

draw from several telescopes on the Spanish island of La Palma and in Hawaii, or, as with the 4.2-meter William Herschel Telescope, reduce the number of instruments. The University of Manchester's MERLIN, a radio array centered on Jodrell Bank, was spared, and in fact will be upgraded. PPARC head Ian Halliday says that the UK's membership in Gemini is not threatened, though "it's clear that downstream our astronomers will be asking to fund instruments on both Gemini and the VLT, so there will be a competitive element. That's life."

In addition to annual dues, the UK has to pay an entry fee of DM 240 million (\$110 million) to join ESO. Half of that will be in the form of VISTA, a new infrared survey telescope. The rest will be paid over the next decade and will be used to cement ESO's membership in the Atacama Large Millimeter Array. And that, says Halliday, made the UK's signing on particularly attractive to ESO. "The timing was crucial."

TONI FEDER

Tarter to Leave Livermore's Top Job

The budget is roughly through Congress. The National Ignition Facility [NIF] is back on track. The lab is in good shape," says C. Bruce Tarter, explaining his decision to step down as director of the Department of Energy's Lawrence Livermore National Laboratory as soon as a successor is found. "I wanted to leave at a time when things are stable."

Things may be stable now, but Tarter's tenure has been turbulent.



TARTER

About two years ago, shortly after then Secretary of Energy Bill Richardson proclaimed that NIF was on time and on budget, the lab let on that, in fact, the project had major cost overruns and technical difficulties. In addition,

Livermore faced discrimination and security concerns in the wake of the Wen Ho Lee espionage accusations at Los Alamos National Laboratory.

At the height of NIF's problems, Tarter did not get a pay raise. Since then, he has overhauled NIF's management team, and NIF got a budget boost of more than 50%, to \$3.4 billion. NIF has also been put on a step-

wise schedule, under which the huge laser, intended to simulate extreme pressures and temperatures in a nuclear weapon, will be built in stages (see PHYSICS TODAY, January 2001, page 21). The most exciting thing about NIF, says Tarter, "is that we expect light will be flowing in the facility within the next calendar year, and we'll start experiments with 8 of 192 beams within the next two years." In its evaluation of Livermore in 2001, DOE for the first time rated the lab outstanding in management, operations, and programs.

"The fact that NIF was able to turn itself around is no small tribute to Bruce," says John McTague, vice president for laboratory management at the University of California, which oversees Livermore for DOE. "He has been an excellent leader during a tumultuous time."

Tarter oversaw the transition at Livermore from nuclear testing during the cold war to the current stockpile stewardship program, in which nuclear weapons are safeguarded and studied but not exploded. As part of stockpile stewardship—of which NIF is the centerpiece—the lab now boasts the world's most powerful supercomputer. Tarter also put some of the lab's discretionary funding into counterterrorism research. That was before such research was popular, says McTague. "It was very far-sighted." Also on Tarter's watch, Livermore helped sequence three human genes.

Financially, the lab is strong: In fiscal year 2002, its budget is set at \$1.5 billion, up more than 10% from FY 2001. Livermore turns 50 on

2 September and is celebrating by hosting lectures and other public activities throughout the year.

Tarter announced his resignation on 7 December, seven years to the day after he assumed the directorship. An astrophysicist and 34-year veteran of Livermore, he is the lab's second-longest serving director. He plans to remain at Livermore.

Tarter says his successor "will have to make sure the national security labs stay connected to science—that's a constant issue. He or she will have to make stewardship continue to work. That will require rethinking the role of nuclear weapons as to how it fits into the national defense posture. Counterterrorism will be a challenge. And NIF will have to be managed successfully to completion."

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NEWS NOTES

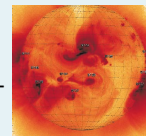
Orbach named to DOE science. Physicist Raymond Orbach, chancellor of the University of California, Riverside (UCR), is President Bush's choice to succeed Millie Dresselhaus as director of the Department of Energy's Office of Science. Orbach, who holds a PhD in physics from UC Berkeley, is expected to assume the post in February, after confirmation by the Senate.

"This is an opportunity to serve our president and country," Orbach said in a message to the faculty and students at UCR. "And it is an invitation that comes but once in a lifetime." In a statement following his nomination, Orbach

Web Watch

<http://www.bbso.njit.edu/arm/latest>

From the Big Bear Solar Observatory in Big Bear Lake, California, comes the **BBSO Active Region Monitor**. The online service provides the most recent images of the Sun taken by a host of terrestrial and orbiting observatories. Images include magnetograms from the Global Oscillation Network Group.



<http://www.comdig.org>

Every week, Pennsylvania State University's Gottfried Mayer compiles the **Complexity Digest**, an online list of journal articles and news stories that concern, or merely touch on, the science of complexity. Linguistics, chaos, and pathology are just a few of the subjects that appear in the digest.

http://www.jal.cc.il.us/~mikolajawicki/bad_physics.htm

If you spot an example of faulty physics in the popular press, inform Mikolaj "Mik" Sawicki, a physics professor at John A. Logan College in Carterville, Illinois. Sawicki edits **Bad Physics**, a compendium of misunderstood physics found in newspapers, magazines, and literature.

To suggest topics or sites for Web Watch, please e-mail us at ptwww@aip.org.

Compiled by CHARLES DAY



ORBACH

said, "I am committed with all of my heart to [President Bush's] aggressive program furthering the nation's scientific endeavors." Prior to becoming chancellor at UCR in 1992, Orbach spent 10 years as provost of UCLA's College of Letters

and Science. In the early 1960s, he was an assistant professor of applied physics at Harvard University and an NSF postdoctoral fellow at Oxford University.

The Office of Science, with a fiscal year 2001 budget of \$3.2 billion, funds programs in high-energy and nuclear physics, basic energy sciences, magnetic-fusion energy, biological and environmental research, and computational science. The office is the third largest federal sponsor of basic research and is responsible for ten DOE civilian research laboratories. Physicist James Decker, who has been with the office since 1985, has served as interim director since Bush was inaugurated. —JLD

Enhancing the VLA. The Very Large Array in Socorro, New Mexico, "produces more refereed papers per year than any telescope at any wavelength on the surface of the planet—only the Hubble Space Telescope beats it," says Paul Vanden Bout, director of the VLA's parent organization, the National Radio Astronomy Observatory (NRAO). To keep it at the leading edge, the radio array will be upgraded to increase its sensitivity roughly 10-fold and extend its bandwidth to cover the full range from 1 to 50 GHz.

Modernization of the 22-year-old VLA will begin this year. The 27 dishes, each 25 meters in diameter and weighing 230 tons, will be sequentially refitted with new electronics and optical fibers, and the array will get a new correlator. The expanded VLA, or EVLA, is slated to be completed by the end of the decade. Longer-range—and not yet funded—plans include adding new dishes to increase the resolution.

NSF will pay \$58.3 million toward the EVLA, NRAO is putting in \$11 million, Mexico is contributing \$2 million in components, and Canada is building the \$11 million correlator. The VLA cost \$78.6 million in 1972 dollars (an estimated \$300 million today) so the upgrade, says Vanden Bout, gives you "10 VLAs for \$150 million bucks. It's a bargain." —TF ■

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