

tivists who also happen to be famous scientists.”

For Varmus, two themes pervade the political mobilization of scientists. The first concerns “the undermining of a tradition . . . in which the government has sought nonpartisan advice to formulate policies,” Varmus said. “What we’ve applauded through a series of administrations, either Republican or Democratic, including the administration of Mr. Bush’s father, was a process in which scientific advice was sought independent of political leanings.” That isn’t happening in the current administration, he added.

The other theme, Varmus said, “is the support of Mr. Kerry, which is based both on our concern about the way in which science is being dealt with, but more importantly for a lot of us, includes the way in which this government has gone to war in Iraq, and the way in which many social and economic issues are being presented.” In this argument Varmus is going beyond the comfort level of some of his colleagues, who want to keep the discussion focused strictly on science. But for Varmus, “this election is so important for science and for the whole nation that we’ve got to be taking a stand if we have any influence over others. I feel strongly enough that I don’t care what other people think.”

Like Varmus, Kelly cites the role of science policy advice in the administration as a critical problem. “It has declined,” he said. Kelly is also concerned about the funding of science, particularly the administration’s projections for the next few years (see accompanying story on page 32). Kelly’s list goes on and includes the visa problems faced by foreign scientists trying to enter the US and the intrusion of politics into stem-cell research. “Taken together,” he said, “these are things where even the person most determined to stay out of politics is drawn in.”

Of the prominent scientists who have publicly criticized the administration, Kelly said, “for things to get bad enough for them to come out and not only make public statements but be politically active and support a political candidate, I don’t know of any precedent for it. Many of these people are active scientists who are in the middle of their careers, and this is a gutsy thing for these guys to do.”

At the center of the storm is Marburger, who has been defending an administration record that Kelly, Richter, and many others say is indefensible. “I haven’t been particularly impressed by the content of the reply,” Kelly said of Marburger’s

blanket rejection of the UCS charges.

Varmus was sympathetic to what many scientists see as Marburger’s plight. “I think he’s fighting a losing battle,” Varmus said. “He’s the guy with his finger in the dike, and his finger isn’t big enough.”

Richter was both amused and annoyed by charges from Vice President Dick Cheney’s office that of the 48

Nobel laureates who signed the Kerry endorsement letter, 16 had contributed to Democratic candidates at some point in their lives. “I observed that you didn’t have to be a Nobel laureate to figure out that 32 of them didn’t contribute to Democrats,” Richter said, “which didn’t make it sound to me like it was a very partisan group.”

Jim Dawson

Light and Color for Minority Middle Schoolers

Underrepresented middle-school children are the focus of a new optics outreach program. “It’s all about fun and exploration,” says Steve Pompea, manager of science education at the National Optical Astronomy Observatory (NOAO) in Tucson, Arizona. “We don’t even call it optics. We call it light and color.”

Hands-On Optics: Making an Impact With Light (HOO) pairs optics professionals with teachers to work with kids in informal settings such as science centers and after-school programs. The optics professionals will be volunteers culled from the memberships of the Optical Society of America (OSA) and the International Society for Optical Engineering (SPIE). The program’s other partners are NOAO, which is developing HOO’s experiments, and Mathematics, Engineering, Science Achievement (MESA), an organization with a track record of helping and inspiring underrepresented students to perform well in

math and science. In 2000–01, 74% of underrepresented students who received a bachelor’s degree in engineering in California had participated in MESA programs.

“It’s very unique to get two major professional societies working together,” says HOO principal investigator Anthony Johnson, director of the Center for Advanced Studies in Photonics Research at the University of Maryland, Baltimore County. Indeed, several years ago, OSA and SPIE made a controversial and unsuccessful attempt at merging (see *PHYSICS TODAY*, November 1999, page 63).

“We are going to go into those areas where kids don’t have access,” says Johnson. “You’ve been hearing about the 50th anniversary of *Brown v. Board of Education*—the 1954 Supreme Court decision to integrate schools—and just how separate and unequal it still is. I’ve been doing this [kind of outreach] for years, but it’s

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At a test session for Hands-On Optics experiments, sixth graders in Tucson, Arizona, arrange mirrors and lasers to learn about the law of reflection.

great we've been able to set up a more formal structure."

Targeting kids before high school is key, Johnson adds. "A few years ago, I gave a seminar at an inner-city high school. Their eyes glazed over. After they hustled out, two young ladies snuck back into the auditorium. They didn't want their peers to know they were interested in the science. It wasn't cool to be smart. Then I gave the same talk at an elementary school. The bright young faces were all excited. That's the difference between high school and elementary school."

HOO projects will include building kaleidoscopes and telescopes, experimenting with UV and IR light, and arranging mirrors so that a laser shines on a predetermined spot. The program's planners are also developing an optics competition like the egg-drop and bridge-building competitions that MESA sponsors. And to show kids what sorts of careers are possible in optics, HOO will use posters, videos, and class visits by professionals.

The first training program for teachers and volunteers took place last month, and the experiments will be taken into communities in southern California and Washington State this fall. HOO aims to reach 40 000 kids across the US by August 2006.

After that, having used up its \$1.7 million in NSF seed money, HOO is supposed to become self-sustaining. Jason Briggs, OSA program manager for HOO, says it's too early to estimate the cost of keeping the program going, but the plan is to raise funding and in-kind contributions from industry. Information about HOO will be available at the end of this month on the Web at <http://www.hands-on-optics.org>.

Toni Feder

Chu Named Berkeley Lab Director

"My father wanted me to be an architect. He said the competition in physics was too strong," recalls Steven Chu, who, of course, went on to win a Nobel Prize in Physics. On 1 August, Chu took the helm of the Department of Energy's Lawrence Berkeley National Laboratory, succeeding Charles Shank, who served for 15 years.

Despite stepping down, Shank says he will work with Chu on the immediate task facing LBNL: preparing a bid for the University of California to retain the management contract for the lab. UC has run LBNL since the lab's creation in 1931. But largely because of security breaches at DOE's weapons

labs in Los Alamos and Livermore, it's anticipated that DOE will, for the first time, open the LBNL management contract for bids.

At a press conference announcing Chu's appointment, UC President Robert Dynes said, "We will go into this potential competition with all resources ablazing." Although "nothing in this world is bullet proof," he added, the prestige and visibility that UC gains from Chu's being a Nobel laureate "puts us in a very strong position."

Coming to LBNL is a homecoming of sorts for Chu. He did graduate and postdoctoral research at UC Berkeley. He then spent nine years at Bell Labs—overlapping with both Dynes and Shank—before joining Stanford University's physics department, where he had been since 1987.

Among the subfields represented at LBNL are computing, nanoscience, biophysics, Earth sciences, and cosmology. The lab has a workforce of about 4000, and its annual budget is \$521 million.

Chu says he was attracted to the LBNL top job because "it's a great lab. And it has a lot of pieces that I have a personal scientific interest in. I hope I can make a difference in really getting



Chu

these pieces to work closely together. Opportunities like this don't come along all that often." He shared the 1997 Nobel Prize with Claude Cohen-Tannoudji and William Phillips for cooling and trapping atoms with lasers. These days, Chu's research is mainly in biophysics.

Toni Feder

Fusion Science Centers Reach Out to Other Fields

This month, the US Department of Energy launches two research centers with members from university, industry, and government labs. They are the Center for Multiscale Plasma Dynamics, headed jointly by UCLA and the University of Maryland, College Park, and the Fusion Center for Extreme States of Matter and Fast Ignition Physics, led by the University of Rochester.

The multiscale center will focus on interactions between microscale turbulence and large-scale plasma effects. "You are dealing with things that might vary by six orders of magnitude in nonlinear systems," says Bill Dorland of Maryland, center codirector with UCLA's Steve Cowley. "These kinds of challenges need new algorithms, not just new computers."

At the fast ignition center, scientists aim to trigger thermonuclear ig-

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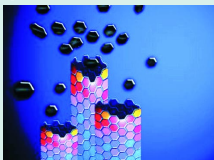
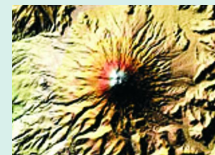
<http://www.ornl.gov/sci/fed/stelnews/stelnews.html>

For the past 15 years, thanks to increasing computer power, stellarator research has burgeoned. Ten stellarator projects are under way worldwide. To keep track of the latest developments, plasma physicists and others turn to *Stellarator News*, a newsletter edited by James Rome of Oak Ridge National Laboratory.



<http://visibleearth.nasa.gov>

Forest fires, ocean currents, and dust storms are among the phenomena observed by NASA's fleet of remote-sensing satellites. Images of these phenomena, both real and simulated, are freely available on NASA's Visible Earth Web site.



<http://pubs.acs.org/cen/nanofocus>

NanoFocus is a new department within the online version of *Chemical & Engineering News*. With an emphasis on chemistry, NanoFocus aims to serve as a single source for news about the science, business, and policy aspects of nanotechnology.

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Compiled and edited by Charles Day