

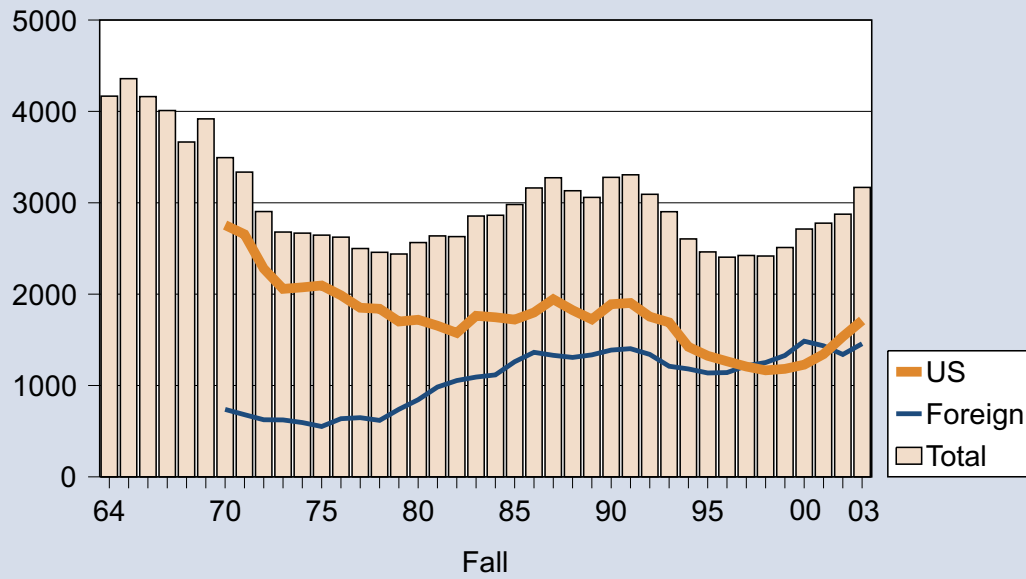
Graduate Student Report: First-Year Physics and Astronomy Students, 2004

By Patrick J. Mulvey and Casey Langer Tesfaye

HIGHLIGHTS

- The number of US citizens enrolling in physics departments has risen 47% since 1998-99. They now comprise 55% of first-year physics and astronomy students (Figure 1 & Table 1).
- First-year astronomy student enrollments have increased 52% from a recent low in the fall of 1997. The 218 students enrolling in the fall of 2003 is the highest number ever recorded by this report series (Figure 2).
- China continues to supply US physics and astronomy graduate programs with more foreign students than any other country, and their proportion has been increasing in recent years. The gains seen from Asia are offset by declines in the proportion of students enrolling from Western Europe, and even more so, Eastern Europe (Table 3).
- Of the newly enrolled foreign students, about 9% indicated they experienced a delay in entering their current graduate department due to problems in obtaining their visa (Page 6).
- Eighty-six percent of first-year physics and astronomy graduate students received a full tuition waiver, with an additional 10% receiving a partial waiver. The likelihood of receiving a tuition waiver varied by the type of department in which the students were enrolled (Table 7).
- The median annual stipend reported by first-year physics and astronomy Teaching Assistants was \$14,500. Research Assistants had a median of \$16,000, and students with Fellowships had a median of \$18,000 (Table 8).
- The most popular subfield chosen by US students was astronomy & astrophysics, followed closely by condensed matter, and particles and fields. Among foreign students condensed matter was by far the most popular subfield (Table 6).

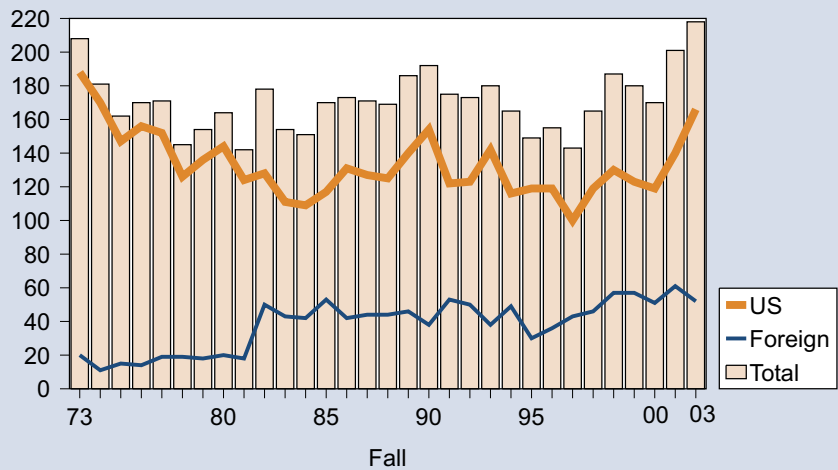
Figure 1. First-year graduate physics student enrollments, Fall 1964 to Fall 2003.



Data from the AIP Enrollments and Degrees Survey.

AIP Statistical Research Center, Graduate Student Report.

Figure 2. First-year graduate astronomy student enrollments, Fall 1973 to Fall 2003.



Data from the AIP Enrollments and Degrees Survey.

AIP Statistical Research Center, Graduate Student Report.

Table 1. Characteristics of first-year physics and astronomy graduate students by broad discipline of department, 2003-2004.

	Physics	Astronomy	Overall
<u>Gender:*</u>			
Male	79%	59%	78%
Female	21	41	22
<u>Citizenship:*</u>			
US	54%	76%	55%
Foreign	46	24	45
<u>Median Age</u>			
	23	22	23
<u>Highest Degree Desired:</u>			
PhD	87%	95%	87%
MS	5	2	5
Unsure	7	3	6
No Degree intended	1	0	2
<u>Enrollment Status:</u>			
Full-time	96%	99%	97%
Part-time	3	1	3

* Data from the AIP Enrollments and Degrees Survey
AIP Statistical Research Center, Graduate Student Report.

Table 3. Region & countries of citizenship of foreign first-year physics and astronomy graduate students.

	1999	2004
	%	%
<u>Asia</u>	47	63
People's Republic of China	26	33
India	6	12
South Korea	5	5
Pakistan	<1	5
Other Asia	10	8
<u>Europe</u>	36	21
Eastern	21	11
Western	15	10
<u>Americas</u>	7	9
Mexico, South and Central America	4	6
Canada	3	3
<u>Middle East</u>	7	5
<u>Africa</u>	2	2
<u>Australia, New Zealand</u>	1	0

AIP Statistical Research Center, Graduate Student Report.

Table 6. Major subfields of PhD-seeking first-year physics and astronomy graduate students by citizenship, 2003 - 2004.

	US	Foreign	Overall
	%	%	%
Undecided	29	25	27
Condensed Matter	13	22	17
Astronomy & Astrophysics	16	7	12
Particles & Fields	10	9	9
Biophysics	4	9	7
Atomic & Molecular	5	2	4
Nuclear Physics	4	4	4
Optics & Photonics	2	4	3
Materials Science	1	4	3
Plasma Fusion	3	0	2
Other	13	14	12

AIP Statistical Research Center, Graduate Student Report.

Table 7. Primary type of financial support and proportion receiving tuition waivers for first-year physics and astronomy graduate students, 2003 - 2004.

	Highest Degree of Department		Citizenship		Overall %
	PhD %	MS %	US %	Foreign %	
Type of support					
Teaching Assistantship	64	68	58	69	64
Research Assistantship	15	20	16	16	16
Fellowship	18	3	21	12	17
Self-funded*	2	8	4	1	2
Other	1	2	1	2	1
Type of tuition waiver					
Full	87	66	89	83	86
Partial	9	20	6	13	10
None	4	14	5	4	4

*Self-financed includes savings, loans, and non-departmental employment.

Table is limited to full-time students.

AIP Statistical Research Center, Graduate Student Report.

Table 8. Annual stipend amount and hours of service per week for first-year physics and astronomy graduate students*, 2003 - 2004.

	Teaching Assistantship	Research Assistanship	Fellowship
Median Stipend	\$14,500	\$16,000	\$18,000
Hours of service	%	%	%
20	66	81	-
15	17	10	-
10	17	9	-
* Limited to full-time doctoral seeking students at PhD-granting departments AIP Statistical Research Center, Graduate Student Report.			