Schwartz. The chief funding organizations represented at the meeting, aside from NIH and the Pasteur Institute, were Britain's Medical Research Council, the World Health Organization, and the Wellcome Trust.

The participants at the meeting strongly endorsed current efforts to sequence the genome of the most lethal malaria parasite (*Plasmodium falciparum*) and supported plans to develop a repository of malaria research reagents to help standardize protocols across the continent. "There is a real need to ensure research results are comparable if real progress is to be made," says John LaMontagne, head of infectious disease studies at the U.S. National Institute of Allergy and Infectious Diseases. NIH, which is providing funds for the repository, is also backing an effort along with the National Library of Medicine to develop electronic links between key African malaria labs and their northern partners.

Several new initiatives also won an endorsement. The meeting backed a proposal from a working group set up after the Hague meeting to fund a small number of grants for collaborative research led by a principal investigator based in an internationally competitive African laboratory, with partners in less well developed African labs. The program, which would cost up to $3 million a year, has already won verbal support from several funding agencies.

The meeting also supported the establishment of a working group to monitor the use of antimalarial drugs and set up an early warning system to detect the emergence of drug resistance, which has been a major problem in Southeast Asia. "Everyone knows this problem is going to get worse," says Howells. As for the development of new drugs, participants at the meeting acknowledged that pharmaceutical companies are reluctant to invest in developing new therapies for which there is no guaranteed market. But researchers told *Science* that funding agencies and private companies are discussing a partnership to establish a "virtual company" to test compounds that show potential antimalarial activity.

Although MIM will not have its own large pot of funds, several individual agencies have increased their spending on malaria research. NIH, for example, has doubled its commitment from $11 million to $25 million over the past 6 years, and the World Bank is planning a substantial increase in its efforts. These new funds will be critical if the MIM partners are to realize their plans for a new model of support for malaria research. "The aim is to achieve a significant impact on the disease within 10 years," says Howells. The partners will hold another meeting next year to assess progress toward that goal.

–Nigel Williams

ENERGY RESEARCH

Laser-Fusion Hot Spot to Migrate East

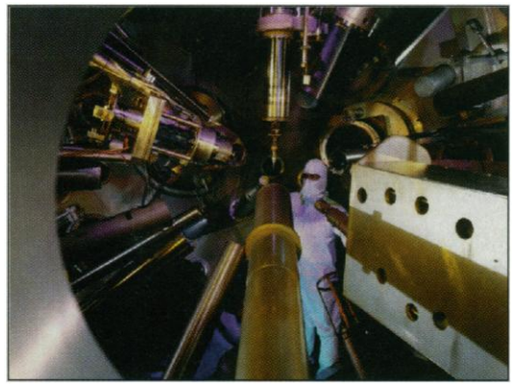
LIVERMORE, CALIFORNIA—Last week, Lawrence Livermore National Laboratory took the first steps toward turning off what was long the world's largest and most powerful laser. The beginning of the end for the laser, called Nova, came when researchers shut down a laboratory where its powerful ultraviolet beams had been used to drive x-ray laser experiments.

The rest of Nova will be dismantled by the fall of 1999 to make way for a vastly more powerful machine—the $1.2 billion National Ignition Facility, or NIF—which is already being built at Livermore. Its first module, which will be twice as powerful as Nova, is not expected to see "first light" until 2001. During the 2-year gap, the bulk of the nation's laser-related fusion and nuclear weapons research will migrate for the first time from closely guarded weapons labs to an open university campus—the University of Rochester in New York.

Research managers are pondering how to protect weapons secrets there as well as reconcile the different styles and schedules of the experimentalists at the various laboratories. "This will be quite a major transition," says Joseph Kilkenny, in charge of laser-fusion efforts at Livermore.

The first step came on 12 November when researchers pulled the plug on the Two-Beam facility, an extension of two of Nova's 10 arms into a 2-meter-diameter, stainless steel sphere where the twin beams pummel various types of targets. Built in 1985 as a laboratory for studying x-ray lasers under the "Star Wars" antiballistic missile program, it later yielded some key civilian advances, such as the world's first x-ray laser micrograph.

The rest of Nova will stay alive for energy- and weapons-related experiments in which the laser beams implode pellets of hydrogen. But its pulse is already slowing. The annual number of shots, which peaked at 1400, was just 930 in the last fiscal year and is expected to fall to between 300 and 700 in fiscal 1999. By late next year, the Two-Beam floor space will be converted to an optics cleaning and assembly plant for NIF. The same fate awaits the rest of Nova's four-story, 160-meter-long building after the final shutdown in September 1999.



B. QUINTARD/LLNL

Target for shutdown. A target chamber at Livermore's Nova laser, due to be dismantled in 2 years.

During the 2-year hiatus before the start-up of NIF, which will ultimately have 192 beams, Rochester's Laboratory for Laser Energetics will be the focal point for the nation's laser-fusion and related nuclear-weapons research. It houses the 60-beam Omega laser, which emerged from a $61 million overhaul in 1995 as a rival to Nova. "I'm going to have everyone here," says Robert McCrory, the lab's director.

Omega was built mainly to study direct drive, in which the converging laser beams strike the fusion target directly. By contrast, Nova specializes in indirect drive, in which the beadlike target rests within a tiny metal cylinder that absorbs the laser light and vanishes in a burst of x-rays, which in turn blast the target. But Omega allows both kinds of experiments, and by boosting the laboratory staff, McCrory plans to continue Rochester's direct-drive program of 700 shots per year at full bore despite the added load.

The Department of Energy (DOE), which funds all the lasers, is grappling with a challenge of its own: how to conduct classified laser experiments at an open campus. "I've told DOE I don't want any guns or dogs," McCrory says. "We don't have the sensitive stuff Livermore has. And it's just not the way to run the university."

David Crandall, head of DOE's inertial-fusion office, says that shielding the few classified experiments expected at Omega should require only a modest boost in security. Ordinarily, he explains, it's only the data or the diminutive laser target itself that is classified. "The amount of protection and guards required is not severe," he says.

The Livermore researchers, accustomed to having Nova in their back yard, may face the biggest adjustments. Some have balked at the prospect of tramping cross-country. Others expect to miss Nova's flexibility. Because it has only 10 beams versus Omega's 60, Nova can be reconfigured more easily and quickly for different styles of experiments.

–Peter Weiss

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