# 2005 Annual Survey of the Mathematical Sciences 

(First Report)

# Report on the 2004-2005 New Doctoral Recipients Faculty Salary Survey 

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The First Report of the 2005 Annual Survey gives a broad picture of 2004-05 new doctoral recipients from U.S. departments in the mathematical sciences, including their employment status in fall 2005. The First Report also presents salary data for faculty members in U.S. departments of mathematical sciences in four-year colleges and universities. This report is based on information collected from two questionnaires distributed to departments in May 2005. A follow-up questionnaire was distributed to the individual new doctoral recipients in October 2005. This questionnaire will be used to update and revise results in this report, which are based on information from the departments that produced the new doctorates. Those results will be published in the Second Report of the 2005 Annual Survey in the August 2006 issue of the Notices of the AMS. Another questionnaire concerned with data on fall 2005 course enrollments, majors, graduate students, and departmental faculty was distributed to departments in September 2005. Results from this questionnaire will appear in the Third Report of the 2005 Annual Survey in the September 2006 issue of the Notices of the AMS.

The 2005 Annual Survey represents the forty-ninth in an annual series begun in 1957 by the American Mathematical Society. The 2005 Survey is conducted by staff at the American Mathematical Society with guidance from the Data Committee, a joint committee of the American Mathematical Society, the American Statistical Association, the Institute of Mathematical Statistics, and the Mathematical Association of America. The current members of this committee are Amy Cohen-Corwin, Donald M. Davis, Nicholas M. Ercolani, J. Douglas Faires, Naresh Jain, Donald R. King, Ellen E. Kirkman (chair), David J. Lutzer, James W. Maxwell (ex officio), Polly Phipps, David E. Rohrlich, and Henry Schenck. The committee is assisted by AMS survey analyst Colleen Rose. Comments or suggestions regarding this Survey Report may be directed to the members of the Data Committee.

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## Report on the 2004-2005 New Doctoral Recipients

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, 2004, through June 30, 2005. It includes a preliminary analysis of the fall 2005 employment plans of 2004-05 doctoral recipients and a demographic profile summarizing characteristics of citizenship status, sex, and racial/ethnic group. All information came from the departments that awarded the degrees.

Table 1: Doctorates Granted Response Rates

| Group I (Pu) | 23 of 25 including | 0 with 0 degrees |
| :--- | :--- | :--- |
| Group I (Pr) | 18 of 23 including | 0 with 0 degrees |
| Group II | 51 of 56 including | 3 with 0 degrees |
| Group III | 68 of 73 including | 19 with 0 degrees |
| Group IV | 63 of 87 including | 1 with 0 degrees |
| Group Va | 17 of 23 including | 2 with 0 degrees |

See "Definitions of the Groups" on page 245.
Table 1 provides the departmental response rates for the 2005 Survey of New Doctoral Recipients. See page 245 for a description of the groups. No adjustments were made in this report for nonresponding departments.

This preliminary report will be updated in the Second Report of the 2005 Annual Survey using information gathered from the new doctoral recipients. The Second Report will appear in the August 2006 issue of the Notices of the AMS.

Changes in the Annual Survey occur over time, and these changes need to be considered when comparing results in this report to those in prior years. Information about changes that occurred in 1997 or later can be found in the First Report for the 2000 Annual Survey in the February 2001 issue of the Notices of the AMS.

In this First Report's tables referring to new doctoral recipients, "Fall" refers to results based on information about new doctoral recipients received from departments granting their degrees. This information is gathered in the first fall following the academic year in which the degrees were granted. "Final" refers to results based on supplemental information received from the new doctoral recipients themselves as well as additional new doctoral recipients not reported by departments in time for publication in the First Report. These results are published each August in the Second Report.

Table 2: New Doctoral Degrees Awarded by Group, Fall Count

| Group | I (Pu) | I (Pr) | II | III | IV | Va | TOTAL |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| $1998-99$ | 292 | 152 | 241 | 136 | 243 | 69 | 1133 |
| $1999-00$ | 256 | 157 | 223 | 132 | 284 | 67 | 1119 |
| $2000-01$ | 233 | 129 | 203 | 125 | 237 | 81 | $\mathbf{1 0 0 8}$ |
| $2001-02$ | 218 | 139 | 164 | 124 | 222 | 81 | 948 |
| $2002-03$ | 258 | 138 | 170 | 121 | 239 | 91 | 1017 |
| $2003-04$ | 195 | 187 | 215 | 111 | 243 | 90 | 1041 |
| $2004-05$ | 243 | 146 | 203 | 153 | 285 | 86 | 1116 |

Figure 1: New Doctoral Degrees Awarded by Combined Groups, Fall Count
$\longrightarrow I(P u), I(P r), I I, I I I, \& V a$
$\multimap I(\mathrm{Pu}), \mathrm{I}(\mathrm{Pr})$, \& II


## Highlights

There were 1,116 new doctoral recipients reported for 2004-05 by departments responding in time for the 2005 First Report. This is the highest number reported since 1999-2000.
Groups I (Pu) reported the largest increase (48) in new doctoral recipients, but the number of new doctoral recipients last year was a 10 -year low. This year Groups III and IV reached seven-year highs of 153 and 285, respectively.
Only 433 (39\%) of the new doctoral recipients for 2004-05 are U.S. citizens. The percentage of new doctoral recipients who are U.S. citizens is the lowest percentage observed in the past ten years.
Based on responses from departments alone, the fall 2005 unemployment rate for the 950 new doctoral recipients whose employment status is known is $7.3 \%$, up from $5.7 \%$ for fall 2004.
Fifty-seven new doctoral recipients hold positions at the institution that granted their degree, although not necessarily in the same department. This is $8 \%$ of the new doctoral recipients who are currently known to have jobs and $9 \%$ of those who have academic positions in the U.S. Twenty-three new doctoral recipients have part-time positions.
The number of new doctoral recipients employed in the U.S. is 751 , up 12 from last year. The number of new doctoral recipients employed in academic positions in the U.S. decreased slightly to 602 from 614 last year (a $2 \%$ decrease from a nine-year high).
Of the 751 new doctoral recipients taking positions in the U.S., 115 (15\%) have jobs in business and industry; the number of new doctoral recipients taking jobs in business and industry, after oscillating in the late 1990s, declined three consecutive years (2001, 2002, and 2003), and now shows a slight increase for the second consecutive year, up 16 (16\%) from last year. The number of new doctoral recipients taking jobs in government is up 8 (31\%) over fall 2004.
Among the 751 new doctoral recipients having employment in the U.S., 325 (43\%) are U.S. citizens (down from 338 (46\%) last year). The number of non-U.S. citizens having employment in the U.S. is 426 , up $6 \%$ from 401 last year.
Among the 288 new doctoral recipients hired by U.S. doctoralgranting departments, $38 \%$ are U.S. citizens (same as last year). Among the 314 having other academic positions in the U.S., $51 \%$ are U.S. citizens.

Of the 1,116 new doctoral recipients, $330(30 \%)$ are females, up just 15 from fall 2004. Of the 433 U.S. citizen new doctoral recipients, $120(28 \%)$ are females, down 15 from fall 2004.
Among the 433 U.S. citizen new doctoral recipients, 1 is American Indian or Alaska Native, 21 are Asian, 14 are Black or African American, 12 are Hispanic or Latino, 380 are White, 3 are Native Hawaiian or Other Pacific Islander, and 3 are Other.
Group IV produced 285 new doctorates, of which 126 (44\%) are females, compared to all other groups combined, where 204 ( $25 \%$ ) are females. In Group IV, 79 (28\%) of the new doctoral recipients are U.S. citizens (while in the other groups $43 \%$ are U.S. citizens).

Three hundred seventy-four new doctorates had a dissertation in statistics/ biostatistics (345) or probability (29), an $18 \%$ increase over last year. The next highest number was in algebra and number theory with 161. Those with dissertations in statistics/biostatistics and probability accounted for $31 \%$ of the new doctorates in 2004-05.

Table 3: Full-Time Graduate Students in Groups I, II, III, \& Va, Fall 1995 to Fall 2004

| GRADUATE STUDENTS | 1995 | 1996 | 1997 | 1998 | $\mathbf{1 9 9 9}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Total full-time | 9761 | 9476 | 9003 | 8791 | 8838 | 9637 | 9361 | 9972 | 10444 | 10707 |
| First-year full-time | 2601 | 2443 | 2386 | 2458 | 2664 | 2839 | 2875 | 2996 | 2711 | 3004 |
| U.S. citizen full-time | 5623 | 5445 | 4947 | 4831 | 4668 | 5085 | 4631 | 5055 | 5590 | 5877 |
| First-year U.S. citizen full-time | 1551 | 1465 | 1316 | 1349 | 1401 | 1527 | 1517 | 1630 | 1527 | 1803 |

(Data Reprinted from Table 6B in Third Report, 2004 Annual Survey)

## Doctoral Degrees Granted in 2004-05

Table 2 shows the number of new doctoral degrees granted by the different doctoral groups surveyed in the Annual Survey for the past seven years. The 1,116 new doctorates granted by these departments in 2004-05 is an increase of 75 from the fall count for 2003-04. Figure 1 presents the trends in doctorates granted for Groups I (Pu), I (Pr), II, III, and Va combined and Groups I (Pu), I (Pr), and II combined.

The response rates were above $90 \%$ for all groups except Groups I (Pr), IV and Va. Response rates decreased in all groups, except Group II which remained the same. Overall, thirteen fewer departments responded in time for the First Report this year than responded last year.

The 1,116 new doctoral recipients is a preliminary count. A final count will appear in the Second Report in the August 2006 issue of the Notices of the $A M S$. Efforts continue to obtain data from as many of the nonresponding departments as possible.

From Table 2 we see that Group I (Pu) showed the largest increase (48) in the number of doctoral

Figure 2: Percentage of New Doctoral Recipients Unemployed (as reported in the respective Annual Survey Reports 1993-2005)

| Report | Fall | Final |
| :--- | ---: | ---: |
| $1993-94$ | 14.0 | 11.0 |
| $1994-95$ | 15.0 | 11.0 |
| $1995-96$ | 9.4 | 8.1 |
| $1996-97$ | 6.8 | 3.8 |
| $1997-98$ | 7.2 | 4.9 |
| $1998-99$ | 6.2 | 4.7 |
| $1999-00$ | 4.6 | 3.3 |
| $2000-01$ | 5.6 | 3.7 |
| $2001-02$ | 4.3 | 2.9 |
| $2002-03$ | 5.1 | 5.0 |
| $2003-04$ | 5.7 | 4.4 |
| $2004-05$ | 7.3 | $*$ |

*To appear in the Second Report. Note: Prior to 1998-99, the percentages include new doctoral recipients from Group Vb.

recipients from the previous year (which was the lowest number for Group I ( Pu ) in the last 10 years), while Groups III and IV also had increases that put them at their highest numbers in the last seven years. Groups I (Pr), II, and Va showed decreases of 41,12 , and 4 respectively.

Table 3 gives historical information about various types of full-time graduate students in Groups I, II, III, and Va combined. These data, gathered in the 2004 Departmental Profile survey, are reprinted from Table 6B of the Third Report of the 2004 Annual Survey (Notices of the AMS, September 2005). It sheds some light on the upward trend in number of new doctorates as shown in Table 2 and Figure 1. First-year graduate enrollment has been generally increasing since 1997, with relatively large increases in 1999 and 2000; these increases in first-year graduate enrollment are likely to be related to this year's increase in new Ph.D.'s. The continuing increase in graduate enrollment shown in Table 3 suggests that numbers of new Ph.D.'s will continue a generally upward trend over the next few years.

The 2004-05 numbers in Table 2 will be broken down in various ways, such as by sex, in later sections of this report. The names of the 1,116 new doctoral recipients are found on pages 264-82 of this issue of the Notices.

## Employment Status of 2004-05 New Doctoral Recipients

Tables 4A, 4B, and 4C each provide a different cross-tabulation of the 1,116 new doctoral recipients in the mathematical sciences. These tables contain a wealth of information about these new doctoral recipients, some of which will be discussed in this report. Note that these tables give a breakdown by sex for type of employer, type of degree-granting department, and field of thesis. Keep in mind that the results in this report come from the departments giving the degrees and not from the degree recipients themselves. These tables will be revised using information from the doctoral recipients themselves and will appear in the 2005 Second Report in the August 2006 issue of the Notices of the AMS.

Table 4A: Employment Status of 2004-05 U.S. New Doctoral Recipients in the Mathematical Sciences by Field of Thesis

| TYPE OF EMPLOYER |  | FIELD OF THESIS |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Algebra/ Number Theory | Real, Comp., Funct., \& Harmonic Analysis | Geometry/ Topology | Discr. Math. Combin./ Logic/ Comp. Sci. | Probability | Statistics/ Biostat. | Applied Math. | Numerical Analysis/ Approximations |  | Differential, Integral, \& Difference Equations | Math. Educ. | Other/ Unknown |  |
| Group I (Public) |  | 17 | 8 | 11 | 8 | 1 | 0 | 5 | 5 | 2 | 16 | 0 | 0 | 73 |
| Group I (Private) |  | 12 | 5 | 14 | 7 | 0 | 1 | 4 | 0 | 1 | 6 | 0 | 0 | 50 |
| Group II |  | 17 | 7 | 9 | 4 | 5 | 3 | 7 | 4 | 1 | 9 | 0 | 0 | 66 |
| Group III |  | 3 | 8 | 2 | 6 | 1 | 11 | 2 | 3 | 1 | 3 | 1 | 1 | 42 |
| Group IV |  | 0 | 1 | 1 | 0 | 2 | 40 | 1 | 0 | 0 | 0 | 0 | 0 | 45 |
| Group Va |  | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 2 | 2 | 0 | 0 | 12 |
|  |  | 12 | 2 | 5 | 6 | 3 | 16 | 5 | 3 | 3 | 13 | 1 | 0 | 69 |
| Bachelor's |  | 26 | 14 | 12 | 19 | 1 | 15 | 7 | 7 | 6 | 8 | 4 | 0 | 119 |
| Two-Year College |  | 1 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Other Academic Dept. |  | 7 | 1 | 2 | 5 | 2 | 53 | 10 | 8 | 0 | 6 | 3 | 0 | 97 |
| Research Institute/ Other Nonprofit |  | 3 | 1 | 0 | 0 | 0 | 12 | 2 | 0 | 1 | 3 | 0 | 0 | 22 |
| Government |  | 1 | 1 | 2 | 1 | 0 | 14 | 6 | 5 | 3 | 1 | 0 | 0 | 34 |
| Business and Industry |  | 2 | 3 | 4 | 3 | 7 | 75 | 13 | 3 | 0 | 5 | 0 | 0 | 115 |
| Non-U.S. Academic Non-U.S. Nonacademic |  | 21 | 6 | 18 | 14 | 5 | 17 | 13 | 5 | 3 | 10 | 1 | 0 | 113 |
|  |  | 3 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Not Seeking Employment Still Seeking Employment Unknown (U.S.) Unknown (non-U.S.)* |  | 1 | 1 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
|  |  | 10 | 4 | 4 | 11 | 1 | 16 | 11 | 3 | 0 | 8 | 1 | 0 | 69 |
|  |  | 9 | 7 | 6 | 2 | 0 | 25 | 17 | 2 | 1 | 6 | 1 | 0 | 76 |
|  |  | 15 | 4 | 5 | 5 | 0 | 36 | 8 | 4 | 3 | 9 | 1 | 0 | 90 |
| TOTAL |  | 161 | 73 | 97 | 94 | 29 | 345 | 116 | 55 | 27 | 105 | 13 | 1 | 1116 |
| Column <br> Subtotals | Male | 132 | 57 | 77 | 75 | 24 | 192 | 86 | 41 | 17 | 80 | 4 | 1 | 786 |
|  | Female | 29 | 16 | 20 | 19 | 5 | 153 | 30 | 14 | 10 | 25 | 9 | 0 | 330 |

*Includes those whose status is reported as "unknown" or "still seeking employment".

Table 4B: Employment Status of 2004-05 U.S. New Doctoral Recipients in the Mathematical Sciences by Type of Degree-Granting Department

| TYPE OF EMPLOYER |  | TYPE OF DOCTORAL DEGREE-GRANTING DEPARTMENT |  |  |  |  |  | TOTAL | Row Subtotals <br> Male Female |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Group (Public) Math. | Group I (Private) Math. | Group II Math. | Group III Math. | Group IV Statistics | Group Va Applied Math. |  |  |  |
| Group I (Public) |  | 36 | 19 | 9 | 4 | 0 | 5 | 73 | 58 | 15 |
| Group I (Private) |  | 20 | 27 | 2 | 0 | 0 | 1 | 50 | 40 | 10 |
| Group II |  | 18 | 14 | 25 | 3 | 3 | 3 | 66 | 54 | 12 |
| Group III |  | 6 | 1 | 8 | 17 | 10 | 0 | 42 | 29 | 13 |
| Group IV |  | 0 | 3 | 2 | 2 | 37 | 1 | 45 | 26 | 19 |
| Group Va |  | 0 | 1 | 3 | 1 | 0 | 7 | 12 | 8 | 4 |
|  |  | 12 | 6 | 22 | 15 | 8 | 6 | 69 | 38 | 31 |
| Master's Bachelor's |  | 27 | 10 | 41 | 27 | 12 | 2 | 119 | 90 | 29 |
| Two-Year College |  | 3 | 0 | 3 | 0 | 0 | 1 | 7 | 6 | 1 |
| Other Academic Dept. |  | 5 | 4 | 11 | 14 | 50 | 13 | 97 | 60 | 37 |
| Research Institute/ |  | 4 | 3 | 4 | 0 | 11 | 0 | 22 | 14 | 8 |
| Government |  | 6 | 2 | 6 | 3 | 11 | 6 | 34 | 20 | 14 |
| Business and Industry |  | 5 | 9 | 14 | 15 | 64 | 8 | 115 | 82 | 33 |
| Non-U.S. Academic |  | 42 | 23 | 14 | 11 | 17 | 6 | 133 | 87 | 26 |
| Non-U.S. Nonacademic |  | 2 | 1 | 0 | 0 | 7 | 0 | 10 | 7 | 3 |
| Not Seeking Employment |  | 1 | 1 | 1 | 0 | 3 | 1 | 7 | 5 | 2 |
| Still Seeking Employment |  | 13 | 12 | 13 | 10 | 11 | 10 | 69 | 44 | 25 |
| Unknown (U.S.) |  | 24 | 2 | 12 | 15 | 16 | 7 | 76 | 51 | 25 |
| Unknown (non-U.S.)* |  | 19 | 8 | 13 | 16 | 25 | 9 | 90 | 67 | 23 |
| TOTAL |  | 243 | 146 | 203 | 153 | 285 | 86 | 1116 | 786 | 330 |
| Column Subtotals | Male | 192 | 120 | 158 | 97 | 159 | 60 | 786 |  |  |
|  | Female | 51 | 26 | 45 | 56 | 126 | 26 | 330 |  |  |

*Includes those whose status is reported as "unknown" or "still seeking employment".

Table 4C: Field of Thesis of 2004-05 New Doctoral Recipients by Type of Degree-Granting Department

| TYPE OF DOCTORAL DEGREE-GRANTING DEPARTMENT | FIELD OF THESIS |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Algebra/ Number Theory | Real, Comp. Funct., \& Harmonic Analysis | Geometry/ Topology | Discr. Math./ Combin./ Logic/ Comp. Sci | Probability | Statistics/ Biostat. | Applied Math. | Numerical <br> Analysis/ <br> Approxi- mations <br> mation | Linear Nonlinear Optim./ <br> Control | Differential, Integral, \& Difference Equations | Math. Educ. | Other/ Unknown |  |
| Group I (Public) | 68 | 20 | 40 | 25 | 6 | 12 | 20 | 8 | 8 | 35 | I | 0 | 243 |
| Group I (Private) | 42 | 9 | 32 | 19 | 5 | 2 | 13 | 8 | 2 | 14 | 0 | 0 | 146 |
| Group II | 42 | 21 | 19 | 23 | 10 | 6 | 24 | 16 | 9 | 33 | 0 | 0 | 203 |
| Group III | 9 | 23 | 4 | 20 | 2 | 33 | 23 | 9 | 3 | 15 | 12 | 0 | 153 |
| Group IV | 0 | 0 | 0 | 0 | 3 | 280 | 1 | 0 | 0 | 0 | 0 | 1 | 285 |
| Group Va | 0 | 0 | 2 | 7 | 3 | 12 | 35 | 14 | 5 | 8 | 0 | 0 | 86 |
| Column Total | 161 | 73 | 97 | 94 | 29 | 345 | 116 | 55 | 27 | 105 | 13 | 1 | 1116 |

Table 5A: U.S. Employed 2004-05 New Doctoral Recipients by Type of Degree-Granting Department

| U.S. EMPLOYER | I (Pu) | I (Pr) | II | III | IV | Va | TOTAL |
| :--- | :---: | :---: | :---: | ---: | :---: | :---: | :---: |
| Groups I, II, III, IV, and Va | 80 | 65 | 49 | 27 | 50 | 17 | $\mathbf{2 8 8}$ |
| Master's, Bachelor's, and <br> 2-Year Colleges | 42 | 16 | 66 | 42 | 20 | 9 | 195 |
| Other Academic and |  |  |  |  |  |  |  |
| $\quad$ Research Institutes | 9 | 7 | 15 | 14 | 61 | 13 | 119 |
| Government | 6 | 2 | 6 | 3 | 11 | 6 | 34 |
| Business and Industry | 5 | 9 | 14 | 15 | 64 | 8 | 115 |
| TOTAL | $\mathbf{1 4 2}$ | $\mathbf{9 9}$ | $\mathbf{1 5 0}$ | $\mathbf{1 0 1}$ | $\mathbf{2 0 6}$ | $\mathbf{5 3}$ | $\mathbf{7 5 1}$ |

The last column (Total) in Table 4A can be used to find the overall unemployment rate. In this and other unemployment calculations in this report, the individuals whose employment status is not known (Unknown (U.S.) and Unknown (non-U.S.)) are first removed, and the unemployment fraction is the number still seeking employment divided by the total number of individuals left after the "Unknowns" are removed. The overall unemployment rate for these data is $7.3 \%$. This figure will be updated later with information gathered from the individual new doctoral recipients. The figure for fall 2004 was $5.7 \%$. Figure 2 shows how this unemployment rate compares with other years over the past decade. The unemployment rates, calculated using Table 4B, vary from group to group, with a high of 14.3\% for Group Va and lows of 4.5\% and $6.5 \%$ for Groups IV and I (Pu) respectively.

There are 751 new doctoral recipients employed in the U.S. Table 5A gives a breakdown of type of employer by type of degree-granting department for these 751 new doctoral recipients. Of these, 602 (80\%) hold academic positions, 34 (5\%) are employed by government, and 115 (15\%) hold positions in business and industry.

In the First Report for 2003-04, there were 739 new doctoral recipients employed in the U.S., of which $614(83 \%)$ held academic positions, 26 (4\%) were in government, and 99 (13\%) were in business and industry. The number of new doctoral recipients em-

Table 5B: Number of New Doctoral Recipients Taking Positions in Business and Industry in the U.S. by Type of Degree-
Granting Department, Fall 2001 to Fall 2005

| Group | I (Pu) | I (Pr) | II | III | IV | Va | TOTAL |
| ---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: |
| Fall 2001 | 24 | 15 | 25 | 21 | 59 | 24 | $\mathbf{1 6 8}$ |
| Fall 2002 | 15 | 12 | 19 | 6 | 56 | 15 | $\mathbf{1 2 3}$ |
| Fall 2003 | 19 | 13 | 5 | 8 | 45 | 7 | 97 |
| Fall 2004 | 9 | 13 | 9 | 9 | 50 | 9 | 99 |
| Fall 2005 | 5 | 9 | 14 | 15 | 64 | 8 | 115 |

Table 5C: Number of New Doctoral Recipients Taking U.S. Academic Positions by Type of Degree-Granting Department, Fall 2001 to Fall 2005

| Group | $\mathrm{I}(\mathrm{Pu})$ | $\mathrm{I}(\mathrm{Pr})$ | II | III | IV | Va | TOTAL |
| ---: | :---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Fall 2001 | 146 | 70 | 109 | 74 | 84 | 27 | 510 |
| Fall 2002 | 120 | 83 | 91 | 86 | 92 | 31 | 503 |
| Fall 2003 | 123 | 76 | 117 | 60 | 118 | 40 | 534 |
| Fall 2004 | 110 | 113 | 130 | 70 | 142 | 49 | 614 |
| Fall 2005 | 131 | 88 | 130 | 83 | 131 | 39 | $\mathbf{6 0 2}$ |

Table 5D: U.S. Academic Positions Filled by New Doctoral Recipients by Type of Hiring Department, Fall 2001 to Fall 2005

| Group | I-III | IV | Va | M\&B | Other | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Fall 2001 | 199 | 41 | 12 | 161 | 97 | $\mathbf{5 1 0}$ |
| Fall 2002 | 213 | 46 | 7 | 138 | 99 | 503 |
| Fall 2003 | 203 | 39 | 9 | 156 | 127 | $\mathbf{5 3 4}$ |
| Fall 2004 | 222 | 63 | 17 | 154 | 158 | $\mathbf{6 1 4}$ |
| Fall 2005 | 231 | 45 | 12 | 188 | 126 | $\mathbf{6 0 2}$ |

Table 5E: Females as a Percentage of 2004-05 New Doctoral Recipients Produced by and Hired by Doctoral-Granting Groups

| Percent | I (Pu) | I (Pr) | II | III | IV | Va | TOTAL |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Produced | 21 | 18 | 22 | 37 | 44 | 30 | 30 |
| Hired | 21 | 20 | 18 | 31 | 42 | 33 | $\mathbf{2 5}$ |

ployed in the U.S. decreased in all categories of Table 5A except "Master's, Bachelor's and Two-Year Colleges", "Government", and "Business and Industry"; "Other Academic and Research Institutes" is down $17 \%$ this year over last year, and "Master's, Bachelor's and Two-Year Colleges" is up $16 \%$ this year over last year.

Table 5B shows the number of new doctoral recipients who took positions in business and industry by the type of department granting their degree for fall 2001 to fall 2005. The number of new doctoral recipients taking jobs in business and industry oscillated in the late 1990s, declined three consecutive years (2001, 2002, and 2003), and the past two years shows a slight increase (up 16\% from fall 2004). The fall 2005 number is down 32\% from the fall 2001 number. The number of new doctoral recipients taking jobs in government is up 8 (31\%) over fall 2004.

Among the 751 new doctoral recipients known to have employment in the U.S. in fall 2005, Group I (Pu) has the smallest percentage taking jobs in business and industry at $4 \%$ and Group IV the highest at $31 \%$.

Table 5C shows the number of new doctoral recipients who took academic positions in the U.S. by type of department granting their degree for fall 2001 to fall 2005. After reaching a nine-year high of 614 last year, the number of new doctoral recipients taking academic employment in fall 2005 has dropped $2 \%$. Among the 751 new doctoral recipients employed in the U.S. in fall $2005,80 \%$ have academic positions. This percentage is highest for Group I (Pu) at $92 \%$ and lowest for Groups IV at $64 \%$.

Table 5D shows the number of positions filled with new doctoral recipients for each type of academic employer. Increases in positions filled by new
doctoral recipients were realized by all groups except Groups IV, Va, and Other.

In fall 2005, 57 new doctoral recipients held positions in the institution that granted their degree, although not necessarily in the same department. This represents $6.5 \%$ of new doctoral recipients who are currently employed and $9 \%$ of the U.S. academic positions held by new doctoral recipients. Infall 2004 there were 58 such individuals making up $7 \%$ of the new doctoral recipients who were employed at the time of the First Report. Twenty-three new doctoral recipients have taken part-time positions infall 2005 compared with 19 in fall 2004.

## Information about 2004-05 Female

## New Doctoral Recipients

Tables 4A and 4B give male and female breakdowns of the new doctoral recipients in 2004-05 by Field of Thesis, by Type of Degree-Granting Department, and by Type of Employer.

Overall, 330 (30\%) of the 1,116 new doctoral recipients in 2004-05 are female. In 2003-04, 315 (30\%) of the new doctoral recipients were female. This percentage varies over the different groups,

Table 5G: 2004-05 New Doctoral Recipients Having Employment in the U.S. by Type of Employer and Citizenship

| U.S. EMPLOYER | CITIZENSHIP |  |  |
| :--- | ---: | :---: | :---: |
|  | U.S. | Non-U.S. | TOTAL |
| Academic, Groups I-Va | 108 | 180 | 288 |
| Academic, Other | 160 | 154 | 314 |
| Nonacademic | 57 | 92 | $\mathbf{1 4 9}$ |
| TOTAL | 325 | 426 | 751 |

Table 5F: Employment Status of 2004-05 U.S. New Doctoral Recipients by Citizenship Status

| TYPE OF EMPLOYER | CITIZENSHIP |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | U.S. CITIZENS | NON-U.S. CITIZENS |  |  |  |
|  |  | Permanent Visa | Temporary Visa | Unknown Visa |  |
| U.S. Employer | 325 | 61 | 352 | 13 | 751 |
| U.S. Academic | 268 | 43 | 280 | 11 | 602 |
| Groups I, II, III, and Va | 100 | 18 | 116 | 9 | 243 |
| Group IV | 8 | 1 | 36 | 0 | 45 |
| Non-Ph.D. Department | 155 | 21 | 114 | 2 | 292 |
| Research Institute/Other Nonprofit | 5 | 3 | 14 | 0 | 22 |
| U.S. Nonacademic | 57 | 18 | 72 | 2 | 149 |
| Non-U.S. Employer | 23 | 2 | 96 | 2 | 123 |
| Non-U.S. Academic | 21 | 2 | 89 | 1 | 113 |
| Non-U.S. Nonacademic | 2 | 0 | 7 | 1 | 10 |
| Not Seeking Employment | 6 | 0 | 1 | 0 | 7 |
| Still Seeking Employment | 20 | 9 | 40 | 0 | 69 |
| SUBTOTAL | 374 | 72 | 489 | 15 | 950 |
| Unknown (U.S.) | 53 | 9 | 14 | 0 | 76 |
| Unknown (non-U.S.)* | 6 | 1 | 74 | 9 | 90 |
| TOTAL | 433 | 82 | 577 | 24 | 1116 |

*Includes those whose status is reported as "unknown" or "still seeking employment".

Table 6: Sex, Race/Ethnicity, and Citizenship of 2004-05 U.S. New Doctoral Recipients

| RACIAL/ETHNIC GROUP | MALE |  |  |  |  | FEMALE |  |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { U.S. } \\ & \text { CITIZENS } \end{aligned}$ | NON-U.S. CITIZENS |  |  | Total Male | $\begin{aligned} & \text { U.S. } \\ & \text { CITIZNS } \end{aligned}$ | NON-U.S. CITIZENS |  |  | Total Female |  |
|  |  | $\underset{\text { Visa }}{\text { Permanent }}$ | Temporary Visa | Unknown Visa |  |  | Permanent Visa | Temporary Visa | Unknown Visa |  |  |
| American Indian or Alaska Native | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Asian | 14 | 18 | 205 | 6 | 243 | 7 | 15 | 115 | 4 | 141 | 384 |
| Black or African American | 6 | 1 | 19 | 0 | 26 | 8 | 0 | 1 | 0 | 9 | 35 |
| Hispanic or Latino | 8 | 3 | 24 | 1 | 36 | 4 | 3 | 5 | 0 | 12 | 48 |
| Native Hawaiian or Other Pacific Islander | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 3 | 4 |
| White | 277 | 22 | 162 | 8 | 469 | 103 | 15 | 46 | 1 | 165 | 634 |
| Unknown | 3 | 1 | 3 | 0 | 7 | 0 | 1 | 2 | 0 | 3 | 10 |
| TOTAL | 310 | 45 | 413 | 15 | 783 | 124 | 34 | 170 | 5 | 333 | 1116 |

and these percentages are given in the first row of Table 5E. This year the percentage of females produced is highest again for Group IV at $44 \%$, compared with $40 \%$ last year. While the lowest percentage last year was for Group I (Pu) at $23 \%$, this year it is for Group I (Pr) at $18 \%$.

The second row of Table 5E gives the percentage of the new doctoral recipients hired who are female for each of the Groups I, II, III, IV, and Va. In addition, $45 \%$ of the new doctoral recipients hired in Group M, master's departments, are female; $24 \%$ of the new doctoral recipients hired in Group B, bachelor's departments, are female; and $29 \%$ of new doctoral recipients hired in business and industry are female.

The unemployment rate for female new doctoral recipients is $9 \%$ compared to $7 \%$ for males and 7.3\% overall.

The percentage of female new doctoral recipients within fields of thesis ranged from $17 \%$ in probabilty, to $44 \%$ in statistics, and $69 \%$ in mathematics education.

Later sections in this First Report give more information about the female new doctoral recipients by citizenship and the female new doctoral recipients in Group IV.

## Employment Information about 2004-05 New Doctoral Recipients by Citizenship and Type of Employer

Table 5F shows the pattern of employment within employer categories broken down by citizenship status of the new doctoral recipients.

The unemployment rate for the 433 U.S. citizens is $5.3 \%$ compared to $6.1 \%$ in fall 2004 . The unemployment rate for non-U.S. citizens is $8.5 \%$. This varies by type of visa. The unemployment rate for non-U.S. citizens with a permanent visa is $12.5 \%$, while that for non-U.S. citizens with a temporary visa is $8.2 \%$. Among U.S. citizens whose employment
status is known, $87 \%$ are employed in the U.S. Among non-U.S. citizens with a permanent visa whose employment status is known, $85 \%$ have jobs in the U.S. (same as last year), while the percentage for non-U.S. citizens with a temporary visa is $72 \%$ (last year the percentage was $75 \%$ ). The number of non-U.S. citizens having employment in the U.S. is 426 , up $6 \%$ from 401 last year.

Table 5G is a cross-tabulation of the 751 new doctoral recipients who have employment in the U.S. by citizenship and broad employment categories, using numbers from Table 5F. Of the 751 new doctoral recipients having jobs in the U.S., $43 \%$ are U.S. citizens. Of the 288 new doctoral recipients who took jobs in U.S. doctoral-granting departments, $38 \%$ are U.S. citizens (same as last year). Of the 314 who took other academic positions, $51 \%$ are U.S. citizens. Of the 149 who took nonacademic positions, $38 \%$ are U.S. citizens. Of the 325 U.S. citizens employed in the U.S., $33 \%$ have jobs in a doctoral-granting department, 49\% are in other academic positions, and $18 \%$ are in nonacademic positions. For the 426 non-U.S. citizens employed in the U.S., the analogous percentages are $42 \%$, $36 \%$, and $22 \%$ respectively.

## Sex, Race/Ethnicity, and Citizenship Status of 2004-05 New Doctoral Recipients

Table 6 presents a breakdown of new doctoral recipients according to sex, racial/ethnic group, and citizenship status. The information reported in this table was obtained in summary form from the departments granting the degrees.

There were 433 (39\%) U.S. citizens among the 1,116 new doctoral recipients in 2004-05. Among U.S. citizens, 1 is American Indian or Alaska Native (male), 21 are Asian ( 14 males and 7 females), 14 are Black or African American ( 6 males and 8 females), 12 are Hispanic or Latino ( 8 males and 4 females), 3 are Native Hawaiian or Other Pacific

Table 7: U.S. Citizen Doctoral Recipients

| Year | Total Doctorates <br> Granted by U.S. <br> Institutions | Total U.S. <br> Citizen Doctoral <br> Recipients | $\%$ |
| :--- | :---: | :---: | :---: |
| $1980-81$ | 839 | 567 | $68 \%$ |
| $1985-86$ | 755 | 386 | $51 \%$ |
| $1990-91$ | 1061 | 461 | $43 \%$ |
| $1995-96$ | 1150 | 493 | $43 \%$ |
| $1998-99^{*}$ | 1133 | 554 | $49 \%$ |
| $1999-00$ | 1119 | 537 | $48 \%$ |
| $2000-01$ | 1008 | 494 | $49 \%$ |
| $2001-02$ | 948 | 418 | $44 \%$ |
| $2002-03$ | 1017 | 489 | $48 \%$ |
| $2003-04$ | 1041 | 441 | $42 \%$ |
| $2004-05$ | 1116 | 433 | $39 \%$ |

*Prior to 1998-99, the counts include new doctoral recipients from Group Vb. In addition, prior to 1982-83, the counts include recipients from computer science departments.

Islander ( 1 male and 2 females), 380 are White (277 males and 103 females), and 3 are Other (males). Among non-U.S. citizens, there are 363 Asians, 21 Blacks or African Americans, 36 Hispanics or Latinos, 1 Native Hawaiian or Other Pacific Islander, 254 Whites, and 7 Other.

Table 7 (and Figure 3) gives the number of new U.S. doctoral recipients and the number of U.S. citizens back to 1980-81. The 433 U.S. citizen new doctoral recipients is down by 121 (22\%) since 1998-99. The percentage of U.S. citizen new doctoral recipients has decreased for the second year to 39\% from $42 \%$ in fall 2004, while in both years the total number of doctorates granted increased.

Females make up $28 \%$ of the 433 U.S. citizens receiving doctoral degrees in the mathematical sciences in 2004-05. This is the lowest percentage of females among U.S. citizen new doctoral recipients reported since 1997-98, when it was also $28 \%$.

Table 8: U.S. Citizen Doctoral Recipients by Sex

| Year | Total U.S. <br> Citizen Doctoral <br> Recipients | Male | Female | $\%$ <br> Female |
| :--- | :---: | :---: | :---: | :---: |
| $1980-81$ | 567 | 465 | 102 | $18 \%$ |
| $1985-86$ | 386 | 304 | 82 | $21 \%$ |
| $1990-91$ | 461 | 349 | 112 | $24 \%$ |
| $1995-96$ | 493 | 377 | 116 | $24 \%$ |
| $1998-99^{*}$ | 554 | 367 | 187 | $34 \%$ |
| $1999-00$ | 537 | 379 | 158 | $29 \%$ |
| $2000-01$ | 494 | 343 | 151 | $31 \%$ |
| $2001-02$ | 418 | 291 | 127 | $30 \%$ |
| $2002-03$ | 489 | 332 | 157 | $32 \%$ |
| $2003-04$ | 441 | 297 | 144 | $33 \%$ |
| $2004-05$ | 433 | 313 | 120 | $28 \%$ |

*Prior to 1998-99, the counts include new doctoral recipients from Group Vb. In addition, prior to 1982-83, the counts include recipients from computer science departments.

Figure 3: U.S. Citizen Doctoral Recipients


Last year this percentage was $33 \%$, and the percentage of women among U.S. citizens receiving doctoral degrees had been increasing the previous three years. Among the 683 non-U.S. citizen new doctoral recipients, 31\% (209) are female, up from last year's 29\%.

Table 8 (and Figure 4) gives the historical record of U.S. citizen new doctoral recipients, broken down by male and female for past years, going back to 1980-81. The number of female U.S. citizen new doctoral recipients is down 67 (36\%) from an all-time high of 187 in 1998-99.

Figure 4: Females as a Percentage of U.S. Citizen New Doctoral Recipients


Table 9: Sex and Citizenship of 2004-05 New Doctoral Recipients by Granting Department

| CITIZENSHIP | GROUP |  |  |  |  |  |  |  |  |  |  |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 (Pu) |  | 1 (Pr) |  | 11 |  | III |  | IV |  | Va |  |  |  |
|  | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| U.S. | 93 | 15 | 45 | 11 | 67 | 24 | 37 | 27 | 44 | 34 | 27 | 9 | 313 | 120 |
| Non-U.S. | 99 | 36 | 75 | 15 | 91 | 21 | 60 | 29 | 115 | 92 | 33 | 17 | 473 | 210 |
| TOTAL | 192 | 51 | 120 | 26 | 158 | 45 | 97 | 56 | 159 | 126 | 60 | 26 | 786 | 330 |

Table 9 gives a sex and citizenship breakdown of the new doctorates within each of the six groups of doctoral-granting departments. Among all 1,116 new doctoral recipients, $40 \%$ of the males and $36 \%$ of the females are U.S. citizens. Within the groups the percentage of the new doctoral recipients who are U.S. citizens is lowest in Group IV at $27 \%$ and highest in Group II at $45 \%$. The number of U.S. citizen new doctoral recipients is lower than the number of non-U.S. citizen new doctoral recipients in all doctoral granting groups for 2004-05.

## 2004-05 New Doctoral Recipients with Dissertations in Statistics/Biostatistics and Probability

Group IV contains U.S. departments (or programs) of statistics, biostatistics, and biometrics reporting a doctoral program. In the Annual Survey Reports, Group IV is referred to as the Statistics Group. In addition, other groups in the Annual Survey produce new doctoral recipients with dissertations in statistics/biostatistics and probability. The other groups produced 91 new doctoral recipients with dissertations in statistics/biostatistics and probability in 2004-05 and have averaged 82 per year over the past ten years. Information about these 91 new doctoral
recipients and the 285 new doctoral recipients in Group IV is found in this section of the report.

Table 10 contains information about new doctoral recipients in Group IV as well as those with dissertations in statistics/biostatistics and probability in other groups for the past seven years. The last two rows of Table 10 give a split of the 2004-05 results between the 58 statistics departments and the 29 biostatistics and biometrics departments in Group IV. This year 374 new doctorates had a dissertation in statistics/biostatistics (345) or probability (29), an $18 \%$ increase over last year's number. Those with dissertations in statistics/biostatistics and probability accounted for $31 \%$ of new doctorates in 2004-05. Quite a bit of the variation in numbers from year to year in Table 10 is due to the changes made in the departments in Group IV over the ten years and to the relatively low response rate for this group. At the time of the Second Report last year, 78 of 87 (90\%) of Group IV departments had responded, which is the largest percentage ever.

Group IV has 87 departments for 2004-05, 14 more than the next largest doctoral group. It contains $33 \%$ of all doctoral departments surveyed, and the 63 Group IV departments responding to the Annual Survey reported 285 new doctoral recipients, $26 \%$ of all new doctoral recipients in 2004-05. While this is the second lowest percentage of responding

Table 10: New Doctoral Recipients with Dissertations in Statistics/Biostatistics and Probability

| Year | Depts Surveyed | Depts Responding (percent) | New Doctoral Recipients in Group IV |  |  |  | New Doctoral Recipients in Statistics/Biostatistics and Probability |  |  |  | New Doctoral Recipients Hired by Group IV |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total | Female (percent) | Jobs in Bus \& Ind | Percentage Unemployed | Total | Group IV | Other Groups | Percentage Unemployed | Male | Female |
| 1995-96 | 80 | 54 (68\%) | 172 | 46 (27\%) | 55 | 3.9\% | 266 | 171 | 95 | 4.8\% | 24 | 6 |
| 1996-97 | 81 | 60 (74\%) | 197 | 74 (38\%) | 70 | 4.2\% | 292 | 187 | 105 | 5.1\% | 24 | 9 |
| 1997-98 | 82 | 59 (72\%) | 213 | 73 (34\%) | 70 | 3.2\% | 294 | 199 | 95 | 3.7\% | 25 | 10 |
| 1998-99 | 91 | 72 (79\%) | 243 | 87 (36\%) | 57 | 4.9\% | 320 | 240 | 80 | 5.8\% | 29 | 20 |
| 1999-00 | 89 | 75 (84\%) | 284 | 110 (39\%) | 79 | 2.4\% | 351 | 278 | 73 | 2.0\% | 24 | 22 |
| 2000-01 | 86 | 70 (81\%) | 237 | 98 (41\%) | 59 | 5.1\% | 289 | 221 | 68 | 5.3\% | 27 | 14 |
| 2001-02 | 86 | 72 (84\%) | 222 | 92 (41\%) | 56 | 6.0\% | 288 | 221 | 67 | 5.4\% | 31 | 15 |
| 2002-03 | 86 | 74 (86\%) | 239 | 98 (41\%) | 45 | 2.1\% | 302 | 234 | 68 | 3.3\% | 20 | 19 |
| 2003-04 | 87 | 65 (75\%) | 243 | 97 (40\%) | 50 | 3.0\% | 318 | 241 | 77 | 4.0\% | 48 | 15 |
| 2004-05 | 87 | 63 (72\%) | 285 | 126 (44\%) | 64 | 5.0\% | 374 | 283* | 91** | 5.0\% | 26 | 19 |
| Statistics | 58 | 43 (74\%) | 192 | 79 (41\%) | 43 | 3.0\% |  |  |  |  | 13 | 14 |
| Biostatistics | 29 | 20 (62\%) | 93 | 47 (51\%) | 21 | 9.0\% |  |  |  |  | 13 | 5 |

* Of 283, there were 280 in statistics/biostatistics and 3 in probability. For complete details, see Table 4C.
** Of 91 , there were 65 in statistics/biostatistics and 26 in probability. For complete details, see Table 4C.

Group IV departments since 1995-96 when it was $68 \%$, it's the largest number of new doctoral recipients reported since 1999-00 when it was 284 . The number of new doctoral recipients in Group IV is up 42 from the number reported at this time last year, while the number of departments responding is down 2 from the number responding by this time last year.

Because of its size, the data from Group IV have a large effect on the results when all doctoral groups are combined. Furthermore, Group IV results are often quite different from those for Groups I (Pu), I (Pr), II, III, and Va. Group IV results can mask important changes in the other doctoral groups. In the following paragraphs some of these differences are presented. The trends noted below have also been observed in past reports.

Table 9 shows that for the Group IV new doctoral recipients, 126 of 285 (44\%) are female, while 204 of $831(25 \%)$ are female in the other doctoral groups. Among U.S. citizens, females accounted for 34 of the 79 (43\%) Group IV new doctoral recipients, while for the other groups 86 of $354(24 \%)$ were female. Overall, 120 of 433 (28\%) U.S. citizen new doctoral recipients were female.

In Group IV, 79 of 285 (28\%) new doctoral recipients are U.S. citizens, while in other groups 354 of 831 (43\%) are U.S. citizens.

Of the 206 new doctoral recipients from Group IV who found employment in the U.S., 64 (31\%) took jobs in business or industry. From the other groups, 545 new doctoral recipients found employment in the U.S., of which 51 (9\%) took jobs in business or industry.

The employment status for 244 Group IV new doctoral recipients is known, and 11 (4.5\%) are unemployed. For the other groups, the employment status of 706 is known, and 58 (8.2\%) are unemployed. Nineteen of 45 (42\%) new doctoral recipients hired by Group IV departments were female, up from last year's $24 \%$, the lowest percentage of female hires reported since 1999-2000. The other doctoral groups reported that 54 of 243 ( $22 \%$ ) new doctoral recipients hired were female, down from last year's $27 \%$.

Group IV had 283 new doctoral recipients with fields of thesis in statistics/biostatistics (280) and probability (3), and the other doctoral departments had 91 with fields of thesis in statistics/biostatistics (65) and probability (26). The distribution of these 65 degrees among the various groups can be found in Table 4C. The number of new doctoral recipients with theses in statistics/biostatistics and probability (374) is substantially larger than any other field, with algebra and number theory next with 161.

## Faculty Salary Survey

The charts on the following pages display faculty salary data for Groups I (Pu), I (Pr), II, III, IV (Statistics), IV (Biostatistics), Va, M, and B: faculty salary distribution by rank, mean salaries by rank, information on quartiles by rank, and the number of returns for the group. Results reported here are summaries based on the departments who responded to this portion of the Annual Survey. This is the third year that salary information has been reported separately for statistics departments and biostatistics and biometrics departments in Group IV.

Table 11 provides the departmental response rates for the 2005 Faculty Salary Survey. Departments were asked to report for each rank the number of tenured and tenure-track faculty whose 2005-06 academic-year salaries fell within given salary intervals. Reporting salary data in this fashion eliminates some of the concerns about confidentiality but does not permit determination of actual quartiles. Although the actual quartiles cannot be determined from the data gathered, these quartiles have been estimated assuming that the density over each interval is uniform.

Table 11: Faculty Salary Response Rates

| Department | Number | Percent |
| :--- | :---: | :---: |
| Group I (Public) | 23 of 25 | 92 |
| Group I (Private) | 11 of 23 | 48 |
| Group II | 45 of 56 | 80 |
| Group III | 66 of 75 | 88 |
| Group IV (Statistics) | 42 of 55 | 76 |
| Group IV (Biostatistics) | 17 of 31 | 55 |
| Group Va | 11 of $21^{*}$ | 52 |
| Group M | 80 of 189 | 42 |
| Group B | 320 of 1010 | 32 |

* The population for Group Va is slightly less than for the Doctorates Granted Survey, because some departments grant degrees but do not formally "house" faculty and their salaries.

Since departments in Groups I, II, and III were changed in 1995-96 (see definitions of the groups on page 245), comparisons are possible only to the last eight years' data. In addition, prior to the 1998 survey Groups Va and Vb were reported together as Group V. When comparing current and prior year figures, one should keep in mind that differences in the set of responding departments may be a significant factor in the change in the reported mean salaries.




2005-06 Academic-Year Salaries (in thousands of dollars)






## Previous Annual Survey Reports

The 2004 First, Second, and Third Annual Survey Reports were published in the Notices of the AMS in the February, August, and September 2005 issues respectively. These reports and earlier reports, as well as a wealth of other information from these surveys, are available on the AMS website at www. ams.org/employment/surveyreports.htm1.

## Acknowledgments

The Annual Survey attempts to provide an accurate appraisal and analysis of various aspects of the academic mathematical sciences scene for the use and benefit of the community and for filling the information needs of the professional organizations. Every year, college and university departments in the United States are invited to respond. The Annual Survey relies heavily on the conscientious efforts of the dedicated staff members of these departments for the quality of its information. On behalf of the Annual Survey Data Committee and the Annual Survey Staff, we thank the many secretarial and administrative staff members in the mathematical sciences departments for their cooperation and assistance in responding to the survey questionnaires.

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## Definitions of the Groups

As has been the case for a number of years, much of the data in these reports is presented for departments divided into groups according to several characteristics, the principal one being the highest degree offered in the mathematical sciences. Doctoral-granting departments of mathematics are further subdivided according to their ranking of "scholarly quality of program faculty" as reported in the 1995 publication Research-Doctorate Programs in the United States: Continuity and Change. ${ }^{1}$ These rankings update those reported in a previous study published in 1982. ${ }^{2}$ Consequently, the departments which now compose Groups I, II, and III differ significantly from those used prior to the 1996 survey.

The subdivision of the Group I institutions into Group I Public and Group I Private was new for the 1996 survey. With the increase in number of the Group I departments from 39 to 48, the Annual Survey Data Committee judged that a further subdivision of public and private would provide more meaningful reporting of the data for these departments.

Brief descriptions of the groupings are as follows:
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 V contains U.S. departments (or programs) in applied mathematics/applied science, operations research, and management science which report 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/employment/.

[^1]
[^0]:    Ellen E. Kirkman is professor of mathematics at Wake Forest University. James W. Maxwell is AMS associate executive director for Membership, Meetings, and Programs. Colleen Rose is AMS survey analyst.

[^1]:    $\overline{{ }^{1} \text { Research-Doctorate Programs in the United States: Continuity and }}$ Change, edited by Marvin L. Goldberger, Brendan A. Maher, and Pamela Ebert Flattau, National Academy Press, Washington, DC, 1995.
    ${ }^{2}$ These findings were published in An Assessment of ResearchDoctorate Programs in the United States: Mathematical and Physical Sciences, edited by Lyle V. Jones, Gardner Lindzey, and Porter E. Coggeshall, National Academy Press, Washington, DC, 1982. The information on mathematics, statistics, and computer science was presented in digest form in the April 1983 issue of the Notices of the AMS, pages 257-67, and an analysis of the classifications was given in the June 1983 Notices of the AMS, pages 392-3.

