

News in focus



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The COVID-19 pandemic has forced scientists to share their research at virtual conferences in the past year.

SCIENTISTS WANT VIRTUAL MEETINGS TO STAY AFTER THE COVID PANDEMIC

A *Nature* poll shows that a year of online research conferences has brought big benefits, but blending them with in-person meetings will be a challenge.

By Ariana Remmel

Although researchers are getting ‘Zoom fatigue’ just like everyone else, they’ve learnt to appreciate virtual scientific conferences during the COVID-19 pandemic, according to a poll of more than 900 *Nature* readers. After navigating a year of online research presentations, the majority of survey respondents – 74% – think that scientific meetings should continue to be virtual, or have a virtual component, after

the pandemic ends. Readers cite the ease of attending from anywhere in the world as a major perk, although they admit that virtual events haven’t been able to simulate the networking with colleagues they enjoyed in person.

“I do appreciate the realm of possibilities offered by online conferences,” wrote one respondent. “However, I really miss the opportunity to meet people and to interact with friends and colleagues.”

It’s been a year since the highly publicized

first cancellation of a scientific conference as a result of the pandemic. The American Physical Society (APS) called off its March meeting just days before the conference was set to begin in Denver, Colorado, on 2 March 2020, kicking off a chain of similar cancellations – and ushering in a ‘new normal’ for researchers.

Now, having met the challenge of switching to virtual, conference organizers will have to consider logistically and financially how to blend the best of both worlds by incorporating virtual elements when in-person meetings resume.

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Many researchers say that, in the past year, they have been able to attend more meetings than ever before because of online portals. Of the readers who responded to *Nature's* poll, 75% had attended multiple virtual meetings since last March, and another 18% had attended at least one.

Samantha Lawler, an astronomer at the University of Regina in Canada, tells *Nature* that virtual platforms allowed her to attend meetings without compromising her teaching workload or her responsibilities as the parent of small children.

And Joan Larrahondo, a civil engineer at the Pontifical Xavierian University in Bogotá, has been excited to attend conferences that were previously impossible to join in person because of travel costs and logistics. He has also been invited to present his research at more meetings than before.

Next to accessibility, poll respondents said that the lower carbon footprint offered by virtual meetings is the greatest benefit. Case in point: according to one estimate, the 2019 Fall Meeting of the American Geophysical Union (AGU) – which brought more than 25,000 attendees to San Francisco, California – produced the equivalent of 80,000 tonnes of carbon dioxide owing to participant travel alone.

“It used to just be a struggle to get conference organizers to even acknowledge the possibility of having a virtual conference,” says Lorraine Whitmarsh, an environmental psychologist at the University of Bath, UK. Now she’s optimistic that scientists will rethink conference models that require participants to “jet around the world” multiple times per year.

More than any other career group, students have enjoyed virtual meetings because the costs are lower, according to *Nature's* survey. Twenty-seven per cent of student respondents cited financial savings as a top benefit, compared with about 17% of respondents further along in their careers. Virtual events require no travel, which can be expensive, and often have lower registration fees. For example, the annual meeting of the Society for the Study of Evolution (SSE), which is jointly organized with two other small societies, has lowered its student registration fee from more than US\$300 for an in-person event to as low as \$10 for the upcoming 2021 virtual meeting.

Imperfect simulation

Despite the benefits of virtual events, they do have drawbacks, researchers say, including screen-time fatigue and time-zone scheduling conflicts. Overwhelmingly, however, researchers agree that the biggest drawback is a lack of networking opportunities (see ‘Virtual reality’).

“The notion that you go to conferences just to get the latest scientific insights is completely outdated,” says Teun Bousema, an infectious-disease epidemiologist at Radboud

University Medical Center in the Netherlands.

Lawler says that the loss of impromptu interactions at online events makes it harder to connect graduate students with other members of her network who might one day serve as mentors or collaborators.

Conference organizers are trying to find workarounds, including formal mentorship programmes that pair early-career scientists with established ones, and virtual ‘lobbies’ on conference platforms where attendees can meet and greet between presentations. But it’s not enough, according to many respondents, including one who told *Nature* that “virtual platforms suck the soul from true science collaboration”.

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Still, many respondents told *Nature* that virtual networking hasn’t been all bad. Hawley Helmbrecht, a PhD student in chemical engineering at the University of Washington in Seattle, says early-career scientists and introverts might find it less intimidating to ask questions and reach out to new people – including prominent scientists – during virtual sessions than during in-person meetings.

Scientists with disabilities also caution

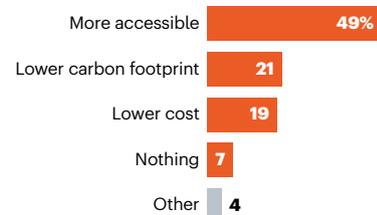
VIRTUAL REALITY

Nature polled its readers about their experiences with a year of attending scientific meetings online.

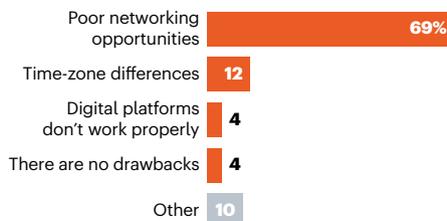
Do you think conferences should continue to be virtual or have a virtual component to them after the pandemic?



What do you appreciate most about virtual conferences?



What is the biggest drawback of virtual conferences?



Data are based on 925 poll responses. *Nature* solicited poll responses on its website, through the Nature Briefing, an e-mail newsletter, and on social media. Respondents are not necessarily representative of the entire scientific community. Numbers might not add to 100 because of rounding.

that the benefits of virtual conferences are not black and white. “I have some disabilities that make it way easier to attend from home,” one survey respondent wrote, “but I still miss out on the networking and have issues with tech not working well.”

An uncertain future

Conference organizers are still working to provide a better virtual experience for scientists, a year after moving online. “It’s like flying an airplane while you’re building it,” says Hunter Clemens, director of meetings at the APS.

But they’re also grappling with an uncertain future – and financial strife. Some scientific societies don’t profit from their in-person conferences and instead organize them on a break-even basis. Others, however, do derive some revenue from the events. Venue cancellations, in particular, have created financial burdens for societies as they’ve simultaneously been navigating the logistics of a new virtual world.

Evolutionary biologist Mitch Cruzan at Portland State University in Oregon has been helping to plan the 2021 virtual conference hosted by the SSE; the meeting generally attracts around 1,800 attendees in person. He is worried about the future of his society’s small conference. Before the pandemic struck, Cruzan’s planning team had booked venues for its annual meetings four years in advance. Now the organizers are trying to renegotiate venue contracts and reschedule conferences as far out as 2026 to avoid cancellation fees on the order of \$100,000. “This experience has demonstrated to us that we’re more vulnerable financially than we had thought,” says Cruzan.

The novelty of virtual conferences has worn off in the past year, but they are likely to be here to stay, even as in-person events return, says Pamela Ballinger, senior director of meetings and exhibits at the American Association for Cancer Research (AACR). The AACR Annual Meeting, which usually draws 22,000 attendees in person, will probably be hybrid in 2022. But paying for in-person conference venues as well as a virtual platform is likely to be prohibitive for the society’s smaller, specialty conferences, she says.

Still, Larrahondo and others hope that meeting organizers will continue to prioritize the increased accessibility that comes with virtual platforms. Holding future meetings exclusively in person could further disadvantage researchers from countries with low rates of vaccination against COVID-19. Not only would these researchers be vulnerable to infection if they chose to travel without previous immunization, but some might even face travel restrictions without documentation showing that they had received a shot. “It will be sad if we just came straight back to the old way of doing things,” he says.