

## **Gender imbalance at the podium: Developing better selection criteria for scientific meetings**

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Too often, scientific meetings consist mainly of male speakers, and synthetic biology is no exception. Recently, a genome engineering conference asked Synberc to become a sponsor. We noticed that the program had an extreme gender imbalance: Only two women at the podium while over 30 men would be speaking. Synberc informed the organizers that we would not support their meeting due in part to the gender inequity. We followed up with a second email detailing our decision and providing practical advice for avoiding a lopsided gender imbalance in the future.

The organizers responded and explained to us the reason for the gender imbalance. In summary, the organizers wanted to bring together leaders in academia and industry that published in *Science*, *Cell* and *Nature* over the past two years to represent the most recent discoveries. They generated a list using these criteria with “no biases” (i.e., no attention to gender, religion, race, and other groups). More females were invited but declined.

While we appreciate the organizers’ attempt to remain neutral, such an approach is flawed in that it perpetuates the underlying biases endemic at those publications, as evidenced by the list of speakers generated. Ignoring gender implicitly endorses existing imbalances. ([West et al.](#) have shown gender disparities in scholarly authorship are persistent although decreasing.) Therefore, conference organizers must work proactively to right systemic underlying biases. In addition, generating a program based on authors from the most elite journals ignores many important papers from other journals such as *PNAS*, *ACS Synthetic Biology*, *Nucleic Acids Research*, *Nature Biotechnology*, and others. Unfortunately, there are no good measures for whether a given journal is diversity balanced, and no guarantee that these journals are any less biased.

Many resources exist to help generate a more balanced podium. These include Synberc’s [women at the podium list](#), a [case study](#) from the American Society for Microbiology, and [ten simple rules](#) to achieve gender balance at conferences published in *PLoS Computational Biology*. We too have observed that females are more likely than males to decline a speaking invitation. When these women decline, we use it as an opportunity to ask them to suggest other well qualified non-male speakers. We are pleased that the conference organizers who approached us have committed to utilizing these resources and strategies in the future.

Speaker bias goes beyond the male-female divide: Many underrepresented groups are not fairly represented at scientific meetings. Moreover, [gender is not binary](#), and other gender identities should be represented at the podium as well. The reasons

for gender and racial imbalances at the podium may differ, but awareness and preemptive strategies are essential to solving both problems.

We urge all individuals to carefully consider who they invite to speak at meetings. Highlighting the excellent work of underrepresented people gives support to diverse audiences, ultimately leading to a broader and more diverse talent pool. To create a more diverse community, we must recognize our own unconscious biases, be proactive in our approaches, and change our behaviors to be more inclusive.