New data analysis proves science is sexist

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The data shows: Science is sexist.

In a new paper, published today by *Royal Society Open Science*, University of Canterbury (UC) researchers looked into decades of research from 28 scientific societies in four countries covering five

science disciplines and found the science gender gap is real.

In their research paper, titled "Gender and societies: a grassroots approach to women in science," UC Associate Professor Alex James, Master's student Rose Chisnall, and Professor Michael Plank have concluded that women are under-represented in science.

"Our research uses almost 20 years of data on over 5,000 individuals, spanning 28 societies in four countries—New Zealand, the United Kingdom, United States and Australia—and five scientific disciplines," says UC Biomathematics expert Associate Professor Alex James.

"We show that as the status of a role increases so does the under-representation of women, even when you take into account the number of women who are eligible. We also show how some common practices in award selection committees will be furthering the problem and give some simple recommendations that can increase diversity," she says.

This is the first study to look at the issue from the grassroots level of scientific societies and across such a breadth of disciplines and countries.

"Our results show that the gender gap widens as you move up the academic hierarchy. Women are as likely as men to receive low status awards, but less likely to receive more prestigious awards. The practice of award-winners being decided by previous recipients can help perpetuate gender bias. We conclude that, when the stakes are low, efforts to tackle gender bias have been partly successful, but when the stakes are higher, the old boys' club still dominates," says Professor Michael Plank, also of UC Mathematics and Statistics department.

"We wanted to do the study because we felt that scientific societies have a big opportunity to help improve gender equity. Although some of these

initiatives have helped with things like student prizes, too many of the really prestigious awards are still going to men."

The paper's findings include:

- The number of women receiving prestigious awards in many scientific disciplines is disproportionately low relative to the number of senior women in the relevant field.
- Women are underrepresented in leadership roles in scientific societies relative to the number of senior women in the relevant field.
- As the status of the award increases, so does the underrepresentation of women.
- Societies can improve the diversity of their award winners by improving diversity of selection panels, taking steps to avoid nomination bias, and increasing transparency of processes.

More information: Alex James et al. Gender and societies: a grassroots approach to women in science, *Royal Society Open Science* (2019). DOI: 10.1098/rsos.190633

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