

EQUALITY

UK wage data reveal science's gender gap

Reports affirm systemic struggles for women in science.

BY HOLLY ELSE

Many UK science employers pay women much less than men, and some institutions are far less equal than others, according to an analysis conducted by *Nature* of statistics released last week. Universities, pharmaceutical companies, funders and other science-focused organizations maintain a gender pay gap that is 50% greater than the national average for all employers.

In 2017, the United Kingdom became one of the first nations in the world to require employers to report differences in pay between men and women. Organizations that employ more than 250 people must report details of their gender pay gap, the representation of men and women in each pay quartile and the gender breakdown of who receives bonus pay. More than 10,200 organizations have now uploaded data to the government's portal for gender pay-gap figures.

The gender pay gap refers to the difference in the average hourly wage of all men and women across a workforce. It is not the same as unequal pay, when men and women are paid differently

for performing the same role, which has been illegal in the United Kingdom since 1970.

To see how science shapes up, *Nature* analysed data for universities, research institutes, selected grant funders and some industrial employers (see 'Research wage gap').

Science institutions fared poorly overall. Of the 172 organizations included in the analysis, 96% pay men more than women, according to the companies' reported median pay gaps. Nationwide, 78% of all organizations favour men financially. The median gap between genders among science employers is 15%, compared with the UK median of 10%. The median offers the best representation of typical differences in pay, because it is not skewed by outlying high or low figures.

The median pay gap for universities is 16%, research institutes 9%, funders 10%, industrial employers 12% and for five scientific publishers, 22%. (Macmillan Publishers, the division of SpringerNature that publishes *Nature*, has a median gender pay gap of 13%.)

Much of an organization's pay gap comes down to how women and men are distributed through the ranks. Women are often

over-represented in low-paid and low-skilled jobs, whereas men are likely to make up the bulk of workers in senior and high-paid roles. Stripping out non-academic roles from the university data would probably shrink the gap between male and female earnings, says Jeff Frank, an economist at Royal Holloway, University of London, in Egham, UK, who studies gender pay gaps in science.

The median gender pay gap for all academic staff at UK universities is 12%, according to a report released in 2017 by the University and College Union (see go.nature.com/2ezlidw). For professors at research-heavy institutions, the figure is 7%. The driving force for this pay gap, says the report, is a "very clear and continuous decline" in the proportion of women represented as academic rank increases in seniority. Across the board, 45% of the entire academic workforce is female, for example, but less than one-quarter of all professors are women.

FUNDING GATEWAY

The London-based Wellcome Trust has a 21% median gender-pay gap, which it is seeking to close by training staff to help mitigate bias, and introducing fairer ways of recruiting, promoting and retaining women at senior levels. Couch says that this approach is important because her organization and other funding agencies act as the gatekeepers to science, and the Wellcome Trust could be missing out on supporting excellent ideas. Of the other nine funders *Nature* examined, three had non-existent or negligible pay gaps, including the Engineering and Physical Sciences Research Council and the Economic and Social Research Council.

Across 29 research companies analysed by *Nature*, oil and gas businesses, including those owned by BP and Shell, generally had the largest median pay gaps and the lowest proportions of women in the top pay quartile.

In the pharmaceutical industry, there is huge variation. One company, MSD (the UK subsidiary of Merck), has a 7% pay gap in favour of women; another, GlaxoSmithKline, reports small differences in pay, which favour men. Pfizer and AstraZeneca have more-typical gender pay gaps, at 18% and 13%, respectively.

There is one obvious way to abolish gender pay gaps. One UK university eliminated its professorial pay gap overnight — by simply boosting women's pay, says Alice Chilver, head of organizational development at University College London, who heard the anecdote in March, at a conference in London that she organized on gender pay gaps.

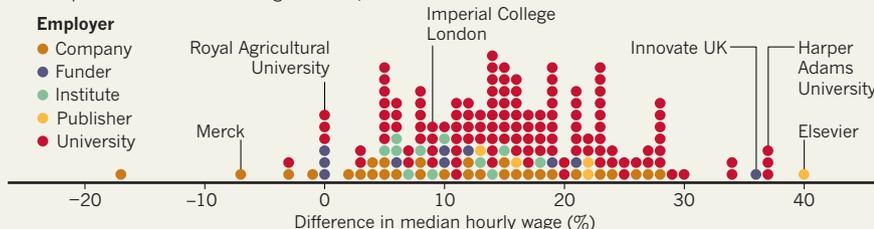
Quick fixes aside, universities and other science employers might need to make more-significant changes to be able to close their gender pay gaps. "It is all about the culture, the behaviour, the habits and patterns, the beliefs, the fears," Chilver says. "Until we can tap into and work with those cultures more effectively, change is going to be very slow." ■

SOURCE: [HTTPS://GENDER-PAY-GAP.SERVICE.GOV.UK](https://gender-pay-gap.service.gov.uk)

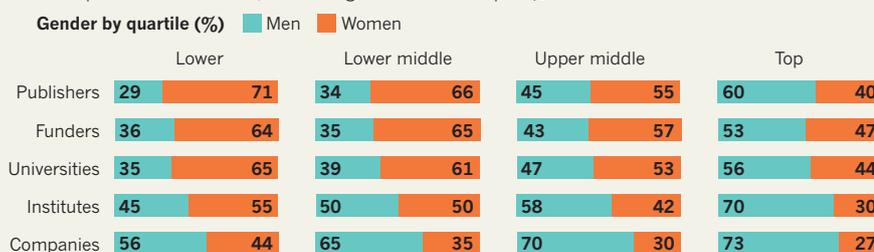
RESEARCH WAGE GAP

UK companies with more than 250 employees had until 5 April to publish statistics on the gender pay gap. *Nature* analysed data from universities, pharmaceutical companies and other employers of scientists.

1 Science employers averaged a median pay difference of 15% in favour of men, compared with the UK-wide figure of 10%.



2 A lack of women in senior roles underlies many pay gaps. One report found that less than one-quarter of UK professors are female, even though women make up 45% of the academic workforce.



Nature's analysis is based on data from 122 universities (including Cambridge and Oxford colleges with more than 250 employees), 11 science institutes, 29 companies, 10 research funders and 5 science publishers.