

## From Star Wars to Chip Wars



LOS ALAMOS NATIONAL LABORATORY

**Laser legerdemain.** Scientist tinkers with a free-electron laser.

■ The czars of innovative technology at the Departments of Energy (DOE) and Defense are hatching a new offensive called "Microtech 2000" to catapult U.S. industry past foreign competitors in the microchip business by the end of the century. And while firms such as AT&T, IBM, Motorola, and Texas

Instruments that want to join in are still donning their battle gear, two DOE weapons laboratories are planning a first strike. Los Alamos and Sandia National Laboratories want to enter the free-electron laser, a spinoff from "star wars" research, as a candidate for funding under the new initiative.

Already, DOE has agreed to spend \$1.5 million to see if the weapons laser could be deployed as a credible chip production tool, and advocates are hoping to get another \$35 million or more to move development into phase two.

The goal of "Microtech 2000" is to create short wavelength light sources that will enable U.S. companies to produce ultra-dense, 1-gigabit memory chips by the year 2000 with 0.1 micron circuits. At this point, it would begin to be possible to put the equivalent of a supercomputer on a chip.

The DOE laser is getting a lot of attention at Los Alamos and Sandia, but experts who have already been laboring in this vineyard for years are skeptical. The free-electron laser "is politically well connected," says one DOE synchrotron researcher, but in his view it ranks "near the bottom of the list" in commercial viability.

## Advisors for OSI

■ NIH's Office of Scientific Integrity (OSI), bruised by the pounding it's received from the scientific community in recent months (*Science*, 6 September, p. 1084), plans to look for an advisory panel that will help it mend fences with the biomedical researchers it has so outraged.

OSI director Jules Hallum told *Science* he wants to find perhaps 15 individuals with "impeccable credentials" in the academic and scientific community—"people who can't be sniped at," he says. The point will be to bring them together for an informal workshop to discuss OSI's relations with the community and ways for OSI to transcend the office's bad publicity and "get its message out," Hallum says.

Hallum emphasizes that this panel will not address the same issues as the Public Health Service Advisory Committee on

## Protecting Labs From Animal Rights-Sponsored Terrorism

■ Animal-rights activists who break into research laboratories or otherwise terrorize scientists may soon be facing harsher penalties for their misdeeds, if a bill recently passed by a Senate committee and similar legislation in the House become law early next year.

The Senate bill, "The Animal Research Facilities Protection Act," sponsored by Senator Howell Heflin (D-AL), calls for fines ranging up to \$25,000 and/or up to 20 years in prison for people who break into research labs or command others to do so, and would allow labs to sue these people for damages. A similar bill in the house, sponsored by Representative Charles W. Stenholm (D-TX) along with 250 other representatives, would extend this protection to farmers, ranchers, and food processing facilities.

The legislation is getting attention because activists in recent years have "resorted to violence, breaking into laboratories, setting fires, destroying records, and harassing researchers," the presidents of the National Academy of Sciences (NAS) and Institute of Medicine (IOM) write in a 1991 NAS-IOM position paper titled "Science, Medicine, and Animals."

The two bills probably will be merged in a House-Senate conference early next year, say congressional staffers, who predict an easy passage for a combined bill in early spring. That's none too soon for Heflin, who told his colleagues in a floor speech on 16 October, "[I]deological terrorists and vigilantes who take the law into their own hands must be stopped."

Scientific Integrity, which is examining the rules under which OSI conducts its investigations of alleged scientific misconduct. Instead, Hallum wants the proposed panel to bring the scientific perspective

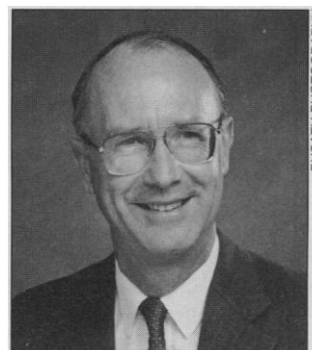
back to the discussion of misconduct. "I'm getting too much lawyer's advice," he says. "It's clouding over our connection to scientists. I took this job to be a scientist, not a bureaucrat."

## UC Budget Woes

■ The University of California, threatened by state-imposed funding cutbacks, will be confronting a new financial worry in the coming months. It has just received word that its most successful rainmaker—president David Gardner—will be retiring. The bombshell dropped last week, and unless UC finds a successor with Gardner's flair for fund raising and budget balancing, it may have trouble maintaining its premier status.

In his 8 years as president, Gardner, who plans to leave office next October because of his wife's recent death, became famous for coaxing money from budget-squeezed California. While other state-funded education institutions suffered during the 1980s, Gardner buoyed UC by carrying out \$3.7 billion in campus construction and raising UC salaries to levels comparable to other top research universities. Moreover, annual federal research support doubled during Gardner's tenure to \$653 million, accounting for 10% of the total federal funding for basic academic research.

But in the past 2 years, not even Gardner's acumen could shield the UC system from \$300 million in budget cuts imposed by the California legislature. Still, the cuts could have been much worse, UC insiders contend. "With or without David, we'll have a tough trip for the next few years," says Roy Brophy, outgoing chairman of the Board of Regents. "But with David, things would be a lot easier."



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*UC President Gardner*