



# Appendix C: Considerations for Designing Equitable and Effective Scientific Conferences and Meetings

Planning and hosting scientific convenings requires navigating a broad range of options and decisions. To determine the most appropriate format and design, event planners should carefully contemplate the target audience, meeting objectives, technology capabilities, and desired outcomes. This document compiles key insights and questions from the Future of Scientific Conferencing presentations, offering practical guidance for designing meetings. It can be adapted to suit events with varying audiences and goals.

## Diversity, Equity, Inclusion, and Accessibility

### Audience Considerations

- Consider the intended audience and the anticipated speakers for your event.
- Aim to include representation from diverse cultures, regions, identities, and abilities.
- To encourage broader engagement, innovative outputs, and the generation of collaborations, reach beyond disciplinary silos.
- Intentionally create opportunities for individuals of varying career stages (e.g., early-career researchers, mid-career professionals, and senior academics) to participate and learn from each other.

### Global Reach and Access

- Involve a diverse universe of participants in shaping conference policies and practices to ensure a variety of perspectives.
- Broaden access and facilitate attendance through translators, scholarships, open conference materials, and transparent attendance statistics.
- Consider holding virtual events to broaden access, or hosting events in low- and middle-income countries.

### Gender Equity and Representation

- Regularly evaluate conference planning practices to identify and address areas lacking in gender equity.
- Utilize tools to track gender balance among speakers and attendees.
- Reduce gender bias and scientific discipline silos by surveying attendees and algorithmically assigning discussion sessions.

### Disability and Accessibility

- Create a supportive environment for attendees to identify as a person with a disability and to seek accommodations without hesitation.
- Provide a confidential email address for accommodation requests and adopt a proactive approach by asking “How can we include you?” instead of “What do you need?”
- Identify and address potential barriers with practical solutions, such as on-site support and assistive technologies such as noise-canceling headphones or light-filtering glasses.
- While hybrid formats help to provide flexibility for individuals with disabilities and those with caregiving responsibilities, they are not a substitute for improving on-site accessibility.



## Conference Formats and Design

### Virtual Conferences and Meetings

- Recognize that virtual meetings produce lower carbon emissions, broaden accessibility and inclusivity, and reduce travel costs.
- Organize successful online conferences using open-source technology, public access, and structured agendas that approximate the in-person experience.
- Leverage virtual tools to better engage non-native English speakers in English-speaking events, and to better support and engage neurodivergent individuals.
- Mitigate “Zoom fatigue” by planning shorter, more engaging sessions and providing asynchronous components.

### Hybrid Conferences and Meetings

- Assess the financial and logistical impacts of different conference models.
- Depending on the context, consider incorporating at least one face-to-face meeting to enhance performance, especially for complex tasks where decision-making can benefit from direct interaction.
- Consider a hybrid format with multiple hubs to enhance social interactions while reducing energy demand (e.g., air travel).
- Present simultaneous programming across hubs, ensuring live audience participation and interactive global foyers to bridge the gap between virtual and in-person attendees.

### Design Principles

- Apply universal design principles and embed diversity, equity, inclusivity, and accessibility into event design to create an accessible experience for all attendees.
- Anticipate barriers such as technology challenges and differing learning styles.
- Enhance virtual experiences with thoughtful design, utilizing tools such as spatial apps and artificial intelligence for connections, and providing structured guidance for participants.
- Regardless of format, design your meeting for sustainability. Design creatively to maximize engagement and effectiveness while reducing environmental impact.
- Ensure privacy and confidentiality are respected. Offer opt-in/out choices for recordings and data sharing and protect sensitive information with login constraints and session guidelines.

## Conference Objectives

### Matching Modality to Meeting Needs

- Align conference formats and modalities with organizational goals and participant needs while balancing costs and logistics.
- Prioritize key goals when objectives conflict. For example, face-to-face interactions might be chosen to optimize networking, while digital formats may be relied upon for routine information exchange. Alternatively, splitting modalities or opting for a conference series may be an effective approach.



## Networking and Collaboration

- Effective virtual collaboration hinges on thoughtful planning and clear communication and messaging, ensuring that both presenters and attendees can engage meaningfully despite physical distance.
- Maximize the effectiveness of collaboration and connection through strategic team formation, polling, and small group discussions.
- Establish social norms for technology use to facilitate interactions.
- Use pre-conference surveys to boost engagement.
- Use spatial apps and artificial intelligence (AI) to encourage mingling and connections.
- Provide participant guides and structured facilitation to navigate interactions.

## Idea Generation and Diffusion

- Leverage in-person conferences and live interactions as a way to stimulate scientific advancement and maximize idea diffusion.
- Use anonymized brainstorming methods to reduce bias and improve idea quality.
- Implement Smart Meeting Assistants and machine-learning algorithms for better idea generation and equity in discussions.
- Implement participant mapping, akin to Spotify's preference mapping, to spark deeper conversations.
- Foster discussions with communication models designed to support critical thinking.
- Integrate co-modeling activities and AI simulations to inspire innovative thought.

## Environmental Sustainability

- Recognize the environmental impact of academic travel. Aim to reduce long-distance flights while enhancing online collaboration.
- Acknowledge the perception that frequent academic travel is linked to career advancement. Reward faculty for prioritizing sustainability in career advancement and reduce the emphasis on “busyness” as a measure of success.
- Implement organization-wide initiatives, such as distributing carbon calculators and aligning travel policies with environmental justice discussions, while offering resources for virtual and hybrid experiences.
- Provide tools for intentional travel decisions, such as decision trees and carbon footprint rankings.
- Incorporate sustainability considerations into funding criteria and compensate and recognize academics for time spent on low-carbon alternatives.
- Acknowledge that many researchers are concerned about climate issues and would like to reduce their academic travel, but that structural influences may impede progress.



## Technological Innovations

- Integrate emerging technologies such as virtual reality (VR), mixed reality, and extended reality (XR) to enhance conference experiences and bridge physical and virtual participation.
- Use VR to enhance creativity and learning recall, with added training for users.
- Be mindful of XR limitations but anticipate future improvements in sensory and interaction capabilities.
- Enhance networking and collaboration through immersive, shared 3D spaces.
- Use AI to manage discussions when live facilitators are unavailable and to summarize content in place of notetakers.

## Citing This Document

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