

# Encouraging women to take the stage at SIB events

Written and compiled by **Natasha Glover** for the [SIB Diversity focus group](#)  
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Research shows that women are consistently underrepresented as speakers at academic conferences, and all-male panels remain common across disciplines<sup>1-4</sup>. Women also ask fewer questions at seminars<sup>5-8</sup> and may decline speaking invitations more often<sup>2</sup>, partly due to internal and structural factors like self-doubt, risk aversion, or gender stereotypes<sup>9</sup>. Visibility at conferences is critical for career development, and we encourage women to submit their work at SIB conferences and events to help address these disparities.

The following texts are quotes from the cited papers.

## **Women are less likely to give “high visibility” talks at conferences (e.g. plenary speakers, invited speakers, panelists).**

- **(Arora et al., 2020)**<sup>1</sup>: In this cross-sectional analysis of 23 440 speakers at 98 conferences across 20 specialties between March 2017 and November 2018, 30.1% of speakers were women and 36.6% of panels were all-male panels.
- **(Arnold, 2021)**<sup>10</sup>: [In 2014] more than 1500 scientists [signed a petition at Change.org](#) after the organizers of the [15th International Congress of Quantum Chemistry](#) unveiled a list of the 29 conference speakers, chairs, and honorary chairs—all males.
- **(Schroeder et al., 2013)**<sup>2</sup>: We analysed the sex ratio of presenters at the European Society for Evolutionary Biology (ESEB) Congress 2011, where all abstract submissions were accepted for presentation. Women were under-represented among invited speakers at symposia (15% women) compared to all presenters (46%), regular oral presenters (41%) and plenary speakers (25%).
- **(Vivekanantha et al., 2023)**<sup>3</sup>: There is a high prevalence of male-only panels (58.5%) and an overall lack of female representation (12.6%) in 10 major Orthopaedic Surgery meetings. Male members and female members from these conferences were found to have similar qualifications academically.
- **(Sleeman, Koffman and Higginson, 2019)**<sup>4</sup>: We analysed the gender balance of speakers at the 9th World Research Congress of the European Association of Palliative Care (EAPC)... Overall, the majority of speakers at EAPC 2016 (96/130, 73.8%) were women. The proportion of women was highest in the Free Communication sessions (84/107, 78.5%). In the Themed sessions, women made up just over half of speakers (12/22, 54.5%). In 2016, there was 1 invited Plenary speaker, a

man. From 2012 to 2016, just 6 of 23 invited Plenary speakers at EAPC conferences have been women (26.1).

### **Conferences accept the same % of women-contributed presentations as the baseline % of women who submitted abstracts.**

- **(Kafer et al, 2018)<sup>6</sup>:** [At SMBE], data on abstract submission suggest that there are no gender-related preferences in the acceptance of contributed presentations at the most recent meetings.

### **Women are more likely to present posters.**

- **(Isbell, Young and Harcourt)<sup>11</sup>:** Analysis of 21 annual meetings of the *American Association of Physical Anthropologists* reveals that within the subfield of primatology, women give more posters than talks, whereas men give more talks than posters.

### **Women and men have the same talk lengths and number of questions received.**

- **(Kafer et al., 2018)<sup>6</sup>:** The observations at the [SMBE] conferences in 2015 and 2016 did not reveal any difference between men and women as speakers (talk length, number of questions received).

### **Women are less likely to ask questions at scientific conferences/seminars**

- **(Hinsley, Sutherland and Johnston, 2017)<sup>5</sup>:** We observed sessions of talks at the International Congress for Conservation Biology and European Congress for Conservation Biology in Montpellier, France in August 2015. Accounting for audience gender ratio, male attendees asked 1.8 questions for each question asked by a female attendee. Amongst only younger researchers, male attendees also asked 1.8 questions per female question, suggesting the pattern cannot be attributed to the temporary problem of demographic inertia.
- **(Kafer et al, 2018)<sup>6</sup>:** Data collected on-site [at the Society of Molecular Biology and Evolution] in 2015 and 2016 show that women asked only ~25% of the questions, that is, much less than expected given the female attendance... Whether this indicates that men have a tendency to ask more questions than women is not directly clear. An obvious alternative explanation is that senior scientists, among which the proportion of men is greater, ask more questions, irrespective of gender.
- **(Carter et al, 2018)<sup>7</sup>:** We thus quantified women's visibility through the question-asking behaviour of academics at seminars using observations and an online survey. From the survey responses of over 600 academics in 20 countries, we found that women reported asking fewer questions after seminars compared to men. This impression was supported by observational data from almost 250 seminars in 10 countries: women audience members asked absolutely and proportionally fewer questions than male audience members. When asked why they did not ask questions when they wanted to, women, more than men, endorsed internal factors (e.g., not working up the nerve).

- **(Winking et al, 2019)<sup>8</sup>**: Audience questions were tabulated during the authors' visits to the three American Anthropological Association Annual Meetings. The results suggested that men were indeed marginally more likely to ask a question, both when considering all types of questions and when considering only critical questions. However, there was no evidence that they differentially targeted women for these questions.

### **The more women in the conference organizing committee, the more women speakers.**

- **(Casadevall and Handelsman, 2014)<sup>12</sup>**: Analysis of 460 symposia involving 1,845 speakers in two large meetings sponsored by the American Society for Microbiology revealed that having at least one woman member of the convening team correlated with a significantly higher proportion of invited female speakers and reduced the likelihood of an all-male symposium roster.
- **(Sardelis and Drew)<sup>13</sup>**: We investigated the number of female symposium speakers in two professional societies (the Society of Conservation Biology (SCB) from 1999 to 2015, and the American Society of Ichthyologists and Herpetologists (ASIH) from 2005 to 2015), in relation to the number of female symposium organizers. Overall, we found that 36.4% of symposia organizers and 31.7% of symposia speakers were women at the Society of Conservation Biology conferences, while 19.1% of organizers and 28% of speakers were women at the American Society of Ichthyologists and Herpetologists conferences. For each additional female organizer at the SCB and ASIH conferences, there was an average increase of 95% and 70% female speakers, respectively. As such, we found a significant positive relationship between the number of women organizing a symposium and the number of women speaking in that symposium.
- **(Arora et al, 2020)<sup>1</sup>**: [Across 98 conferences across 20 specialties between March 2017 and November 2018] There was a significant positive correlation between the proportion of women on planning committees and representation of female speakers.
- **(Schroeder et al, 2013)<sup>2</sup>**: The presence or absence of female organizers within a symposium did not influence the sex ratio of their invited speakers.

### **Women are more likely to decline speaking at a conference.**

- **(Schroeder et al, 2013)<sup>2</sup>**: This under-representation of women [at ESEB 2011] is partly attributable to a larger proportion of women, than men, declining invitations: in 2011, 50% of women declined an invitation to speak compared to 26% of men.... However, it is reassuring that the overall sex ratio of initially invited speakers (23% including those that declined) at ESEB 2011 was comparable to most of the sex ratios of our baseline populations.

## Why do women decline academic opportunities?

- **(Monteiro, Chan and Kahlke, 2023)<sup>9</sup>**: Turning down an opportunity may be a symptom of a much larger issue. The power of social expectations, culture and gender stereotypes remains a resistant force against calls for action. Consequently, women disproportionately take on other tasks that are not as well recognised. This disparity is maintained through social consequences for breaking with firmly entrenched stereotypes.

## Strategies to increase gender equality at conferences

- **(Sardelis, Oester and Liboiron, 2017)<sup>14</sup>**: At the Society for Conservation Biology's 4th International Marine Conservation Congress (IMCC4), "Promoting the Participation of Women at Science Conferences" was one of four focus groups of the Diversity Focus Group Series. The 10 interventions to reduce gender inequity at conferences include adopting community principles and a Code of Conduct, appointing a Safety Officer, requiring a registration honor system pledge and conduct surveys, offering a mentorship program, organizing focus groups, giving benefits for participating in diversity programming, assisting with child care, proffering travel grants, providing badges on lanyards, and randomizing the conference program.
- **(Kafer et al, 2018)<sup>6</sup>**: [At SMBE] The analysis of meeting programmes showed a regular increase in female speakers for the last 16 years... The continuity of actions taken by SMBE to promote gender equity has likely contributed to the steady progress.
- **(Tulloch, 2020)<sup>15</sup>**: Although half of the 30 conferences had codes of conduct promoting equity, diversity and inclusion, the quantity and quality of initiatives to support such principles varied between societies and years. Conferences with codes were significantly more likely to implement structural initiatives to minimize discrimination or harassment, such as procedures for reporting misconduct and submission guidelines to promote speaker diversity, as well as initiatives to support parents. Initiatives minimizing barriers to attendance were rare; 47% of conferences were held in locations that discriminate against certain identities and <10% promoted event safety and accessibility to potential attendees... I propose a six-step timeline that improves conference inclusion by embedding diversity and equity into planning, financing, marketing, scientific and social scheduling, evaluation and reporting.
- **(Oswald and Ostojic, 2020)<sup>16</sup>**: Here we focus on three initiatives to mitigate such biases: increasing the diversity of program committees and referee pools; implementing double-blind review; and curation of podium and poster presentations.

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