-Granting Department

Type of Employer	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.	Group IV Statistics	Group Va Applied Math.	Total
Groups I, II, III, IV, and Va	120	88	90	43	78	14	433
Master's, Bachelor's, and 2-Year Colleges Other Academic & Research Institute/	39	16	109	63	11	4	242
Other Not-for-Profit	24	16	28	20	96	16	200
Government	10	8	18	12	25	8	81
Busines and Industry	36	19	23	20	118	19	235
Total	229	147	268	158	328	61	1191

Supplemental Table E.6: 2010–11 New Ph.D.s Having Employment in the U.S. by Type of Employer and Citizenship

U.S. Employer	Citize	nship	Total
0.3. Employer	U.S.	Non-U.S.	Total
Academic	502	373	875
Groups I-Va	229	204	433
M, B, & 2-Year	180	62	242
Other Academic & Research Institutes/ Other Not-for-Profit		107	200
Government, Business & Industry	140	176	316
Total	642	549	1191



### Section on Employment

### Supplemental Table E.7: Percentage of Employed New Ph.D.'s by Type of Employer

	Employe	ed in U.S.	Employed Outside the U.S.						
	U.S. Academic*	U.S. Noncademic	Non-U.S. Academic	Non-U.S. Nonacademic	Total				
Fall 2007	66%	22%	11%	1%	1151				
Fall 2008	65%	23%	10%	2%	1166				
Fall 2009	65%	23%	12%	1%	1334				
Fall 2010	65%	23%	12%	1%	1334				
Fall 2011	62%	22%	14%	2%	1414				
	875	316	196	27					

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



### Section on Employment

### Supplemental Table E.8: Academic Positions in the U.S. Filled by New Ph.D.s by Type of Hiring Department, Fall 2007 to Fall 2011

Year	Groups I- III	Group IV Statistics	Group Va Applied Math.	Master's and Bachelor's	Other	Total
Fall 2007	286	44	15	229	182	756
Fall 2008	294	43	14	220	185	756
Fall 2009	303	66	14	231	247	861
Fall 2010	320	75	17	202	257	871
Fall 2011	347	73	13	208	234	875

Supplemental Table E.9: Number of New Ph.D.s Taking Positions U.S. Academic Positions by Type of Degree-Granting Department, Fall 2007 to Fall 2011

Year	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.	Group IV Statistics		Total
Fall 2007	191	91	181	95	151	47	756
Fall 2008	180	97	192	92	145	50	756
Fall 2009	201	119	192	108	189	52	861
Fall 2010	196	99	199	123	209	45	871
Fall 2011	183	120	227	126	185	34	875

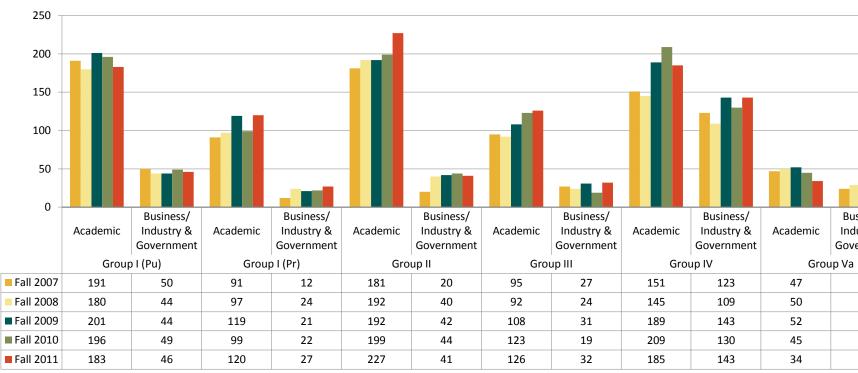
Supplemental Table E.10: Number of New Ph.D.s Taking Positions in Business & Industry in the U.S. by Type of Degree-Granting Department, Fall 2007 to Fall 2011

Year	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.	Group IV Statistics	Group Va Applied Math.	Total
Fall 2007	50	12	20	27	123	24	256
Fall 2008	44	24	40	24	109	29	270
Fall 2009	44	21	42	31	143	24	305
Fall 2010	33	19	31	12	104	18	217
Fall 2011	36	19	23	20	118	19	235



### Section on Employment

Supplemental Table E.11: New Ph.D.s Employed in U.S. Academic and U.S. Business/Industry & Government by Degree-Granting Group , 2007-2011





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Section on Demographics

# Supplemental Table D.1: Gender, Race/Ethnicity & Citizenship of 2010-2011 New Doctoral Recipients, July 1, 2010 - June 30, 2011

Groups I	, II, III, IV & <b>\</b>	/a Combined
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	298 of 302 departments resp						ıg	(	37	with no	degrees)
			MEN				١	WOMEN	J		
		Citize	nship				Citize	nship			
			Non-US					Non-US			
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL
Am Ind/Alas	3	0	4	0	7	1	0	0	0	1	8
Asian	28	23	308	14	373	12	25	166	11	214	587
Bl/Afr Am	11	4	7	0	22	10	1	4	1	16	38
Hisp/Lat	15	3	32	2	52	5	3	12	2	22	74
Haw/Pac Is	2	0	0	0	2	1	1	0	0	2	4
White	456	12	129	7	604	179	14	40	3	236	840
Unknown	59	2	5	3	69	20	5	6	2	33	102
TOTAL	574	44	485	26	1129	228	49	228	19	524	1653

### Group I (Public)

Doctorate Granting Departments of Mathematics

25 of 25 departments responding (0 with no degrees)

	MEN					WOMEN						
		Citizenship					Citize	enship				
		Non-US						Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL	
Am Ind/Alas	0	0	3	0	3	0	0	0	0	0	3	
Asian	6	1	64	5	76	5	1	28	2	36	112	
Bl/Afr Am	3	0	1	0	4	0	0	0	0	0	4	
Hisp/Lat	4	0	7	1	12	1	0	3	0	4	16	
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0	
White	107	3	33	2	145	27	2	8	1	38	183	
Unknown	16	0	0	0	16	4	2	1	0	7	23	
TOTAL	136	4	108	8	256	37	5	40	3	85	341	

### Group I (Private)

Doctorate Granting Departments of Mathematics

	23 of 23 departments respo						g	(	0	with no	o degrees)
			MEN				١	WOMEN	J		
		Citize	nship				Citize	nship			
			Non-US					Non-US			
	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
Asian	3	2	43	0	48	1	0	16	1	18	66
Bl/Afr Am	0	0	1	0	1	1	0	0	0	1	2
Hisp/Lat	1	0	6	0	7	1	0	0	1	2	9
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0
White	68	1	37	1	107	17	3	6	0	26	133
Unknown	7	0	0	1	8	0	0	0	1	1	9
TOTAL	79	3	87	2	171	20	3	22	3	48	219



Du	Doctorate Granting Departments of Mathematics										
	55	of	56	departı	ments re	spondin	g	(	1	with no	o degrees)
			MEN				١	NOMEN	J		
		Citize	nship				Citize	nship			
		Non-US						Non-US			
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	1
Asian	8	1	61	1	71	0	3	25	0	28	99
Bl/Afr Am	2	1	3	0	6	2	0	0	0	2	8
Hisp/Lat	3	2	10	0	15	1	0	4	0	5	20
Haw/Pac Is	1	0	0	0	1	0	0	0	0	0	1
White	140	4	26	0	170	45	3	10	1	59	229
Unknown	6	0	1	0	7	3	0	0	0	3	10
TOTAL	161	8	101	1	271	51	6	39	1	97	368

Group II Doctorate Granting Departments of Mathematics

### Group III

Doctorate Granting Departments of Mathematics

	81 of 81 departments resp						g	(	22	with no	o degrees)
			MEN			WOMEN					
		Citize	nship				Citize	nship			
			Non-US					Non-US			
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL
Am Ind/Alas	0	0	1	0	1	1	0	0	0	1	2
Asian	1	3	31	1	36	2	6	14	2	24	60
Bl/Afr Am	4	1	1	0	6	3	0	3	0	6	12
Hisp/Lat	1	1	2	0	4	0	1	3	0	4	8
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0
White	65	3	16	0	84	25	2	9	0	36	120
Unknown	1	0	0	0	1	1	0	0	0	1	2
TOTAL	72	8	51	1	132	32	9	29	2	72	204

### Groups I, II & III Combined

Doctorate Granting Departments of Mathematics

	184	of	185	departı	ments res	spondin	g	(	23	with no	degrees)
			MEN				١	NOMEN	١		
		Citize	nship				Citize	nship			
			Non-US					Non-US			
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL
Am Ind/Alas	1	0	4	0	5	1	0	0	0	1	6
Asian	18	7	199	7	231	8	10	83	5	106	337
BI/Afr Am	9	2	6	0	17	6	0	3	0	9	26
Hisp/Lat	9	3	25	1	38	3	1	10	1	15	53
Haw/Pac Is	1	0	0	0	1	0	0	0	0	0	1
White	380	11	112	3	506	114	10	33	2	159	665
Unknown	30	0	1	1	32	8	2	1	1	12	44
TOTAL	448	23	347	12	830	140	23	130	9	302	1132



L	Doctorate Granting Departments of Statistics											
	57	of	58	departı	ments re	spondin	g	(	4	with no	degrees)	
			MEN				١	NOMEN	J			
		Citize	nship				Citize	nship				
			Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL	
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	1	
Asian	7	11	76	3	97	2	11	57	2	72	169	
Bl/Afr Am	2	0	0	0	2	2	0	1	0	3	5	
Hisp/Lat	0	0	3	1	4	0	0	1	1	2	6	
Haw/Pac Is	0	0	0	0	0	0	1	0	0	1	1	
White	46	1	7	2	56	31	3	6	1	41	97	
Unknown	21	1	0	1	23	8	1	0	1	10	33	
TOTAL	77	13	86	7	183	43	16	65	5	129	312	

Group IV Doctorate Granting Departments of Statistics

### Group IV

Doctorate Granting Departments of Biostatistics

	33 of 35 departments r					spondin	g	(	6	with no	o degrees)
			MEN				١	WOMEN	J		
		Citize	nship				Citize	nship			
			Non-US	5			Non-US				
	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
Asian	1	3	15	3	22	2	3	16	4	25	47
Bl/Afr Am	0	2	0	0	2	2	0	0	1	3	5
Hisp/Lat	0	0	2	0	2	1	2	1	0	4	6
Haw/Pac Is	0	0	0	0	0	0	0	0	0	0	0
White	14	0	2	0	16	27	1	0	0	28	44
Unknown	0	1	3	0	4	3	2	4	0	9	13
TOTAL	15	6	22	3	46	35	8	21	5	69	115

### Group IV

Doctorate Granting Departments of Statistics & Biostatistics

	90	of	93	departı	ments re	spondin	g	(	10	with no	o degrees)
			MEN				١	WOMEN	I		
		Citize	nship				Citize	nship			
			Non-US				Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	1
Asian	8	14	91	6	119	4	14	73	6	97	216
Bl/Afr Am	2	2	0	0	4	4	0	1	1	6	10
Hisp/Lat	0	0	5	1	6	1	2	2	1	6	12
Haw/Pac Is	0	0	0	0	0	0	1	0	0	1	1
White	60	1	9	2	72	58	4	6	1	69	141
Unknown	21	2	3	1	27	11	3	4	1	19	46
TOTAL	92	19	108	10	229	78	24	86	10	198	427



bottorate Granting Departments of Applied Mathematics												
	24	of	24	departı	ments res	spondin	g	(	4	with no	o degrees)	
			MEN				١	NOMEN	I			
		Citize	nship				Citize	nship				
			Non-US					Non-US				
	US	Perm	Temp	Unk	Total	US	Perm	Temp	Unk	Total	TOTAL	
Am Ind/Alas	1	0	0	0	1	0	0	0	0	0	1	
Asian	2	2	18	1	23	0	1	10	0	11	34	
Bl/Afr Am	0	0	1	0	1	0	1	0	0	1	2	
Hisp/Lat	6	0	2	0	8	1	0	0	0	1	9	
Haw/Pac Is	1	0	0	0	1	1	0	0	0	1	2	
White	16	0	8	2	26	7	0	1	0	8	34	
Unknown	8	0	1	1	10	1	0	1	0	2	12	
TOTAL	34	2	30	4	70	10	2	12	0	24	94	

### Group Va Doctorate Granting Departments of Applied Mathematics



### Section on Demographics

Supplemental Table D.2: Gender and Citizenship of 2010-2011 Doctoral Recipients, by Type of Degree-Granting Department

	Group	l (Pu)	Group	Group I (Pr)		up II	Grou	ıp III qı	Group IV		Group Va		Total	
Citizen	Mal	Fem	Mal	Fem	Mal	Fem	Mal	Fem	Mal	Fem	Mal	Fem	Mal	Fem
U.S.	136	37	79	20	161	51	72	32	92	78	34	10	574	228
Non-U.S.	120	48	92	28	110	46	60	40	137	120	36	14	555	296
Total	256	85	171	48	271	97	132	72	229	198	70	24	1129	524



### Section on Demographics

Supplemental Table D.3: U.S. Citizen Doctoral Recipients, Fall 2001 to Fall 2011

Year	Total Doctorates Granted by U.S. Institutions	Total U.S. Citizen Doctoral Total	%
2001-2002	960	532	55%
2002-2003	1037	428	41%
2003-2004	1081	499	46%
2004-2005	1222	459	38%
2005-2006	1311	496	38%
2006-2007	1333	552	41%
2007-2008	1378	576	42%
2008-2009	1605	622	39%
2009-2010	1632	789	48%
2010-2011	1653	802	49%

### Supplemental Table D.4: Gender of U.S. Citizen Doctoral Recipients, Fall 2001 to Fall 2011

Year	Total U.S. Citizen Doctoral Recipients	Male	Female	% Female
2001-2002	532	366	166	31%
2002-2003	428	298	130	30%
2003-2004	499	341	158	32%
2004-2005	459	308	151	33%
2005-2006	496	355	141	28%
2006-2007	552	399	153	28%
2007-2008	576	396	180	31%
2008-2009	622	431	191	31%
2009-2010	789	562	227	29%
2010-2011	802	575	227	28%



Section on Females

Supplemental Table F.1: Females as a Percentage of 2010–11 New Ph.D.s Produced by and Hired by Doctoral-Granting Department

	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.			Total
Produced	25%	22%	26%	35%	46%	26%	32%
Hired	28%	20%	22%	29%	42%	38%	27%

Supplemental Table F.2: Number of Females Hired into Academic Positions in the U.S. by Type of Hiring Department, Fall 2007 to Fall 2011

Year	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.				Bachelor's	2-Yr Coll./ Other Acad/ Res. Inst.	Total
Fall 2007	18	16	23	21	15	5	25	45	53	221
Fall 2008	15	12	19	13	21	0	15	50	71	216
Fall 2009	13	16	20	13	23	1	20	68	77	251
Fall 2010	17	21	24	6	28	3	15	71	102	287
Fall 2011	25	20	22	16	31	5	17	57	96	289



### Section on Females

### Supplemental Table F.3: Females as a Percentage of New Ph.D.s Produced by Doctoral-Granting Department, Fall 2007 to Fall 2011

Year	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.	Group IV Statistics	Group Va Applied Math.	Total
Fall 2007	25%	25%	30%	35%	49%	23%	33%
Fall 2008	21%	18%	29%	34%	52%	29%	32%
Fall 2009	21%	23%	32%	43%	47%	28%	33%
Fall 2010	23%	24%	27%	35%	44%	31%	31%
Fall 2011	25%	22%	26%	35%	46%	26%	32%

Supplemental Table F.4: Females as a Percentage of New Ph.D.s Hired by Doctoral-Granting Department, Fall 2007 to Fall 2011

Year	Group I (Public) Math.	Group I (Private) Math.	Group II Math.	Group III Math.	Group IV Statistics	Group Va Applied Math.	Master's and Bachelor's	Total
Fall 2007	20%	27%	29%	40%	45%	33%	39%	34%
Fall 2008	22%	20%	24%	32%	44%	0%	38%	30%
Fall 2009	17%	24%	33%	31%	39%	7%	42%	33%
Fall 2010	19%	25%	26%	11%	37%	18%	42%	24%
Fall 2011	28%	20%	22%	29%	42%	38%	42%	27%