

Sample of Science cofounder Olivier Acher, director of innovation at optics manufacturer Horiba Jobin Yvon near Paris. "But I [have] found it not very convenient to agree over a cup of coffee. Each scientist thinks he understands the other, but there are many details that cannot be handled in this frame."

With the new website, scientists can post descriptions of their samples. When other scientists want to explore the use of a given sample, the parties discuss privately the terms under which they collaborate. Money comes into the equation only when a sample is actually transferred: Then, the sample adopter pays a €400 (\$527) fee to have the sample description published in the open access *Sample of Science Bulletin*, the company's sole source of revenue. Publications in the bulletin become citable references.

"Many times people have brilliant techniques, and they are often looking for samples that are interesting and suitable for their techniques," says Matthias Kellermeier, a physical chemist at the University of Konstanz and a volunteer editor who vets submissions to the Sample of Science website. Often, he says, people involved in synthesizing and characterizing materials are "not di-



Sample of Science, a website that fosters collaborations, was the brainchild of Olivier Acher (left), shown here with colleagues Xiao Zhang (center) and Romain Melet (right).

rectly linked in a common field. Sample of Science can connect people who belong to different communities."

To start with, postings on Sample of Science will be divided into six materials-sciences categories: graphene, low-dimensional nanostructures, magnetic materials, sol-gel and hybrid materials, fluorescent nanocrystals and quantum dots, and metal-organic frameworks. Other categories will be created as needed, says cofounder and chief editor Romain Melet.

He recounts his own experience as a physics PhD student in France: "I was looking for a sample made of quantum

dots in a specific geometry," he says. Eventually, through conversations with scientists in Japan, his adviser found a sample and forged a collaboration. But, says Melet, it took more than two years and happened "almost by chance. It revealed to me how important samples are for the development of science."

Horiba has provided startup funding for Sample of Science. But, says Acher, "We want to be self-sufficient and independent in the medium-term—in less than five years." Profits are not the main aim, he insists. "My aim and Romain's aim is to make something that is as important for scientists as open-access publishing. This is my personal dream."

Toni Feder

Competitors meet in Copenhagen for Physics Olympiad

Hungary's Attila Szabó was the top scorer for the second year running at the International Physics Olympiad (IPHO). This year's competition was held 7–15 July in Copenhagen; some 380 high schoolers from 82 countries participated.

Advancing Electronics

Explore transport properties of new materials that open up possibilities for future development in fields like: semiconductors, organic electronics, solar energy, and spintronic materials.

Materials Characterization Systems

New materials have been the driving force behind every major breakthrough in the last century. Lake Shore provides the systems you need to pursue the next one.

- Cryogenic probe stations
- Magnetometer systems
- Hall effect systems
- THz characterization systems

Lake Shore
ADVANCING SCIENCE™
614.891.2243 | www.lakeshore.com



High school students from around the world tackle theoretical problems at this year's Physics Olympiad.

The teams from China and South Korea each took home five gold medals. Russia and Singapore each scored four golds and a silver, and the teams from the US, Thailand, and Taiwan won three golds and two silvers each.

On the US team, Calvin Huang and Jeffrey Yan of Palo Alto, California, and Kevin Zhou of Marlboro, New Jersey, earned gold medals; Huang placed first in the experimental part of the competition. Jeffrey Cai of Basking Ridge, New Jersey, and Samuel Zbarsky of Rockville, Maryland, earned silvers. This was the 12th straight competition for which every US competitor won a medal. The US team traveled with coaches Paul Stanley, a physics professor at Beloit College in Wisconsin, and 2009 IPHO gold medalist Marianna Mao, who just graduated in math and physics from Harvard University. The US team is sponsored by the American Association of Physics Teachers, the American Institute of Physics and its member societies, and the University of Maryland's physics department and Joint Quantum Institute.

For the experimental part of the competition, the students used a laser range finder to measure the index of refraction of water and of a fiber-optic cable. They also made measurements on the efficiency of solar cells.

In one of the three theoretical questions, students modeled the effects of melting glaciers. Those who got it right came up with the surprising result that sea level around Copenhagen would drop if all the glaciers in Greenland melted. In another question, students estimated the efficiency of using solar-

powered silver nanoparticles to boil water. The third question involved deducing properties of a small meteor that landed in Denmark in 2009: Using images from surveillance cameras and other data, the students had to figure out how fast the meteor was moving, how old it was, and where it came from, among other things.

When they weren't busy with exams,

students had time for fun and sight-seeing. Among the highlights during the eight-day event were a pancake breakfast at Copenhagen's mayoral office, concerts and amusement rides at Tivoli Gardens, various Viking exhibits, and a stroll through the autonomous neighborhood of Christiania.

Next year's Olympiad will be held in Kazakhstan. **Toni Feder**

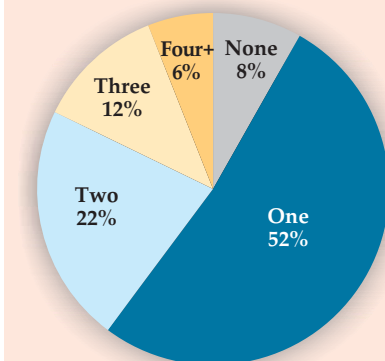
news notes

Physics at two-year colleges. Some 26% of college students taking physics courses in the US did so at two-year institutions in 2011–12, up from 20% 14 years earlier. And in 2011–12, 3300 faculty taught physics at 1063 two-year campuses. These are among the findings in *Physics Enrollments in Two-Year Colleges* and *Number of Physics Faculty in Two-Year Colleges*, a pair of recent reports by the Statistical Research Center of the American Institute of Physics.

An estimated 215 000 students took a physics or physical sciences class at a two-year college in 2011–12, up from 120 000 in 1995–96; that amounts to annual growth of 3.7% and matches the overall expanding enrollment at two-year colleges.

Among the two-year colleges that offer physics courses, 60% have one or no full-time physics faculty members, and 6% have four or more (see pie chart). The physics faculty are split roughly equally between full-time and part-time positions. About 45% of faculty at two-

Percentage of US two-year colleges by number of full-time physics faculty



year campuses teach nonphysics courses in addition to physics. About 71% of campuses that offer physics also offer astronomy.

For more details about enrollment and teaching at two-year colleges, visit <http://www.aip.org/statistics/trends/undergradtrends.html>. **TF ■**

Recently on physics today online...

► Bookends

In the range of his intellectual interests and literary accomplishments, physicist Freeman Dyson resembles philosopher Ralph Waldo Emerson, argues Dyson biographer Phillipp Schewe.



◀ Singularities

PHYSICS TODAY's Toni Feder interviews David Asner, who heads the diverse and expanding high-energy physics program at the US Department of Energy's Pacific Northwest National Laboratory.

► Dayside

In his blog, PHYSICS TODAY's online editor Charles Day writes about a prescient 1977 article about the future impact of computers on science, the egalitarian ethos that pervaded two successful research institutions, and the use of network analysis to elucidate patterns of cooperation in Europe.



www.physicstoday.org