

Going virtual

One of the many consequences of the global COVID-19 pandemic is the need for the scientific community to adapt to the cancellation of conferences and events because of travel restrictions and social-distancing guidelines. We have seen a very swift conversion to online meetings, which have allowed for this established form of science communication to continue and opened new avenues for innovation in the reporting of research and discussion of ideas.

Zoom lab meetings. Virtual thesis defenses. Online lectures. Over the past few months, the research community has become familiar with new ways of conducting the normal business of staying connected and communicating with colleagues, collaborators and students. One of the largest changes is the transition of scientific conferences to online proceedings, as we are all adjusting to this new reality.

There are several advantages to organizing a virtual rather than an in-person conference. An online event is unconstrained by physical space, so more individuals can participate. Those who are unable to easily travel because of health or mobility issues, or who have familial or caregiving obligations that make taking long trips difficult, can be included. A virtual conference reduces the financial burden for attendees in terms of not only conference fees but also corollary travel, lodging and food costs. This cost reduction is especially meaningful for participants not coming from well-established, well-funded laboratories or institutes. It also removes complications stemming from visa applications and renders participation more equitable across countries. Importantly, less travel is also better for the environment, by decreasing carbon footprints. Because of the large number of scientific meetings across all disciplines, going virtual could have a major effect if this practice were sustained on a long-term basis.

Of course, it is difficult to fully recapitulate the experience of an in-person meeting in an online format, and there are disadvantages to virtual conferences. The

inability to have the same spontaneous interactions that happen at coffee breaks or during dinner is certainly a downside, and those opportunities are not easy to recreate in a virtual space (although some platforms can be used as substitutes, such as small chat rooms, it is hard to argue that these provide the same experience as being at a meeting). Forging personal connections is one of the main motivations for attending conferences, so facilitating interactions among participants should be a primary goal for meeting organizers, and this must be carefully considered when planning events online. In addition, although eliminating the need to travel can expand the number of attendees, the realities of geographic location and global time zones substantially constrain real-time interactions. The pool of potential speakers is more restricted if meeting programs must be in sync with participant schedules, and people in some time zones may be unable to attend sessions that take place in the middle of the night where they are. Talks can be prerecorded or recorded and watched later, but doing so makes the experience even more remote and isolated, and less interactive (in addition, the recording and distribution of talks can come with security and privacy concerns, particularly if speakers are being encouraged to share unpublished data). Finally, remaining focused and engaged can be challenging at a virtual conference, because the distractions of normal work and life can more easily interrupt people who are not physically at a meeting venue.

Figuring out the optimal ways to run a poster session, to incorporate social media,

and to implement systems for submitting, fielding and answering questions presents opportunities for creativity and improvement in the virtual space. We can take this time now to experiment with different formats and can be open to the possibility of permanently changing how we conduct scientific meetings.

What should events in the future look like? Ideally, we could combine the best of both models and keep what is good about in-person meetings while exploring alternative online options that maximize opportunities for facilitating interactions, forging connections and exchanging ideas. Embracing the flexibility of virtual formats could lead to more satisfying and productive conference experiences for participants, notably trainees.

Meeting with colleagues face to face will always have value, so we should not abandon this entirely, but perhaps we should rethink what we can do to hold more inclusive events, such as alternating between having virtual and in-person events; having smaller and more locally concentrated satellite meetings, potentially coordinated across sites; or organizing hybrid meetings with live and online components. Altogether, we should take the lessons learned under these circumstances that forced the reformatting of events and apply them to the future organization of meetings, with the aims of optimizing inclusivity, opportunity and ease of idea exchange. □

Published online: 5 June 2020
<https://doi.org/10.1038/s41588-020-0654-x>