

## Science &amp; Society

## Equity, diversity, and inclusion in academia: lessons from the Canadian Society of Immunology

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Recently, the Canadian Society of Immunology opened its 2021 scientific conference with equity, diversity, and inclusion (EDI) workshops, before any other sessions, highlighting the significance of this topic and aiming to seed concepts/behaviors in the minds of the community. In this article, we urge research communities to adopt this type of approach for navigating difficult conversations and setting a balanced tone in scientific gatherings worldwide.

## Efforts to improve EDI in academia

Despite three decades of EDI initiatives regarding gender and ethnicity, academia, particularly leadership in Canadian universities, remains white Caucasian and male-dominant [1]. As a strategy to promote inclusivity globally, scientific societies now include EDI (or ID) sessions during scientific conferences to bring awareness and discuss other discrimination challenges in science, technology, engineering, mathematics, and medicine (STEMM), including ethnic disparities faced by Black, Indigenous, People of Color (BIPOC). However, these approaches are limited in their reach, given that such sessions are traditionally held simultaneously with other keynote sessions, resulting in lower attendance and limited awareness.

This past year (2021), the Canadian Society of Immunology (CSI) took a bold step: their annual conference opened with back-to-back first day sessions chaired by Dr Yanet Valdez, which focused on EDI and antiracism, bringing much-needed awareness and insights on the topic. Of note, the conference coincided with the devastating discovery of the remains of over 900 children in an unmarked grave on the grounds of a former First Nation's residential school in Canada. This served as a somber reminder of the historical and ongoing inequities in Canada and the pressing need to re-examine, dissect, and fully address questions of diversity. Indeed, there is significant and collective work that we must all do to create an equitable society around the globe.

The session featured talks by prominent activists in academic equity followed by hands-on, antiracism discussions facilitated by experts. For instance, Dr Akiko Iwasaki offered a personal narrative of her career and her journey into advocacy for women in science and medicine. She stressed that, as scientists, we have the responsibility to do much more than run successful

research laboratories: we are called to serve as science communicators, advocates, mentors, and teachers. The obstacles she faced as a woman of color in a predominantly white, male-dominated profession, greatly resonated with the audience. She emphasized how women are required to 'prove themselves' to be admitted into the 'old boys' club', where they frequently have few allies, advocates, or role models.

Similar to Canadian data [2], there is a clear disparity in US academia: although men and women show parity at the Assistant Professor rank, women are under-represented at the level of Full Professors, irrespective of ethnicity (white, Black, Hispanic, or Asian) [3,4].

The following cumulative statistical findings [1] suggest that fostering discussion in subsequent informal conversations is warranted:

- (i) There is overarching disparity in academia in the representation of minority populations in comparison to white counterparts [3].

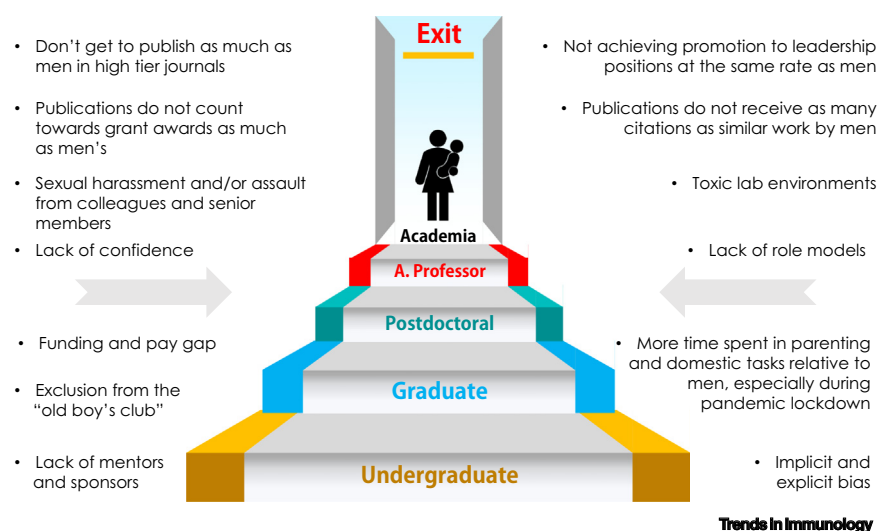


Figure 1. Why do we still lose talented women from academia? Women experience multifaceted barriers that ultimately result in leaving academia. This figure depicts the reduction in women's participation at the higher levels of academic society and verbalizes the impediments to women's success.

- (ii) There is a clear decline in female representation as one climbs the ranks of the academic ladder [4] (Figure 1 summarizes some of the reasons why women consider leaving academia).
- (iii) The Full Professor rank is comprised of only 20% women [5], possibly reflecting discrimination within the workplace, but perhaps also the demands imposed by personal/family lives at this advanced stage in women's careers.
  - (a) Lack of parity for women and men in STEMM careers reflects a selective lack of infrastructure and support that is necessary to retain women in STEMM; this is a striking fact when one considers that the retention of women in non-STEMM professional careers is now approaching parity with men [6].
  - (b) Without any intervention, women are not predicted to reach representational parity with their male colleagues until the year 2050 [7].
  - (c) Achieving EDI requires a community effort to combat racism, sexism, and inequitable cultures within academia. It is crucial to encourage women and their allies to take action, aiming to make science and medicine more inclusive (Figure 2).

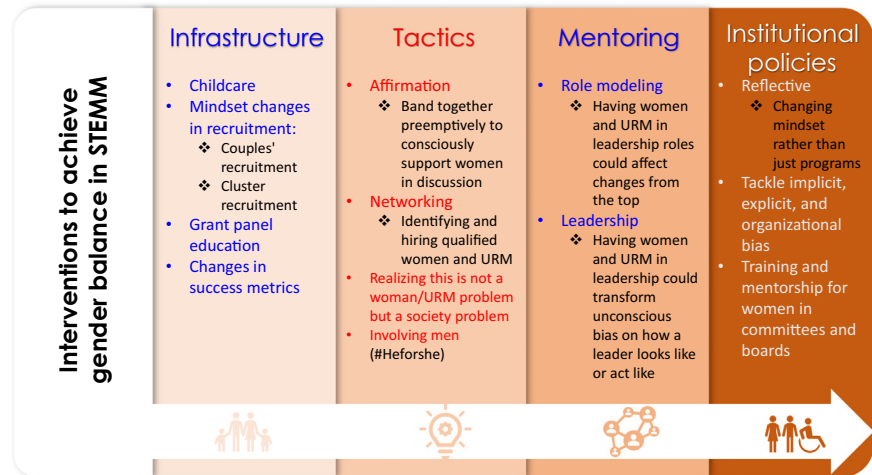


Figure 2. Interventions to achieve gender balance in science, technology, engineering, mathematics, and medicine (STEMM). Specific recommendations to achieve equity, diversity, and inclusion (EDI) and advance the goal of increasing the participation of women and under-represented minorities (URM) in academia are depicted. This figure offers a wealth of interventions designed to create meaningful change at the cultural and institutional levels.

### Racism scenarios as a learning exercise

An interactive EDI learning session was led by a team of expert equity facilitators; lead facilitator, Chanelle Tye, taught key concepts on racism prior to dividing the attendees into small 'breakout' rooms. Cofacilitators led participants through case scenarios and questions designed to reveal subtle and not-so-subtle forms of racism and practiced implementing well-tested interruptive strategies. At the end of an interactive Q&A session, the breakout groups reunited as a single

team to discuss the practice scenarios. These are the key concepts and definitions that were introduced:

Racism is:

- (i) rooted in the belief that some people are superior because they belong to a particular race or ethnic group;
- (ii) systemic and leads to inequality;
- (iii) the combination of racist policies (written and unwritten rules) and racist ideas produce and normalize racial inequalities [8].

Indeed, systemic racism is driven by rules and policies embedded in society and institutions that disadvantage most racial and ethnic groups while giving power and privilege to a dominant group [9,10]. For this exercise, 'Community Guidelines' were established: (i) openness: be open to new or differing ideas and embrace discomfort; (ii) confidentiality: learnings can leave, but specific stories stay behind; (iii) balance: to share the space and the floor, speak for yourself and not for, or about others; and (iv) respect: refrain from language that insults, excludes, or dismisses others.

Subsequent breakout sessions contained the following discussion scenarios.

#### Scenario 1

You are with a group of peers in the health sciences when the conversation turns to the coronavirus disease 2019 (COVID-19) vaccine rollout. You collectively lament that some neighborhoods with high incidences of infection have lower rates of COVID-19 vaccination. A colleague says earnestly of a neighborhood of high BIPOC residents and low vaccination rates, 'It's a real shame that there's so much vaccine hesitancy in that neighborhood. If they could get over their fear of the vaccine, trust the science, and comply with public health orders, they'd be in much better shape'.

#### Scenario 2

You are standing in the line for coffee when you overhear grad students behind you talking about social determinants of health. One states confidently, 'Look, I don't make the rules, it's just a fact that Black people are more prone to having diabetes, low lung capacity, and sickle cell anemia, and have a higher pain tolerance than

average...indigenous people, too. There's nothing good or bad about it, we are all just built differently'.

### Scenario 3

You are a racialized person and the only international student your white professor has taken on. In the last 6 months of your degree, your fellowship is nearing its termination date before you will finish writing and defending your thesis. Your professor refuses to help fund the final months of your research reminding you that she does not play favorites with funding: 'everyone else manages to secure funding for their research. If I give you what you are asking for, it will be unfair. As a woman in STEM, I managed to get this far on my own and I want to empower you to do the same. I believe in you'.

### Scenario 4

A Chinese community group approaches your team for health outcome data for ethnically Chinese people in the province. There is no race-based data on the participants, but the group is insistent that the information is vital to their community programs. You decide to use last names as a proxy to assign race and mine your data for the 100 most common Chinese family names and create your report based on your findings.

The facilitation team led the larger group to identify the systemic and interpersonal racism in each scenario and offered concrete actions that participants might take to challenge incidents of racism. For example, with Scenario 1, a resounding message was that casual statements frequently underlie and perpetuate subconscious racism; here, there was an assumption that specific ethnic groups fail to comply with public orders. It was important to reflect on how vaccine hesitancy could be rooted in many causes, including social determinants of health (e.g., geographical accessibility), convenience and constraints (affordability to

take time off work or easy access to vaccines), and psychological barriers (health literacy and trust in the health system). This simple scenario served to highlight how beneath a casual comment about vaccine hesitancy, racially or ethnically based stereotypic assumptions might lie. The larger group then engaged in a discussion on how to deal with such a scenario, concluding that this might be used as an opportunity to educate individuals and facilitate change, rather than alienate others and further entrench such thinking.

### Feedback about the EDI session

Verbal feedback during the conference was overwhelming and this particular session, which was well-attended, became the principal topic of discussion during casual social hours, a remarkable feat for a narrowly focused scientific conference. We attribute much of the success and interest in the EDI session to the fact that it was showcased during the first day of the conference and without competing sessions. We posit that this is an example to follow.

With the goal of broadly determining the impact of the EDI session and developing actionable 'projects' to implement prior to the next annual meeting, it was documented that 46 out of 67 (70%) participants responded to the survey and attended the EDI session, 71% admitted that the EDI session had a positive impact on them. Most participants acknowledged that they were most moved by the shocking summarized data (stats) used to support the narratives of the presenters, likely reflecting the inherent data-driven appreciation of this scientific audience.

Overall, we argue that the EDI session at this meeting had a profound impact on participants, enabling in-depth conversations that might potentially lead to significant structural and behavioral changes,

actions, and accountability in EDI matters. We thus recommend this approach, as it can inform and benefit academic researchers across different scientific societies.

### Concluding remarks

As a scientific organization, the CSI has decided that it will provide leadership in further addressing EDI more broadly as an opportunity to facilitate societal change [11,12]. We hope that our own experiences can provide a roadmap for others to engage in action-oriented conversations to render academia more equitable, diverse, and inclusive. We conclude that showcasing an EDI workshop on the first day of a scientific conference is eye-opening and generates a sense of volunteerism that catalyzes cohesion among junior and senior members. We offer this as a structure to be adopted by other scientific societies and argue that with invaluable impact, it can generate more excitement than many other 'traditional' plenary opening sessions.

### Acknowledgments

We thank Dr Kamala Patel, ex-president of the CSI, for her commitment to inclusivity in an action-driven manner, Dr Kelly McNagny for insightful advice and edits to this manuscript, and the Ad-hoc EDI CSI committee (Drs Ninan Abraham, Mike Gold, Lisa Willis, Kelly McNagny, Craig Jenne, and Ms Chisom Okwor) for support and advice during the planning of the EDI session. We thank Dr Abraham and the CSI local organizing committee, Drs Lisa Reynolds and Julian Lam, for incorporation of the EDI Symposium at the beginning of the conference and the postconference survey. Finally, thanks to the outstanding facilitators: Elise Barber, Halimah Beaulieu, Lilly Callender, I-Chant Chiang, Jessica Heafey, Heather Kelley, Victoria Lam, Jocelyn Macdougall, Rosie Mensah, Ahalya Satkunratnam, Mai Yasué, Maxine Yeo, Tareq Yousef. A.I. is an Investigator of the Howard Hughes Medical Institute.

### Declaration of interests

No interests are declared.

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<https://doi.org/10.1016/j.it.2022.01.001>

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