

Juggling dual-country careers

"I spend all of my time contributing to research at every location. On any given day, I work for all of them. It doesn't matter if I am on a plane, a train, or wherever," says physicist Séamus Davis, whose home and family are in Ithaca, New York, where he is a professor at Cornell University. He juggles that post with two others: He is also director of the US Department of Energy's Center for Emergent Superconductivity at Brookhaven National Laboratory and a faculty member at the University of St. Andrews in the UK.

"The tools to do investigations are expensive, difficult to use, and sited at different locations," says Davis. "The vast majority of condensed-matter physicists go to x-ray light sources, high magnetic field labs, and so on. They visit collaborators, go to conferences. Everyone I know spends a large amount of time in airplanes."

Still, holding down appointments in more than one country presents its own challenges—and rewards. Videoconferencing and other innovations that keep people connected make it much easier now than it was even a decade ago. In Davis's case, having multiple appointments grew from collaborations he had with a colleague at St. Andrews. He accepted an official post there in 2007, but he doesn't think about how he splits his time among his jobs. "Physical location at a particular time? It's irrelevant to the functioning of the research programs," he says. "I don't work in three different places. I work for three different institutions."

PHYSICS TODAY conducted interviews with physicists who have built careers that straddle countries. Some arrange their time in big blocks to minimize travel and make it easier to adhere to a teaching schedule. Others go back and forth often: Last year, for example, Hitoshi Murayama (see photo below) logged more than 300 000 flight miles. "That's beyond the Moon. It's crazy," he says. Murayama is a particle physicist at the University of California (UC), Berkeley, who also serves as founding director of the Kavli Institute for the Physics and Mathematics of the Universe at the University of Tokyo. He ends up working multiple shifts to maintain daily contact with people in different time zones. "You work harder and sleep less," he says.

Most of the country hoppers are motivated by scientific opportunity, although personal priorities can also be a factor. They



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all say they benefit from being part of different research systems, gaining access to a better mix of experimental facilities, and expanding their pool of colleagues and possible funding sources.

"It's a complicated life," Murayama says. But with projects in particle physics so big and expensive that they tend to be international collaborations, he says, "the community actually needs more people in this sort of liaison role—people who have knowledge of different systems and different parts of the world."

As far as money, the scientists interviewed for this story said they did not benefit financially by working in multiple countries. In some cases, university agreements limit income. And there are tax complications, additional rents and mortgages, travel, and other extra expenses. "It also impacts retirement arrangements," notes Davis. Overall, says Murayama, "It's probably a wash."

The drawbacks are largely personal. The travel is physically taxing, and moving around so much puts strain on one's social and family life. To make it work, Davis says, "You have to have a wonderful spouse."

Interviews with a half-dozen physicists who are pursuing cross-continental careers can be read on PHYSICS TODAY's website at http://www.physicstoday.org/daily_edition/singularities. Featured there are Murayama; biophysicist Katherine Brown (shown above skyping with her four-year-old daughter), who

commutes between the University of Cambridge in the UK and the University of Texas at Austin; Reinhard Genzel, an astrophysicist based in Germany who spends a few months each year at UC Berkeley; Morten Hjorth-Jensen, a theoretical nuclear physicist in Norway who recently started spending half the year at Michigan State University; Lidia Smentek, a theorist whose travels between Poland and Vanderbilt University in Tennessee mostly took place before modern technology made it easy to stay in touch with family and colleagues; and Mukhles Sowwan, an experimentalist at Al-Quds University in East Jerusalem who jumped at the chance to establish the Nanoparticles by Design unit at the nascent Okinawa Institute of Science and Technology in Japan.

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