mean everything should be taken from Paris. You don't kill an institute like LURE just to move things around."

Counting salaries and four years of operation, the estimate for building Soleil totals Fr 2.1 billion. Spain plans to contribute about Fr 100 million, and other countries may also join. With the contributions of the host region and other member countries, plus savings from transferring personnel and equipment from LURE, the French government will have to chip in only about Fr 300 million for Soleil.

The approval of Soleil raises questions about France's participation in the UK synchrotron. According to the deal Allègre had made, France is supposed to contribute about Fr 350 million toward Diamond in exchange for beam time. Now, says François Wuilleumier, who oversees plans for siting Soleil in Ile de France, "it's clear that the French community won't need all these beam lines at Diamond—but we are open to crossed collaborations to make the best use of both facilities." Government-level talks are under way, and France and the UK may join each other's synchrotrons, with no money changing hands.

The Soleil design was completed two years ago, and just needs to be tweaked, says Comes. For example, "the choice of beam lines will be reviewed—there will be more for biology." A 2.5–2.75 GeV machine, Soleil will emit ultraviolet radiation and both hard and soft x rays (photon emissions up to 20 keV). It will have 14 straight sections for inserting undulators and wigglers—the key to achieving the brilliance of third-generation synchrotrons—and room for a total of 40 beam lines, although the plan is to start with 24.

Legally, Soleil will be a not-for-profit business, giving it more flexibility than it would have as a public facility. Staff members will get to choose between the security of working for the government and the higher pay of a less secure industrial job.

Construction on Soleil is slated to begin late next year, with the first beam lines to start operating in 2005.

TONI FEDER

Grunder Picks Up Argonne Reins

On 1 November, Hermann Grunder became director of Argonne National Laboratory, filling a job that had been open since Dean Eastman stepped down in June 1998. Grunder had been the director of the Thomas Jefferson National Accelerator Facility in Newport News, Virginia, for 15 years.

Heading up Argonne, says Grunder, "is an opportunity to contribute. I recognize a good research environment when I see it." Grunder wants to increase the number of biologists using Argonne's Advanced Photon Source and to strengthen ties to the University of Chicago, which runs the lab for the Department of Energy (DOE). But he's reluctant to reveal further plans: "I'm sure my ideas will change. I'm starting out with the usual set of misconceptions."

"I will work together with my friends—the directors of other national laboratories—to articulate a joint mission in science," Grunder adds. The labs have often competed with each other since money got tight after the cold war ended. But, says Grunder, "they are a larger asset to the nation if they work as a system. If we now, as a scientific community, focus on what that system can do, then that is a new paradigm."

Argonne is a multipurpose lab with an annual budget of $465 million. Its research areas include high-energy, nuclear, and medical physics, materials science, and, at its Idaho satellite site, nuclear energy. One of the key aspects of running Argonne, says University of Chicago vice president Arthur Sussman, "is advocating it—in Congress, within DOE, with the local population, and with the lab's staff. Grunder's long experience, his understanding of the science and the processes of government, combined with his energy, made him seem like the right person for the job."

The search committee had a short list in summer 1999, but it renewed its hunt after energy secretary Bill Richardson wrote to the president of the University of Chicago on 28 July of that year: "I find it difficult to believe that there are not qualified, talented women and minority scientists who are interested in being considered for the position of laboratory director. I ask that you devote the time necessary to do a comprehensive search that yields a wide range of candidates for this top position."

"We spent almost a year on that, and identified some very attractive candidates. None of them was interested in the job," says Argonne board member Richard Quisenberry, who headed up the search. "We found that the Argonne directorship could not compete successfully with other opportunities confronting outstanding women and minority science managers."

Previously, as director of Jefferson Lab, Grunder oversaw the construction of a continuous electron beam accelerator. Before that, he held various scientific, managerial, and advisory posts at Lawrence Berkeley National Laboratory and at DOE's Washington headquarters. Grunder came to the US in 1967, after earning his PhD in experimental nuclear physics in his native Switzerland.

DEPARTMENT OF ENERGY

GRUNDER

Grunder succeeds Yoon Chang, who served as interim director from July 1999. Chang was a member of the search committee and has returned to his role as associate director for engineering research. Frank Fradin, associate lab director for physical, biological, and computing sciences, also did a stint as interim director.

The interim head of Jefferson Lab is Christoph Leemann, who was Grunder's deputy director there.

TONI FEDER

Physics Grid Grapples with Growing Datasets

Grid Physics Network, a new system for handling vast volumes of experimental physics data, is getting started with an $11.9 million grant from the National Science Foundation. Over the next five years, collaborators from 16 US universities will need another $60 million to construct GriPhyN (pronounced "griffin"), which aims to connect thousands of computers involved in the Sloan Digital Sky Survey, the Laser Interferometer Gravitational-Wave Observatory, and two high-energy experiments at CERN's Large Hadron Collider (LHC) into a single virtual system.

GriPhyN's software will link existing computers, regional networks, and experimental facilities to coordinate complex data analysis. "We have computers in one location, experiments in another, and smart people somewhere else," says GriPhyN project head Paul Avery of the University of Florida. GriPhyN will consist of a hierarchy of computers, from individual desktops to national servers, sharing information, software, and computing power.

An increasing number of grid projects are under way worldwide, driven by expanding data accumulation—which for some experiments is expected to grow 1000-fold from 100 terabytes to 100 petabytes over the next decade. GriPhyN will be developed alongside the Department of Energy's year-old Particle Physics Data Grid and the European DataGrid, a new project focused on CERN's LHC experiments. They are all expected to build on the same basic software.

Only raw data would physically exist in the grid—everything else could be stored as specifications on how to derive it, with copies of commonly used results kept wherever is cheapest. "Much of the time, the result you need will already have been computed by one of your colleagues and the system will know where to find it," says the University of Chicago's Ian Foster, who is coleader of GriPhyN. Information will be stored with an explanation of where it came from, when it was created, and how it was processed.

Grids like GriPhyN, which will cope with collaborative data analysis by researchers spread around the globe and sift through data for rare signals, are likely to find applications in many computational-intensive areas, such as the human genome project or Earth observing systems. "GriPhyN could also prove useful for large business applications," Avery says; for example, by tracking consumer buying habits through distributed databases.

LYNLEY HARGREAVES

Pittsburgh Auctions Off Vintage Supercomputer

We need to make space for the new baby, and we'd like to find a good home for this senior citizen, who is possessed of great wisdom and has abundant good usage left for the right people," ran the ad for a Cray Y-MP C90 supercomputer, which the Pittsburgh Supercomputing Center (PSC) sold in September through the online auction site eBay.

Bidding began at $35 000 and Steve Blank, a self-described serial entrepreneur in Silicon Valley who just retired at age 46, landed the supercomputer for $45 100.70. "I'm interested in the history of technology and military history—and this seemed to be the pinnacle of both," says Blank. This particular supercomputer wasn't used for military research but, says Blank, "the bits can't tell the difference. It's a symbol of its type—and in 50 years, it may be the only one that's still running, a historical artifact."

PSC

CRAY C90 finds a home on the ranch.

The PSC shut down the 16-gigaflop C90 last year, because maintaining it had become too expensive. The decision to get rid of it followed when the National Science Foundation awarded the center $45 million for a teraflop machine this past August. The new supercomputer is scheduled to be up and running by the end of 2001. It will be some 375 times more powerful than the C90. And, like the C90 when it came online in 1993, it will be the best computer available for nonclassified research.

Cray, the C90's manufacturer, wanted $27 000 to haul the machine off for salvage. "Someone here suggested half-jokingly that we should auction it on eBay, so we decided to give it a shot," says PSC science writer Michael Schneider.

Blank plans to house the C90 in a barn on his new ranch in northern California, and friends from one of his eight startups, the 1980s supercomputer company Ardent Computers, are eager to rev it up.

TONI FEDER

Sarachik Is Elected APS Vice President

The American Physical Society has elected Myriam Sarachik, an experimental condensed matter physicist at the City College of the City University of New York, vice president for 2001. She steps into the presidential line behind William Brinkman, taking office on 1 January, to become president-elect in 2002 and president in 2003.

Sarachik earned her PhD from Columbia University in 1960. Before joining City College in 1964, she spent time as a research associate at Columbia's IBM Watson Laboratories and Bell Telephone Laboratories in Murray Hill, New Jersey. She has done work in superconductivity, disordered metallic alloys, metal–insulator transitions, and single-molecule magnets.

"One of my goals as president will be to strengthen our efforts to make a career in physics attractive," Sarachik says. The declining number of students studying physics and the worldwide shortage of scientists and engineers are two of the most urgent issues facing the APS, she adds. "We must make salaries competitive with other professional options." It is also important, she says, to convince legislators of the need to invest in science that will seed the technology of the future.

SARACHIK

Also taking office on 1 January is Susan Coppersmith, a theoretical condensed matter physicist from the University of Chicago, who will be the new chair-elect of the nominating committee. The two new members of the APS council are Cherry Murray, director of the Physical Research Laboratories at Bell Labs and Jonathan A. Bagger, a high-energy physicist at Johns Hopkins University.

Dickinson Will Lead AGU in 2002

In July, Robert E. Dickinson, a professor of atmospheric sciences at the Georgia Institute of Technology, took office as president-elect of the American Geophysical Union. After two years, Dickinson will succeed Marcia K. McNutt as AGU president.

Dickinson, whose research interests are in climate modeling and global change, received a BA in chemistry and physics from Harvard University in 1961 and a PhD in meteorology from MIT in 1966. He then joined the National Center for Atmospheric Research in Boulder, Colorado, where he stayed until becoming a professor at the University of Arizona in 1990. Last year, he moved to Georgia Tech, where he is seeking more effective ways to integrate satellite data into climate models.

In his candidate's statement, Dickinson said that he especially valued the AGU's role in the "facilitation of