

Institute of Physics Report

Women in University Physics Departments

Statistical Digest 2007

The Institute of Physics
December 2007



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1: About the digest

This digest provides a concise overview of the gender profile of university physics cost centres in 2005/2006.

The information will be of interest to staff in university physics cost centres with responsibility for addressing the recruitment, retention and progression of women.

It will enable them to:

- compare the gender profile of their own cost centres with that of other university physics cost centres;
- gain an insight into the changes in the gender profile of university physics cost centres over the last decade.

A more detailed report will be published in 2008 and will look in more detail at issues such as age, terms and mode of employment, and how physics compares with other cost centres.

2: Gender profile of physics cost centres

The data used for the main part of this analysis are the 2005/2006 HESA data. The report examines the data in various combinations of gender with grade, size of cost centre and age. The grades are grouped as follows:

- researchers (excluding senior researchers);
- lecturers;
- senior lecturers (including senior researchers);
- professors.

The report uses HESA data for each year from 1996/1997 to 2005/2006 for the historical analysis.

3: Profile by gender and grade across all cost centres

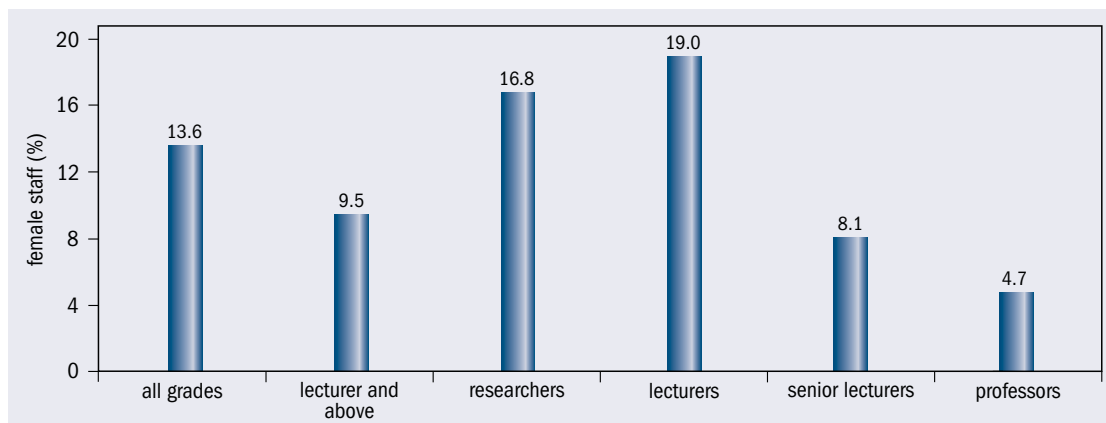


Figure 1: 2005/2006 gender profile of physics cost centres over all academic grades and by individual grade (HESA data 2005/2006).

It is well known that the percentage of women in university physics cost centres decreases significantly as the level of grade increases (figure 1). The exception to this in 2005/2006 was in moving from researcher to lecturer, where the percentage of women was greater at lecturer level than at researcher level. At 19% the percentage of female physics lecturers is nearly 4% lower than the percentage of female undergraduates/postgraduates (22.7%). However, the gap has closed and, compared with all other subjects, is one of the smallest.

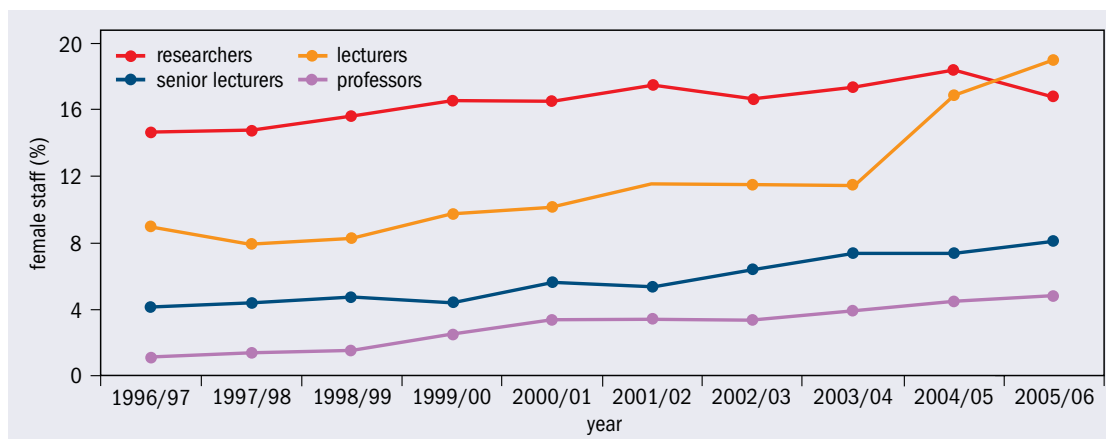
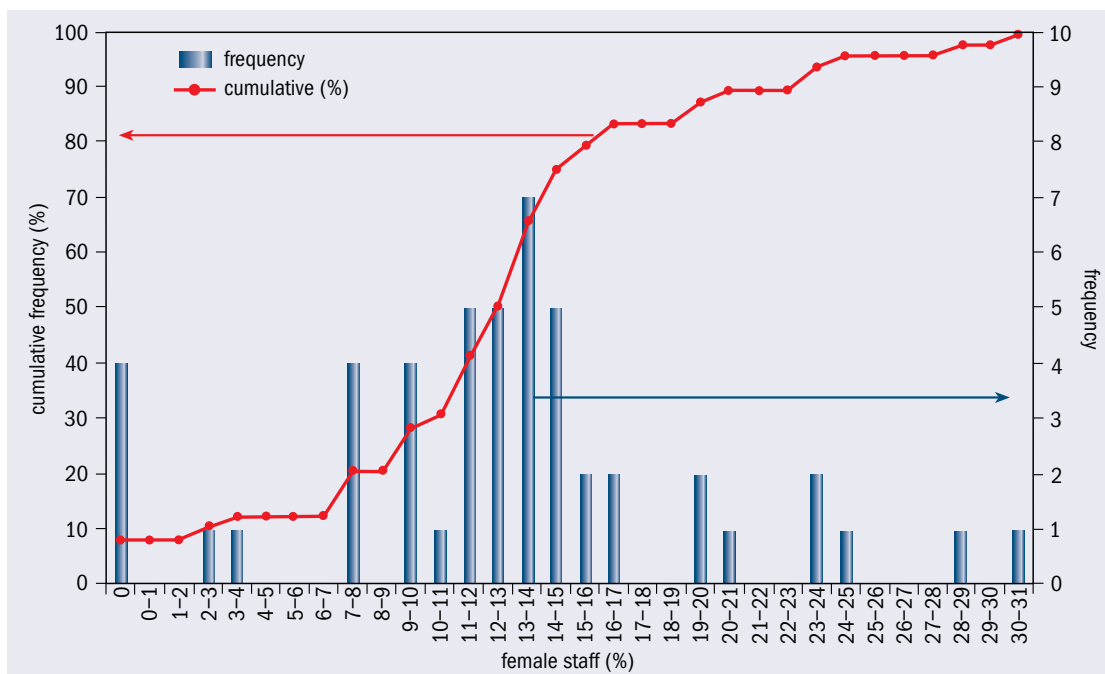


Figure 2: Trend in gender profile over the last decade by percentage of women by individual grade (HESA data 1996/1997 to 2005/2006).

The percentage of women across all of the grades has shown a slow but steady increase over the last decade of about 0.4% annual increase (figure 2). However, in both 2004/2005 and 2005/2006, the percentage of women lecturers increased significantly, from 11.3% in 2003/2004 to 16.9% in 2004/2005 and 19% in 2005/2006. The increase in the percentage of women researchers has, by comparison, been the slowest and there has been no consistent increase over the last five years.

4: Comparison of gender profile across all grades at cost-centre level

Figure 3: Histogram and cumulative percentage frequency of the percentage of women in individual physics cost centres across all grades (including researcher).



The histogram and cumulative percentage frequency plot in figure 3 show that four cost centres had no female staff (including researchers) at all. These four cost centres were among the smaller cost centres and had between 14 and 24 staff. Two cost centres had fewer than 4% female staff, which represented one and two female members of staff out of total numbers of 40 and 54.5. In comparison, six cost centres had more than 20% female staff.

4: Comparison of gender profile across all grades (including researcher) at cost-centre level

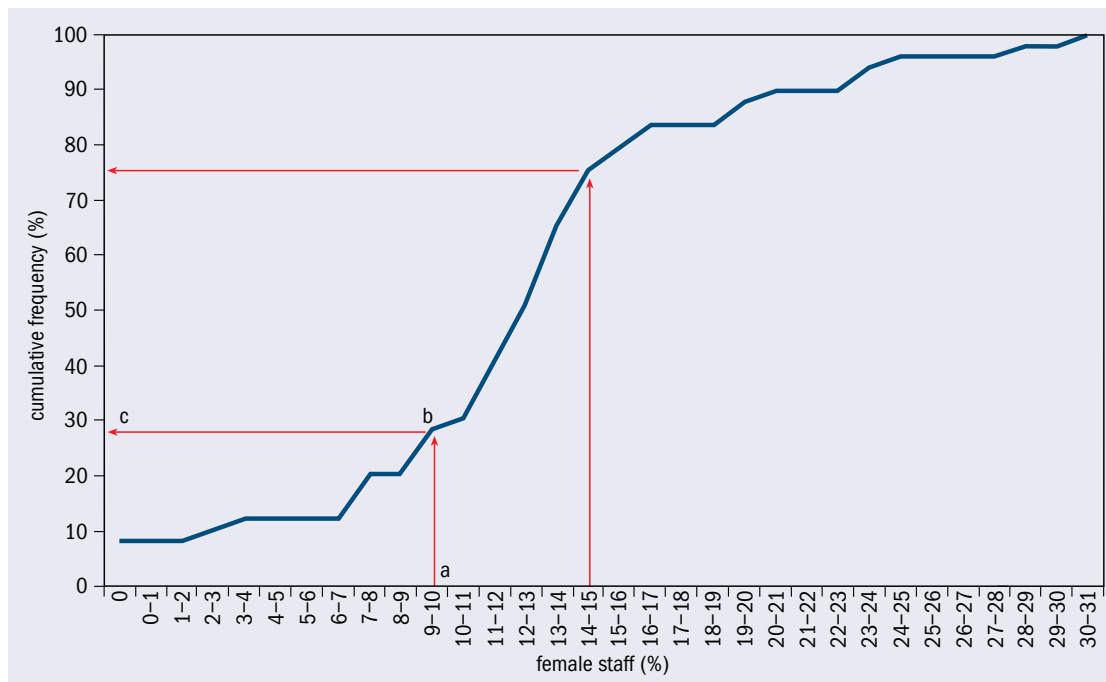


Figure 4: Comparing representation of women with other cost centres.

To compare the gender profile of a cost centre with other cost centres using the cumulative frequency plot (figure 4), you need to follow these steps:

- calculate the percentage of women in the cost centre across all academic grades (including researcher);
- read up from this value on the x axis (a) to the plotted line (b);
- read across to the y axis to find out what percentage of cost centres have a percentage of women less than or equal to the cost centre in question (c).

For example, figure 4 shows that a cost centre with 10% women across all academic grades has a percentage of women equal to or higher than 28% of cost centres. A cost centre that has 15% women across all academic grades has a percentage of women equal to or higher than 75% of cost centres.

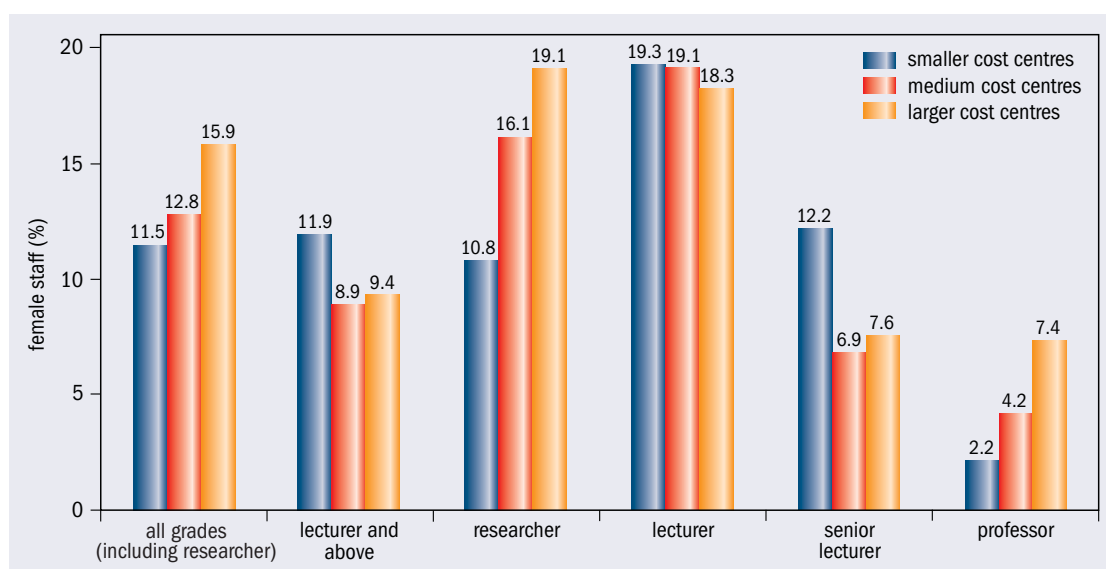
It should be noted that in a very small cost centre one woman can make a large difference in the percentage of women, so care should be exercised when comparing the percentage of women in very small cost centres.

5: Gender profile by size of cost centre

This analysis splits cost centres into three groups, as follows:

- smaller cost centres: with 5–40 staff in grades researcher to professor (22 cost centres);
- medium cost centres: with 54–143 staff in grades researcher to professor (23 cost centres);
- larger cost centres: with 235–284 staff in grades researcher to professor (4 cost centres).

Figure 5: Gender profile by grade and size of cost centre.



Taken across all academic grades (including researcher), larger cost centres had higher percentages of female staff. For example, in 2005/2006, the four largest cost centres accounted for more than 35% of all female staff while employing only 30.4% of all staff. However, when researchers are excluded from the analysis, the picture changes and smaller cost centres had a higher percentage of female staff overall at lecturer and above. This is due to smaller cost centres:

- employing a relatively low percentage of researchers generally (in 2005/2006 they employed 14% of all staff but accounted for only 8.2% of researchers). Consequently, smaller cost centres employed disproportionately higher percentages of staff in higher grades: 14% of all academic staff but 31% of all lecturers, 20.2% of all senior lecturers and 16.2% of all professors. In addition, smaller cost centres had a relatively lower percentage of female researchers (in 2005/2006 they accounted for only 5.3% of female researchers while employing 8.2% of researchers overall).
- having a relatively high percentage of female senior lecturers: in 2005/2006 they employed 19.3% of all senior lecturers but accounted for 26.4% of female senior lecturers.

5: Gender profile by size of cost centre

At lecturer grade there was little difference between the percentages of women in the smaller, medium and larger cost centres. However, at the level of professor the percentage of women in larger cost centres was more than three times that in smaller cost centres. The four largest cost centres employed 26.2% of all professors but accounted for 40.9% of all female professors. Medium cost centres account for roughly pro rata percentages of women across all grades (between 53.0% and 57.6%).

The relatively low percentage of female professors and researchers in smaller cost centres is also evident in the fact that there are larger numbers of these cost centres with no women at the grade of professor. For example, 20 out of 22 smaller cost centres had no female professors compared with 13 out of 23 medium cost centres, and all larger cost centres had at least one female professor. At the level of senior lecturer, similar numbers of smaller and medium cost centres had no women (9 out of 22 and 9 out of 23, respectively). At the level of researcher the difference between smaller and medium cost centres was again apparent with 13 out of 22 smaller cost centres having no female researchers. All medium cost centres had at least one female researcher. The comparative absence of women in these grades in smaller cost centres may have implications for the recruitment and retention of women – owing to the absence of role models there is the potential for women to be isolated in a male-dominated culture.

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