

Symposia and webinars 

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This past January I attended a virtual symposium hosted by the Rice Center for Quantum Materials (RCQM). The topic was iron-based superconductivity, whose discovery in 2008 ignited an explosion of experimental and theoretical activity (see *PHYSICS TODAY*, May 2008, page 11). The symposium focused on four hot research areas: electron correlations and orbital selectivity, quantum criticality, nematicity, and electronic topology.

The 17 invited experts gave their talks by sharing PowerPoint slides from their laptops or desktops via Zoom. If the symposium had been held at Rice University in real life, the talks would have been pretty much the same. Indeed, my first impression of the virtual symposium was how similar it was to the live ones I attended in the Before Times.

But scrutinizing the agenda revealed some positive differences. The speakers came from seven different countries: Canada, China, Germany, Japan, the Netherlands, the UK, and the US. Such an intercontinental cast is not unusual for a big, week-long conference, such as the March meeting of the American Physical Society. For a three-day symposium without a deep-pocketed benefactor, it's rare. What's more, the four speakers who are based in China (and any attendees who are based in a country that does not fall under the US's Visa Waiver Program) were spared the time-consuming, costly, and uncertain chore of applying for a US visa in person at a US consulate or embassy.

Another positive difference had to do with the scheduling. RCQM divided the symposium into two daily sessions: a morning one from 10:00am to 11:30am US CST (convenient for most people in Europe and the Americas) and a night one from 8:30pm to 10:00pm (convenient for most people in South and East Asia). If all the attendees were in person, the wide gap between sessions would be unnecessary. But in a likely future of hybrid meeting, such a gap is thoughtfully accommodating.

Some of the properties of the RCQM symposium are shared by *PHYSICS TODAY*'s webinar series, which launched in August 2019 with "Vacuum Chamber Modeling for Accelerators" from science software company COMSOL. The first webinars aimed to help companies tell potential customers about their products. Then, in December 2020, nine months into the COVID-19 pandemic, *PHYSICS TODAY*'s director of sales and marketing, Christina Unger Ramos, came up with the idea to host an additional type of webinars: webinars by physicists for physicists.

The first editorial webinar aired this



past February. The speaker, Marc Miskin of the University of Pennsylvania, expounded the micron-scale robots that he and his team make. If the topic sounds familiar, it is. Miskin wrote a Quick Study for *PHYSICS TODAY*'s December 2020 issue. In the 40 minutes of his presentation, he could show far more graphic content—figures, movies, animations—than he could in his original two printed pages. Of the 715 people who registered, 324 watched it live.

My role in the webinars is to introduce the speaker, run through some housekeeping instructions, and moderate the questions that attendees submit in writing via the webinar platform, which is provided by ON24, a San Francisco-based webcasting and virtual-event company.

The questions I field are consistently interesting. Northeastern University's Gregory Fiete gave a webinar on 1 July on the physics and applications of rare-earth elements. Attendees asked technical questions about oxidation states and chemical analogs; they also asked about recycling old devices that contain rare earths and about the prospects for extracting rare earths from the seafloor.

What are the implications of the success of RCQM's symposium and *PHYSICS TODAY*'s webinars for the future of meetings? When I ask physicists about what they miss about in-person conferences, they always mention seeing their colleagues. Until I set out to write this editorial, I didn't realize the literal import of their answers. It wasn't necessarily the sessions, plenary talks, posters, and so on they missed. Rather, they wanted to talk physics again in person.

Thanks to virtual technologies, one aspect of traditional conferences—the transmission of results through talks at sessions—could readily go online. And if it does, there's no reason for physicists to convene at big downtown conference centers. What might happen is a return to the modus vivendi that Alexei Kojevnikov describes in his recent book, *The Copenhagen Network: The Birth of Quantum Mechanics from a Postdoctoral Perspective* (2020). In Europe in the 1920s and '30s, physicists visited each other's institutions. **PT**

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