

of steel bars that slow down neutrons. I stayed an extra week, I enjoyed it so much." Uchenna Onwuemene, who also worked on MoNA as an undergraduate, adds, "We learned about nuclear physics. We saw the cyclotron and learned the part the detector would play. We saw the big picture."

Suitcase alternatives

At NSF, the MoNA collaboration is considered a big success, says Brad Keister, the foundation's program director for nuclear and theoretical physics.

"It's an important part of experimental physics to build the things you measure with. And I don't know anyone who is excited about 'suitcase physics.' In this case, at least part of the construction took place at the home institutions." At the inauguration of the upgraded NSCL in 2001, he adds, "Bob Eisenstein [then NSF's assistant director for mathematical and physical sciences] walked up to a poster [about MoNA] and said, 'That's what NSF is about.' It's difficult for big science in big institutions to partner with under-

graduate institutions—especially several of them at once. To the credit of Michigan State, they figured out how to make it work." The first data, a calibration run using helium-7, were taken last summer.

Now that the detector is in use, MoNA organizers want undergraduate involvement to continue. "We are preparing a new proposal for NSF," says Thoennessen. "We'd like to have [students] analyze data, and to come here to Michigan for workshops."

Toni Feder

Missing Magazines Highlight Staff Distrust of Los Alamos Management

As the University of California (UC) finishes the last seven months of its current contract to manage the Department of Energy's Los Alamos National Laboratory, controversy and change have become the two constants for the weapons lab's staff. Over the past several years, the lab has been under assault by critics in the administration, Congress, and DOE for a litany of perceived breaches in security, safety, and accounting. The last director was forced to resign, and the current director, G. Peter Nanos, is at odds with many on his staff over his recent shutdown of the lab and his charges that the scientists created a "cowboy culture" at the facility.

The result of all the turmoil, according to many scientists and managers, is low morale and serious worry about what happens if UC loses its management contract. In the absence of hard facts, rumors abound about what a change in management would mean for individual benefits, pensions, and job stability. "People want certainty, and what LANL has at the moment is a lot of uncertainty," says James Fallin, the lab's director of public affairs.

The rumor mill went into overdrive when many LANL employees didn't receive their December 2004 issue of PHYSICS TODAY. That issue contained an Opinion piece (on page 60) in which LANL physicist Brad Holian compared the lab's safety record to those of other DOE labs. According to a survey conducted by PHYSICS TODAY, 59% of the lab's 414 subscribers didn't get that issue. In February, the nondelivery rate was 2.6%.

"Almost everybody has assumed that [the reason behind the missing issue] is something malicious, but a couple of years ago they would have thought it was simply a problem with

After an *annus horribilis* at Los Alamos, the atmosphere at the lab is still uneasy.

the mailroom," says Holian. "I'm not very much into the conspiracy theory business," he adds. LANL is investigating the disappearance of the magazines and has implemented a new tracking process to better ensure that magazines and journals are properly delivered, says Fallin. "There never has been, nor would there ever be, any attempt to keep those kinds of publications away from employees," he says, "and quite frankly, we're scratching our heads over what happened."

Trying times

LANL recently returned to full operations following a six-month shutdown ordered by Nanos after two classified disks were reported missing and a student suffered a serious eye injury while working at the lab (see PHYSICS TODAY, November 2004, page 31). More than a dozen employees, including managers, were suspended or fired. The shutdown delayed work on major contracts and, according to the lab's own estimates, cost between \$127 million and \$500 million.

On 28 January, the National Nuclear Security Administration (NNSA), the DOE arm that oversees the nuclear weapons labs, announced that "the allegedly missing disks never existed and no compromise of classified material has occurred." As a result of the NNSA findings, UC was fined \$5.1 million from its 2004 \$8.7 million management fee. "The major weaknesses in controlling classified material revealed by this incident are absolutely unacceptable," NNSA Administrator Linton Brooks said in a statement.

"We got walloped," UC spokesman

Chris Harrington says of the fine. "This is a very aggressive action by the NNSA. Unfortunately, we deserved it. . . . We have taken the necessary actions and steps to ensure that the proper policies and procedures are now in place . . . so that this doesn't occur in the future. And if there are going to be lapses and problems, then [people will expect] that there are going to be consequences."

Nanos, who has been LANL director for about two years, upset some employees in a series of all-hands meetings, commonly watched on videocast. "The director's words and actions have created a tremendous amount of stress, anxiety, distrust, and frankly, embarrassment for us," says David Hanson, a theoretical physicist at LANL.

In a 19 January all-hands meeting, Nanos complained about the December 2004 issue of PHYSICS TODAY. Holian's Opinion piece states that LANL's safety record for serious accidents is better than any other nuclear weapons lab's (see page 10 of this issue), whereas Nanos had said previously that it was worse than average. According to Hanson, the director made it quite clear that he did not agree with Holian's conclusions and implied that the article contained errors, which he did not specifically identify.

But now, says Fallin, "Nanos wants to take the discussion away from numbers, away from comparison with other institutions, and bring it all back home to where employees themselves see that they need to take responsibility for their own safety and that of their colleagues. Nanos does not want to have to telephone another family about a serious injury caused by carelessness at the lab." In the January meeting, Nanos said that new safety and security procedures will

¡Viva la Física!



Mexico's World Year of Physics 2005 celebrations are meant to show the public how important physics is to daily life. But many of the events are particularly aimed at the nation's youth. Thus it was appropriate that Mexico's official WYP inauguration kicked off in January with a set by the rock band ¡Que Payasos! (What Clowns!). Some 700 invitees, mostly local high-school students, attended the event, held at the National Autonomous University of Mexico's campus in Mexico City. (The university, along with the Mexican Physical Society, covered expenses for PHYSICS TODAY's attendance at the inauguration.) Assisting the guests to their seats were ushers dressed as Albert Einstein (top photo). The event featured comic actor Andrés Bustamante playing Dr. Chunga, who hosted a number of classic physics demonstrations; in the bottom photo, Chunga and some of his assistants prepare to show, with plastic tubes, how vibrating air causes sound.



Follow-up activities at the Mexico City campus will include a year-long series of free lectures, mostly by Mexican scientists, intended for general audiences. Other events are planned throughout the nation. For example, a physics fair will tour the country after its initial run this November in the capital.

Those who cannot attend Mexico's WYP events in person can catch the spirit of the celebration by purchasing national lottery tickets. They're printed with a portrait of Einstein and the WYP logo.

Steven K. Blau



improve things. "This will be a tough year, but I feel that fundamentally we are moving in the right direction and laying the groundwork to ensure this institution's future," Nanos said.

Despite the strident comments he heard in the videocast, Holian says the director's office still has not directly approached him to discuss his Opinion piece. But the UC environment, health, and safety advisory committee did ask him to present his data. "There is a great deal of concern among the [committee] members . . . about the quality of reasoning over the events that led to the shutdown," says Holian. "All the scientists in this meeting told the EHS committee that the one thing missing is communication from the bottom up. . . . There's plenty of orders coming down." Fallin confirms that communication between staff and managers has room for improvement, and says that Nanos has been imploring LANL leadership to do better in communicating with the staff.

Leaving the lab

But the main concern of the employees is the future presence of UC at Los Alamos. "It's a great attraction for staff to work here," says Fallin. The UC board of regents won't decide whether to bid for the new contract until NNSA releases the final version of the request for proposals. The University of Texas, the only other university that was considering a bid, pulled out of the competition early this year.

"When an institution [such as LANL] goes through the level of intense [outside] scrutiny that we have, . . . that has an impact on morale," says Fallin. Although managers acknowledge poor morale, "the only suggestion to improve morale [returning to more flexible work hours] was posed as a question during Nanos's [19 January] videocast," says Hanson. "It didn't come from management."

A large number of LANL's 14 000 employees will be eligible for retirement in the next few years, according to a Government Accounting Office report released last month. As the current UC contract expires, LANL is seeing an increase in the number of employees seeking advice about retiring, says Fallin. "We're aware of the problem of retention," he says.

"After the director's all-hands meeting on July 14 [2004], ugly rumors were flying about. I thought the pension I had earned after 28 years of service might be in jeopardy so I immediately retired," says Larry Creamer, a former LANL engineer. "This action

cost me tens of thousands of dollars in lost salary," he adds. Energy Secretary Samuel W. Bodman, UC President Robert C. Dynes, Senators Pete Domenici (R-NM) and Jeff Bingaman (D-NM), NNSA's Brooks, and Nanos say they are committed to retaining existing benefits and are asking staff to wait until they have all the facts before deciding to retire early.

After concluding that there was a discrepancy between the director's initial reasons for the shutdown and the real safety rate at LANL, Holian says he too has decided to retire. "I don't have any confidence whatever that UC will retain the contract, and if they do retain the contract, I don't have very much confidence that they will listen to what the staff has said," he says.

Fallin disagrees: "LANL is an entirely different place from what it was six months ago. The senior leadership has changed, both attitude and people, and Director Nanos has given the exact type of leadership that is needed to advance this institution."

Paul Guinnessy

Windy Island Hosts Energy Trial

A pilot test in energy self-sufficiency is under way on Utsira, a tiny windswept island off Norway's southwestern coast. The experiment combines wind and hydrogen energy to serve 10 of the island's 100 households.

"It's the first autonomous experiment using only renewable energy and hydrogen," says Bard Hammer-

vold, communications manager for the roughly \$6 million experiment, a partnership of Hydro ASA; Enercon, the German company that provided the wind turbines; and the Norwegian government. The main purpose of the Utsira experiment, says Torgeir Nakken, the Hydro physicist overseeing project R&D, "is to show that it