

So, you want to host an inclusive and accessible conference?

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In 2017 at the Gender Summit in Montreal, Québec, Chief Science Advisor of Canada, Dr. Mona Nemer, stated the importance of promoting diversity in Science, Technology, Engineering, and Mathematics (STEM). She emphasized that “increasing the number and impact of women and other members of underrepresented groups in STEM requires the concerted efforts of our entire society—including governments, scientific organizations, research granting agencies, and educational institutions” (Nemer 2017). The following year, the Tri-Council (Natural Sciences and Engineering Research Council, Canadian Institutes of Health Research, and Social Sciences and Humanities Research Council) created an Equity, Diversity and Inclusion (EDI) Action Plan, with one of its key objectives being the development of initiatives to foster inclusive participation in the research system (Canada Research Coordinating Committee 2018). The aim of these initiatives is to increase participation of the four designated groups—women, persons with disabilities, members of visible minorities or racialized groups, and Indigenous Peoples—and members of the LGBTQ2+ communities as mandated by the Tri-Council (Government of Canada 2019).

Professional networking has been well established as a channel for career advancement and professional development (Fang et al. 2015; Gino et al. 2020). In academia, conferences are a vital mechanism for networking and industry collaboration (Chen et al. 2019). A recent article in *Nature* (Gewin 2019) highlighted how the traditional scientific conference has changed over the last 150 years towards a culture of increased inclusion and heightened attention to welcoming diverse attendees.

As scientific organizations continue to recognize the importance of implementing strategy to create inclusive conferences, various researchers and organizations continue to substantiate the need for inclusion, some of them by providing generalized useful tips to create inclusive conferences (Martin 2014; Bagues et al. 2017; Bouvy and Mujoomdar 2019), but there continues to be a gap in available resources for Canadian scientific organizations who are seeking guidance in how to plan and run an inclusive conference within a Canadian context. We provide this Editorial, which is not intended to be a cardinal or comprehensive set of recommendations, but rather, a set of guiding principles and suggestions. Information, regulations, and expectations are dynamic and developing over time. There are also disciplinary cultures and geographical considerations that may need to be contemplated. It is imperative that conference organizers are intentional about inclusion and attentive to their own communities when planning and delivering conferences. It is also incumbent on members of scientific organizations and conference attendees that they actively create inclusive environments that are welcoming and respectful.

OPEN ACCESS

Citation: Barrows AS, Sukhai MA, and Coe IR. 2021. So, you want to host an inclusive and accessible conference?. FACETS 6: 131–138. doi:[10.1139/facets-2020-0017](https://doi.org/10.1139/facets-2020-0017)

Handling Editor: Jules M. Blais

Received: March 4, 2020

Accepted: October 20, 2020

Published: February 4, 2021

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Published by: Canadian Science Publishing

With the federal agencies in Canada making an effort to advance inclusion in research systems ([Canada Research Coordinating Committee 2018](#)), this would be an opportune moment for Canadian organizations to concurrently develop inclusive practices for their events and conferences.

Herein are some considerations that may help conference organizers to get started with planning an inclusive conference. This is by no means exhaustive, and local institutional offices (such as offices of Equity, Diversity, Inclusion, Anti-Racism, etc.) or service providers are likely to provide excellent and comprehensive resources.

Before the meeting

Consideration 1. Form a diverse organizing committee

Ensuring that the organizing committee is diverse intentionally gives voice to different and unique perspectives and thus fosters inclusive environments. Evidence shows that a direct correlation exists between diverse organizing committees and higher diverse representation in conference speakers ([Casadevall and Handelsman 2014](#); [Martin 2014](#); [Bouvy and Mujoomdar 2019](#)). Having diverse representation in conferences should be fomented as existing research suggests that members from equity-deserving groups are prone to experience less effective social networks, as they are more likely to be excluded from dynamic social networks ([Pedulla and Pager 2019](#)).

Ensuring diverse representation in conferences can bolster the networking opportunities of members of equity-deserving groups. Additionally, research shows that lack of visible female representation in academic seminars can result in decreased question-asking behaviour and participation from women attendees ([Carter et al. 2018](#)).

Organizers should be intentional about ensuring representation of members as defined by the federal government and the Tri-Council: which include, but are not limited to, women, persons with disabilities, Indigenous Peoples, and members of visible minorities ([Government of Canada 2007](#)).

However, it is important that organizers consider members of other equity-deserving groups such as the LGBTQ2S+ community and consider other relevant demographics, such as age, early-career researchers, and trainees. Similarly, invitations for keynote speakers should follow the same principals and ensure that members are invited for their expertise and avoid tokenism.

Organizers should seek advice, ensure representation, and be guided by Indigenous members of the society or the region hosting the conference to ensure opportunities for full participation in the meeting and to ensure appropriate respect for the land where the conference is being held ([Joseph 2018](#)). It is important to acknowledge the land with gratitude, intent, authenticity, and purpose ([The Varsity Editorial Board 2019](#)).

Consideration 2. Define a budget that builds in support for inclusion

Planning and budgeting for the costs associated with inclusion are essential to deliver an inclusive conference. These include, but are not limited to, fees for sign language interpreters, teletypewriter, real-time captioning, real-time translators, Braille transcription, Intervenor services, oral interpreters, note takers, and dietary restrictions ([Council of Ontario Universities 2016](#); [CNIB 2020](#)). In addition, consider that travel and registration costs for conferences are significant barriers, and thus an accessibility issue, for trainees, students, and participants of low income. Similarly, consider childcare needs, which often impact marginalized and equity-deserving groups disproportionately ([Langin 2018](#)), and plan accordingly. Provide quiet and nursing rooms for parents. Recent Canadian conferences have demonstrated good practice in this regard such as The 102nd Canadian

Chemistry Conference ([Canadian Society for Chemistry 2019](#)). It is important to incorporate sessions on equity matter into regular programming, not only as add-ons or separate, optional, noncore events. If keynote speakers or field experts are being invited, particularly in areas that are not core to the conference, such as Equity, Diversity and Inclusion, Anti-Racism, professional development, and science communication, ensure honoraria, travel, and accommodation costs are covered.

Lastly, it is important to take into account accessible procurement principles at all stages of the planning. Expectations for accessible procurement extend to products, services, and vendors ([CNIB 2019a](#)).

Consideration 3. Use inclusive design principles

The best practice is to plan for accessibility in addition to accommodating requests, since this approach protects participants' privacy and creates a normalized inclusive environment. If the organizing committee is not aware or familiar of inclusive design principles, it is encouraged for them to approach experts in this field.

Organizers should publicly share steps that have been taken to ensure accessibility and inclusion ([Trewin et al. 2019](#)). Organizers should also provide mechanisms for additional accommodation requests to be made if needed. Furthermore, conference organizers must invite participants to declare their accommodation requests to ensure these needs are met. Conference organizers should be aware of the various requests for accommodation in advance of the conference and ensure they follow up with the participants who requested these before and at the beginning of the conference ([Lassonde School of Engineering 2013](#)).

Consideration 4. Select accessible spaces

Asking the venues for their level of accessibility can be done by considering issues including, but not limited to, sufficient accessible parking spots; accessible washrooms; all-gender washrooms; working accessible doors; and quiet rooms for faith purposes, meditation, nursing, among others. If any of the event sessions are not on the ground level, the venue should have working elevators with visual and audio signals. Accessible transportation options should be available for participants to get to the conference venues, for example from recommended hotels to conference venues and gathering locations ([Lassonde School of Engineering 2013](#); [Trewin et al. 2019](#)). Even if the venue is accessible, this can always change, particularly, with conferences organized in the winter months in Canada. Having a contingency plan in case issues arise, such as a snowstorm or out of service elevators, accessible doors, or accessible washrooms.

Presentation set-up such as stage and podiums should also be accessible. There may also be attendees who need assistance with visual presentations and (or) hearing. Organizers should provide accessible seating arrangements for persons with mobility devices, interpreters, and (or) hearing systems, and their party. Additional microphones should be available for Question and Answer sessions, and organizers should ensure facilitation of them and promote that they are always used. Additionally, cards can be used as an aid for written questions to be carried to the front may be an accommodation for those who feel uncomfortable speaking in front a group.

Consideration 5. Create a conference code of conduct

Research shows a correlation between incivility and sexist climate in academic conferences and gendered conference dissatisfaction ([Settles and O'Connor 2014](#)). In 2019, leading American scientific societies formed the Societies Consortium on Sexual Harassment in STEMM (Science, Technology, Engineering, Math and Medicine) ([Speiser 2019](#)) aiming to develop strategy to combat sexual harassment and advance professional culture across scientific fields ([American Association for the Advancement of Science 2019](#)).

As harassment should not be tolerated in any conference, it is imperative to create a code of conduct for the event. This should be displayed in the printed program, on the conference's website, and made explicit as a verbal statement at the beginning of the conference. The code of conduct must clearly explain that the conference has a commitment to the safety and inclusion of all attendees and that there is zero tolerance for harassment, sexual harassment, racism, microaggressions, among others (Favaro et al. 2016). Codes of conduct should outline some of the consequences of breaching the code, such as suspension or expulsion from the conference or forced withdrawal from the organization or society delivering the conference. It is also important for the organizing committee to assign expert responders to establish an escalation procedure and enforce the code of conduct (Geek Feminism n.d.). These should be displayed on the conference program, website, and acceptance of this code should be signed at the beginning of the conference.

Consideration 6. Conference communication

Demonstrating familiarity with Canadian inclusive language (British Columbia Public Service n.d.), is a core competency that conference organizers should strive to master. Additionally, inclusive language should be used in all forms of communication, for example in emails, when requesting accommodations, surveys, and presentations, and websites.

It is good practice to use inclusive gender language (Department of Justice 2020) and to respect participants' personal pronouns (University of Wisconsin 2020). Best practice is to provide buttons or stickers with personal pronouns for attendees. Providing pronoun lapel buttons or stickers instead of printing them ahead of time on name badges allows for participants to self-identify at the event. Pronouns can be requested during the conference registration to prepare the number of buttons or stickers ahead of time and organizers should have extras of all of the identified genders, several neopronouns, and some blanks. Organizers should understand the importance of using personal pronouns, model appropriate behaviours, and be prepared to answer questions.

An inclusive conference will typically state the commitment to diversity and inclusion; will welcome applications for posters, talks, panels from a diverse range of attendees; will explicitly state that the meeting aims for diverse panels which strive for gender balance; and will explicitly state what the conference is doing to ensure inclusion of all participants such as the conference code of conduct. The conference website should include the contact information of the designated members of the conference who will be available at all times during the conference for support. Best practice would be to have gender-diverse "point people".

Additionally, all communications should follow the Web Content Accessibility Guidelines (Government of Ontario 2014), and all printed media should follow Clear Print guidelines (CNIB 2018). Furthermore, it should be required that all presenters strive to deliver accessible presentations. As a conference organizer this may include providing recommendations or requirements to make text and important visuals large enough to be read from a distance and the appropriate use of sufficient colour contrast between text and background (Henry and Abou-Zahra 2010). Furthermore, ensure presentations with embedded audio or video are captioned and best practice includes having sign language interpreters or live speech to text transcription (CART—Communication Access Realtime Translation) in every session. An alternative economical option is to add live captioning to all presentation decks. Experts in the field recommend the following:

Otter.ai: This program allows real-time streaming transcripts and searchable notes. It can also be linked to Zoom.

Google Slides: This program allows live captioning for macOS and Windows when using a Chrome browser.

Google Live Transcribe: This application offers live transcription for over 70 languages and dialects and allows for quick change of languages during bilingual conversations. As of 2020, this application is only available on Android.

Microsoft PowerPoint: With PowerPoint for Office 365, you have the option of presenting with real-time automatic captions.

Microsoft PowerPoint Presentation Translator: This tool allows for a presentation to have live captioning and provides attendees with the opportunity to get a live translation of the captioning directly to their smart phones.

If the computer microphone is insufficient for effective and accurate live captioning, it is encouraged to use a good quality omni-directional external microphone.

At the meeting . . .

Before the arrival of attendees, it is important to review that all accessibility requests are in place. Re-examine the accessibility of the venue, paying special attention to issues including, but not limited to, fully operational accessible doors, functioning visual and auditory signs in elevators, sufficient accessible parking spots, accessible and all-gender washrooms with clear signage, quiet rooms that are open and available to attendees, pathways are clear of obstacles (CNIB 2019b), sufficient and stable Wi-Fi connections, accessible seating arrangements, and presence and knowledge of location of First-Aid kits and automated external defibrillators (Trewin et al. 2019). Good practice recommends having identified community members with current First-Aid and CPR training.

Accommodations may be requested at any point throughout the event planning process, even during the conference, and it is important to acknowledge and accommodate these requests. Organizers should be aware of events taking place during the conference, particularly those including alcohol, which tend to be when harassment or bad behaviour occurs. Be sure conference organizers (or designated individuals) know how to handle complaints and deal with potentially confrontational situations. Lastly, at the end of the conference it is important to include questions on inclusion and belonging in the evaluation or feedback form (CNIB 2020).

Canadian scientific societies play a hugely important role in bringing together members of disciplinary and interdisciplinary communities from across this vast country and they are rich and productive venues for meaningful dialogue and relationship building. Making scientific meetings more inclusive, welcoming, safer, and less stressful will enrich that dialogue and deepen those relationships leading to better science across the board.

Note from the authors

We acknowledge that this piece was written prior to the COVID-19 pandemic. We are currently working on a follow-up editorial on inclusive online and socially distanced conferences.

Author contributions

ASB, MAS, and IRC conceived and designed the study. ASB and IRC performed the experiments/collected the data. ASB, MAS, and IRC analyzed and interpreted the data. ASB and IRC contributed resources. ASB, MAS, and IRC drafted or revised the manuscript.

Competing interests

The authors have declared that no competing interests exist.

Data availability statement

All relevant data are within the paper.

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