



JONATHAN DORFAN

As director, Dorfan will also oversee the upgrade of the lab's SPEAR 3 synchrotron, as well as fledgling plans for an international consortium to build a 35 km long linear collider (ten times longer than the Stanford Linear Collider). This "next linear collider" would collide electrons and positrons at energies comparable to those of the quark collisions planned for CERN's Large Hadron Collider.

For his part, outgoing lab head Richter says, "I will go happily out of the director's office on 31 August." Richter wants to keep a hand in both science and science policy, and says that he plans to lobby the government to increase funding for science, especially for long-term research. For the country, as for a lab director, says Richter, "one of the most important things is not to let urgent things get in the way of important things."

TONI FEDER

Isolation Hampers Physics Teaching at Two-Year Colleges

Physics faculty at two-year colleges tend to be happy with their work and enjoy career stability, but they also experience "a widespread sense of separation from and lack of acceptance by the broader academic physics community," according to a recent report on physics education at US two-year colleges. Conducted by the American Institute of Physics and funded by the National Science Foundation, the report is based on a survey of the approximately 1000 two-year campuses (out of a total of 1800) where physics is taught, and it offers the first comprehensive picture of who teaches, and who takes, physics at those institutions.

About 2700 full- and part-time physics instructors are employed by two-year colleges (also known as community or junior colleges), and a majority of campuses have only one full-time physics instructor. Being the sole physics instructor means "you have nobody to talk to about physics or physics teaching," notes Tony Zito, a physicist at Dutchess Community College in Poughkeepsie, New York. "And there's nobody to back you up on what equipment or technical support you may need." It can also lead to a too-heavy teaching load. Even so, nearly

three-quarters of the full-time faculty reported that they would "still choose to go into two-year college teaching."

During the 1996-97 academic year, about 120 000 students took physics at a two-year school. Many of those students eventually transfer to four-year schools, and yet, notes AIP's Michael

New Physics Fellowship Honors Free Speech Activist Mario Savio

Mario Savio earned his place in history back in 1964, when, as an undergraduate at the University of California, Berkeley, he helped form the Free Speech Movement, to protest the administration's ban on political activities on campus. Over the course of several months, the movement staged rallies and sit-ins, and Savio emerged as a charismatic leader whose impassioned speeches, whether delivered from atop a police car or on the steps of Berkeley's Sproul Plaza, gave voice to students' outrage and inspired them to act. The Free Speech Movement became a model for the Vietnam War protests that followed. And Savio, who was suspended by the university and sentenced to prison for his activities, became a national symbol of the Sixties protest movement.

For readers of a certain generation, that piece of history is familiar. What is perhaps less well known about Savio, who died two years ago of heart failure at the age of 53, was his deep love of physics, which he pursued at San Francisco State University during the 1980s. Now, the SFSU physics and astronomy department has established a student fellowship in Savio's honor. Intended for undergraduates and graduate students who, like Savio, are returning to their studies "at an advanced age"—over 30, that is—"and after a significant break," the one-year, \$15 000 fellowship is one of the largest offered by the school.

Savio's interest in physics was a longstanding one, says SFSU's Oliver Johns, who helped establish the new fellowship. As a high school student in New York City, Savio had been a Westinghouse Science Talent Search finalist, for a project on the propagation of sound in seawater, and he studied physics at Manhattan College and Queens College before transferring to Berkeley as a philosophy major. "I think that Mario returned to physics . . . partly because he was haunted by a sense of undeveloped potential," says Johns. "But he had a deep philosophical interest in physics as well."

Savio was "so talented, so severely honest, so penetrating in his investigations," recalls Johns. "He could have been a research physicist of the very first rank." But, after earning his BS (graduating *summa cum laude*) in 1984 and MS in 1989, Savio decided that his health was too fragile to pursue a PhD.

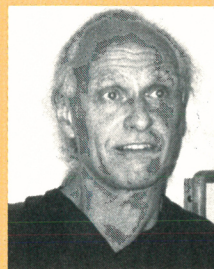
Instead, he took a teaching job at Sonoma State University. The school's director of graduate studies, Elaine Sundberg, was Savio's supervisor and soon became a close friend. "Mario was one of my heroes when I was in high school," Sundberg recalls. "And then, in 1990, he walked into my office, looking for a job. I was amazed." In addition to teaching math and logic, Savio developed seminar courses that combined philosophy, physics and literature.

Return to activism

After the Free Speech Movement was disbanded, Savio, always a reluctant leader, tried to avoid the political limelight. But in the several years before his death, he reemerged as an outspoken critic of California's Propositions 187 (which denies public health and educational services to undocumented immigrants) and 209 (which ended affirmative action in state-supported education, hiring and contracting). One of his last public battles was over a proposed student fee hike at Sonoma State. "It was a very divisive issue on campus," says Sundberg. "Mario felt that the administration was trying to intimidate students and faculty into supporting the fee increase." As a nontenured lecturer, Savio knew he was risking his own job security, Sundberg says. "But he was rarely motivated by self-interest." The fee hike was defeated.

Information about the Savio fellowship is available from the Physics and Astronomy Department, SFSU, 1600 Holloway Avenue, San Francisco, CA 94132; e-mail physics@stars.sfsu.edu.

JEAN KUMAGAI



MARIO SAVIO

ANITA SLY

found, "generally using the same books and covering the same topics." But by merely replicating the four-year college curriculum, two-year schools may actually be discouraging the development of new courses that are more appropriate for their students, the report notes.

Aaron Wenger, a physics professor at Itasca Community College in Grand Rapids, Minnesota, agrees. As he sees it, two-year college teachers need to do more than just overcome professional isolation—they need to work on reducing the "isolation of the physics curriculum from the real world." At his school, physics is taught as part of an integrated engineering lab course, which also incorporates chemistry, computer science, economics and writing. "We no longer teach physics as if we were trying to turn out physics majors," Wenger says.

Reducing isolation

"It's nice to now have in writing what we in the two-year college community knew already," says Mary Beth Monroe, a physics instructor at Southwest Texas Junior College and a leader of the TYC21 project, a national effort to set up a network among physics teachers at two-year colleges. Of particular interest to Monroe is the AIP report's finding that people who belong to professional organizations such as the American Association of Physics Teachers tend to be more innovative in their teaching. The TYC21 project, which AAPT sponsors with funding from the NSF, has sought to reduce the isolation of two-year college faculty by, among other things, holding regional and national meetings and creating e-mail discussion groups. Since the project began in 1995, about one-fifth of all two-year college physics instructors have attended TYC21 meetings.

What's more, many who have become regulars at TYC21 meetings previously had had no contact with their physics peers, says Zito, who serves as one of the project's regional leaders. "Now they're talking about getting new computers and upgrading their labs," he says. "I guess if you're used to going to research meetings to discuss the search for the Higgs boson, that may sound penny-ante. But it's a big step for two-year college teachers."

Single copies of *Physics in the Two-Year Colleges* are available free of charge from AIP, Education and Employment Statistics Division, One Physics Ellipse, College Park, MD 20740; phone 301-209-3076; fax 301-209-0843; e-mail stats@aip.org. Information on the TYC21 program is available on the AAPT Web site, <http://www.aapt.org>. **JEAN KUMAGAI**

Chidester Is Vice President of ACA

Members of the American Crystallographic Association have elected Connie Chidester to be their vice president for 1999. On 1 January, Chidester succeeded Abraham Clearfield of Texas A&M University, who is now the association's president.



CONNIE CHIDESTER

Chidester is a senior research scientist with the pharmaceutical company Pharmacia & Upjohn, where she has worked since 1967. In recent years, she has been researching drugs for the central nervous system, using crystal structure and molecular modeling techniques to construct pharmacophore models for dopamine and serotonin receptors. Chidester holds a BA in physics from Kalamazoo College and an MA in mathematics from Western Michigan University.

Also taking office last month was Louis Delbaere of the University of Saskatchewan, the ACA council's new Canadian representative.

IN BRIEF

For the past 28 of its 104 years, the venerable *Astrophysical Journal* has had Helmut A. Abt, of the Kitt Peak National Observatory, as its editor in chief. Two years ago, Abt announced that he would retire from the journal, but it wasn't until this past fall that *ApJ*'s owner, the American Astronomical Society, selected a successor. He is Robert C. Kennicutt Jr, a professor of astronomy at the University of Arizona's Steward Observatory and a vice president of AAS (see PHYSICS TODAY, June 1998, page 58). Kennicutt will assume the editorship later this year, most likely over the summer.

Johns Hopkins University and Brown University have been awarded \$2.5 million and \$2.3 million, respectively, to be used toward bridging the physical and biological sciences. The grants are from the Burroughs Wellcome Fund, which awards up to \$10 million total every second year to interdisciplinary university science programs. As foundation spokesper-

Web Watch

<http://vulcan.wr.usgs.gov/>

<http://www.dartmouth.edu/~volcano/>

Volcanoes, mainly in the Cascade Range in the Pacific Northwest, are the subject of the US Geological Survey's Cascades Volcano Observatory Web site. The geographical span of Dartmouth College's *The Electronic Volcano* is broader, containing information about all the world's active volcanoes.



<http://www.aip.org/history/heisenberg>

Heisenberg/Uncertainty is an extensive on-line exhibition mounted by the American Institute of Physics' Center for History of Physics. With text by David Cassidy, author of a definitive biography of Werner Heisenberg, the exhibition includes numerous pictures and quotations covering all aspects of Heisenberg's remarkable and controversial career.



<http://www.un.org/Depts/unscom/index.html>

The work, mandate and composition of the United Nations' Special Commission (UNSCOM) on Iraq's weapons of mass destruction are detailed on UNSCOM's Web page, which also includes a gallery of pictures that record the commission's work.



<http://njp.org/>

One of the world's most recently established on-line physics journals, *New Journal of Physics*, has published its first papers. Peer reviewed and free of charge, the NJP is published jointly by the German Physical Society and the UK's Institute of Physics.

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Compiled by **CHARLES DAY**