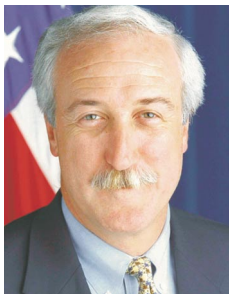
a shoo-in. "I know he will bring a realistic, results-oriented approach to addressing the management problems that have bedeviled NASA," says Representative Sherwood L. Boehlert (R-N.Y.), chairman of the House Science Committee. Rep. Ralph Hall (D-Tex.), ranking minority member of the Science Committee and former chairman of the Space Subcommittee, agrees, and says he "looks forward to working with the new administrator." Goldin, too, praised his successor, calling him "a man of intelligence, energy, and deep integrity."

OMB



O'KEEFE

"But there is some concern in the community that O'Keefe is not a scientist," says Anneila Sargent, president of the American Astronomical Society. "It's a different choice, but I think it doesn't matter in this case." The reason, she says, is because space science at NASA is already well managed and O'Keefe is expected to leave the field alone. Weiler has a similarly relaxed view: "I've never met O'Keefe," he says. "I hear he's a tough manager, but I'm very comfortable with that."

Former academic colleagues of O'Keefe's, for their part, are not surprised by his nomination. "Sean's experience in federal government, on Capitol Hill, in the Defense Department is extraordinary for a man of his age," says Robert McClure, senior associate dean at Syracuse University, where he cotaught a course with O'Keefe, who is a professor of business and government at the university's Maxwell School of Citizenship and Public Affairs. "It makes him ideally suited to the job," McClure adds. O'Keefe joined the OMB last March. He has also been secretary of the US Navy, chief financial officer for the Pentagon, and staff director of the Senate Defense Appropriations Subcommittee.

But O'Keefe's appointment is not good news for everyone. "The people involved in the human spaceflight program will correctly view this appointment with some trepidation," says John Logsdon, director of the Space Policy Institute at George Washington University. "O'Keefe is on record as saying their longtime way of doing business is obsolete."

In a recent House Science Committee hearing on the $4.8 billion cost overrun of the International Space Station, O'Keefe gave some indication of where he will lead NASA. He says he is pleased with the technical progress of the program, but adds that "technical excellence at any cost is not an acceptable approach." He has made it clear that no new funds from the Bush administration will be made available to the space station until, as he put it, NASA "can show it is on track."

"Over the last 10 years, it is hard to know how many new opportunities for space exploration may have been lost due to the year-to-year struggle of adding funding to the station," says O'Keefe. NASA, he adds, must "put management excellence . . . on a par with technical excellence." Eventually, says O'Keefe, NASA will be "an agency that is lean, agile, and focused on its primary objectives: world-class science, technology, and exploration."

PAUL GUINNESSY

Neureiter Brings Science and Fellowships to State Department

When Norman Neureiter was appointed as the first science and technology adviser to the Secretary of State in the waning days of the Clinton administration, his first priorities were to make State Department employees aware of the value of science in international relations and to convince scientists that they could contribute to the work of diplomats. Nearly 16 months later, Neureiter has two veteran scientists working on year-long fellowships in the department, a separate program that sends scientists on brief stints to embassies around the globe, and foreign service officers in 40 embassies saying they would like scientific help.

"I think one always wishes we could do more," said the low-key Neureiter, a chemist who retired as a vice president of Texas Instruments Japan several years before he received the State Department call. The key to his success thus far, he said, has been to effectively integrate people with science and technology backgrounds into the department, and that has been done in part because of the new American Institute of Physics (AIP) State Department science fellowship.

The first fellow selected for the program is George Atkinson, who took a leave of absence from his position as a professor of chemistry and optical sciences at the University of Arizona to come to the State Department. Atkinson works in the department's Bureau of Intelligence and Research, providing background research and advice on topics as diverse as stem cell research, biotechnology, climate change, molecular medicine, and counterterrorism.

Atkinson recently completed a tour of US embassies throughout Europe for the State Department, familiarizing himself with issues and meeting foreign service personnel. "I've been a scientist for 30 years and I've been a professor," Atkinson said. "People of my ilk can provide answers to immediate questions involving science." When scientific issues are being discussed, he said, politicians sometimes "bring in three scientists who say 'yes' and three who say 'no,' and the result is the science is marginalized."

Beyond explaining the details of a particular science debate, Atkinson said that it is important when talking to nonscientists to be able to explain the uncertainty of science—the "error bar." This approach is essential when dealing with science at the forefront, which is common in international negotiations of issues involving such things as biotechnology, he said.

Neureiter said he was so impressed with Atkinson and another applicant for the AIP fellowship, former Americal Physical Society associate executive officer Barrett Ripin, that he wanted both in the State Department. AIP could only fund one position, Neureiter said, so he found internal State Department funding to create a second one-year fellowship for Ripin.

"I've been here for a week and I'm a month behind," Ripin said in early December. He is working in the department's Bureau of Oceans and International Environmental and Scientific Affairs. While that bureau has traditionally been the home for science within the State Department, cutbacks throughout the 1990s significantly reduced the number of staff with science training. "Most of the people working in these offices don't come from a scientific background," Ripin said.

One of the areas Ripin is focusing on is sustainable development. "It's not physics per se, but there is a lot of science. There are issues of deforestation, environmental versus energy issues, methods of water treatment, a

host of things. The question is how science and technology fit into a society's developmental goals."

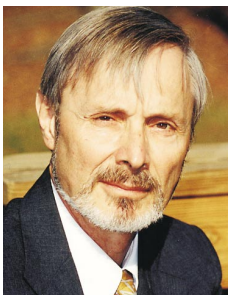
JIM DAWSON

Leemann Leads Jefferson Lab

After about a year as interim director of the Thomas Jefferson National Accelerator Facility in Newport News, Virginia, Christoph Leemann now holds the top job. He succeeds Hermann Grunder, the founding director of the nuclear physics lab, who left in fall 2000 to head up Argonne National Laboratory.

Leemann earned his PhD in experimental nuclear physics in 1969 in his native Switzerland. He spent most of his early career at Lawrence Berkeley National Laboratory, and joined Jefferson Lab at its inception in 1985.

As associate director for accelerators, Leemann oversaw construction of Jefferson Lab's centerpiece, the Continuous Electron Beam Accelerator Facility, a 6-GeV accelerator with a high-intensity, spin-polarized beam, which came online in 1994. CEBAF is used to probe atomic nuclei and to understand how their constituent quarks and gluons affect nucleon–nucleon interactions.



GREG ADAMS, JEFFERSON LAB

LEEMANN

Jefferson Lab's other big facility is a free electron laser, used for basic, industrial, and defense research (see the article on page 35). A $25 million upgrade adding ultraviolet capability and increasing the free electron laser's power at infrared wavelengths from 2.1 kW to about 10 kW was begun in November and will be ready later this year. "We see potential for industrial applications and for exciting science," says Leemann. "The free electron laser has the power to do two-photon experiments and its very short pulses could be important for studies of dynamic systems."

A third thrust at Jefferson Lab is building superconducting radio-frequency cavities and a helium refrigeration plant for the Spallation Neutron Source at Oak Ridge National Laboratory in Tennessee.

"We are entering into what is scientifically the most exciting period in the history of this unique facility [Jefferson Lab]," says Jerry Draayer, a nuclear physicist and president of the Southeastern Universities Research Association, which runs Jefferson Lab for the US Department of Energy. The challenge will be to put the scientific program in the forefront now that the accelerator is online, and to shepherd the facility through a planned $150 million upgrade to 12 GeV, says Draayer. "Christoph has shown his unique ability to lead in bringing this facility into existence, so I am confident that he has the skills to take it to the next level."

"Christoph played an essential and critical role in taking the accelerator from an idea to the actual world-class facility that it is today. I am thrilled that he is the new director," says Keith Baker, a high-energy physicist at both Jefferson Lab and nearby Hampton University, and a member of the search committee, which considered 46 candidates for the lab directorship. In addition to upgrades for both CEBAF and the free electron laser, Baker hopes Leemann will win an increase in the lab's overall budget, which is about $100 million a year. "We are not running at full efficiency. We could do a lot more physics for a modest increase in the operating budget," Baker says.

"The challenges are all to some extent funding related," says Leemann. "All scientists need to make the case for our science, to make clear that it's relevant, beautiful, and exciting, in terms that decision-makers can understand. I hope [Jefferson Lab] can stay at the forefront. At the moment we are there. We want to keep it that way."

TONI FEDER

Caltech Gets More from Moore

Caltech's coffers are $600 million richer, thanks to semiconductor pioneer Gordon Moore, his wife Betty, and the foundation the couple created in 2000. Their combined gift—$300 million from the Moores and the same again from the Gordon and Betty Moore Foundation—is the largest-ever donation to a university, eclipsing last year's record-breaking gifts of $400 million to Stanford University from the William and Flora Hewlett Foundation and an anonymous $360 million to Rensselaer Polytechnic Institute.

It's too early to say how Caltech will use the gift, says provost Steve Koonin. "There are a lot of good ideas. They range from programs to address instrumentation needs, to new research initiatives, to maintaining

CALTECH

GORDON AND BETTY MOORE

the quality of people at all levels, to buildings." The Moore gift, he says, comes to nearly a third of what the university estimates it needs to stay at the forefront of research and education. "It's particularly wonderful that they've done this in a time of economic turbulence."

Among the specific projects and broad areas that might get some of the Moore money are the design of the California Extremely Large Telescope, a 30-meter ground-based optical and infrared telescope that Caltech is planning jointly with the University of California; measurements of tectonic plate movement; numerical general relativity; nanoscience; a synchrotron beam line; and facilities for cryoelectron microscopy and functional brain imaging.

Moore earned his fortune from Intel, the chip company he cofounded, and his PhD in chemistry from Caltech, where he's been a trustee for nearly two decades. "I have a warm place in my heart for Caltech. And it really fulfills a unique role. As a very small, very high-quality institution, they are able to do interdisciplinary science much more easily than bigger schools—and I think that's where a lot of the important science is," says Moore. "I would be happy if they didn't build buildings. I'd rather see the money go for programs," he adds.

The $300 million from the Moores will arrive over five years, and Caltech has broad discretion as to its use. The foundation will deliver the other $300 million over 10 years, and will help decide how to spend it. The foundation's thrusts are the environment, scientific research, higher education, and the San Francisco Bay Area. The foundation is still ramping up, but it's expected to have an endowment of $4.5–5 billion.

TONI FEDER