thoroughly and began publishing weekly bulletins on communicable-disease issues. Recently, the health ministry also moved to strengthen Germany's network of national reference center laboratories.

Schwartländer, who worked at the CDC in 1990 to '91, says he used the Atlanta-based agency as a model for several changes being implemented at Koch. "We don't want to simply collect data on infectious disease; we want to translate those data into action," he says. "In some ways, we are going back to the work of Robert Koch."

"In some ways, we are going back to the work of Robert Koch."
—Bernhard Schwartländer


R. KOENIG

But the institute's new role rankles some of its research staff. Health ministry officials have said that they want more emphasis on applied research, with somewhat less focus on the sort of basic studies that many of Koch's 115 tenured scientists and four dozen untenured researchers have pursued in recent decades. Franz J. Fehrenbach—director of Koch's bacteriology and parasitology section—contends that basic research is essential "to foresee emerging problems in infectious diseases." He has no objections to bolstering Koch's disease-surveillance work, but does not think it should be done at the expense of basic research. At the same time, the director of Koch's virology section, Georg Pauli, says that he thinks Koch "is on a good track." While Koch scientists "still do quite a bit of research," Pauli says, "we now have to do more work for the [health] ministry and for the public."

The health ministry's Bindert says he appreciates the value of basic research, but insists that Koch's main emphasis should be on applied research. After all, other German institutions—including the Max Planck Society and universities—are engaged in basic science in infectious diseases. One prominent German scientist, who asked not to be named, says Koch's reputation for basic research has declined in recent years. "You can't compare Koch with [France's] Pasteur Institute," the scientist says. Koch officials respond that the Pasteur Institute has a different history and mission, with far less responsibility for public health. Among the burdensome public duties that Koch is saddled with, some say, is monitoring German genetic-engineering experiments.

Whether Koch adapts to its new role happily, the institute's services are certainly needed. Petersen, who headed the CDC's HIV Seroepidemiology Branch, had only just arrived in Berlin in January as a consultant to help bolster the Koch Institute's disease-control efforts when he was dispatched to Bavaria to head the institute's on-site team. He says he was astonished that the Bavarian outbreak, which probably involved hundreds of persons, "went completely undetected for months. It shows the pressing need for better infectious-disease surveillance and investigation."

Early this month, Koch epidemiologists were still at work on the Bavarian outbreak, trying to pinpoint its source. "It's an extremely difficult case, because the infections occurred in a large area and over a relatively long time span," says Schwartländer. "This outbreak is a good example of why Koch needs to get involved."

–Robert Koenig

Robert Koenig is a writer in Berlin.

THEORETICAL PHYSICS

Seoul Unveils Regional Center

TOKYO—Ten Pacific countries are laying claim to a larger Asian presence in theoretical physics this week at a conference in Seoul that marks the debut of a new research organization. The government entity, called the Asian Pacific Center for Theoretical Physics (APCTP), is intended to make the South Korean capital a mecca for researchers by assembling a world-class permanent faculty, offering workshops and meetings, and eventually awarding advanced degrees. "We want to create a truly international center that can compete with the best Western institutes," says Yong Min Cho, a professor of physics at Seoul National University and secretary-general of the center.

The center is a dream come true for many of the region's physicists. "Whenever [Asia-Pacific] physicists met at international conferences, we used to talk about the possibility [of such a center]," says Yoshio Yamaguchi, co-chair of the international planning committee and a former director of the University of Tokyo's Institute for Nuclear Physics. The center grew out of a 1989 meeting of physicists at Japan's National Laboratory for High-Energy Physics (KEK), which led in early 1993 to an international planning committee. The Korean government agreed to put up most of the initial cost of the center. In return, Seoul was chosen as the site, although support also comes from Australia, China, Japan, Malaysia, the Philippines, Singapore, Taiwan, Thailand, and Vietnam.

Realizing a dream. Scientists from 10 nations have been meeting in Seoul to plan the new Asian Pacific Center for Theoretical Physics, to be headed by C. N. Yang *(back row, center).*

Organizers hope the center will become known not just for excellence in all areas of theoretical physics but also as a milestone in the region's scientific development. "Frankly speaking, in Asia there has never been a truly first-class international institute, not just in physics, but in any science," says Cho. Toward that end, the center has recruited Nobel laureate Chen Ning Yang as its first president and chair of the board of trustees, although his duties as director of the Institute of Theoretical Physics at the State University of New York, Stony Brook, and head of the Institute of Mathematical Sciences at the Chinese University of Hong Kong mean that someone else will handle the center's day-to-day affairs.

Achieving world-class status will hinge on becoming a permanent home for world-class researchers from all countries, as well as hosting visiting fellows and other part-time appointees. And Cho admits, "It's not easy to attract this kind of people." No resident senior fellows have been selected despite the lure of good pay and excellent support. In addition to what Cho calls

"world-class" salaries, the center intends to provide access to leading-edge computing and library facilities. So far, the lure of the new center has proven strongest among non-Asian scientists: Among the four junior fellows and eight postdocs that have already been recruited, U.S. and European researchers actually outnumber those from the Asia-Pacific region. But there is still plenty of room for talented scientists from all ports, Cho says, noting that the number of faculty members is expected to double next year and continue growing steadily for several years.

That expansion is one of the things that led German-born and -trained Manuel Drees to accept a junior fellow position. "This is one of the few areas of the world where support for science is steadily going up," he says. Drees plans to cut short a German government fellowship that supports his theoretical research in particle physics at the University of Wisconsin, Madison, to take up his position in Seoul this September. He admits that joining a new institute is "a bit of a gamble," but he's attracted by the "opportunity to build up science in this part of the world." He also believes, based on previous trips, that Korea is more accommodating to Westerners than any other non-English-speaking country in Asia.

An increased two-way flow of knowledge between East and West is an important goal, says Makoto Kobayashi, a KEK physicist who is helping to plan the center's future. If successful, the center could even foster sister institutes in other fields. "In that sense, this is a test case," Kobayashi says.

Although this week's conference marks the official opening of the center, many organizational details are still being worked out. A structure similar to CERN's is planned, with a governing body of representatives from member countries. Its initial budget will be between $5 million and $10 million, with Korea picking up most start-up costs and eventually providing a campus and buildings. The center is housed temporarily in buildings vacated by the Korea Advanced Institute for Science and Technology.

One model for the Asian center is the International Center for Theoretical Physics in Trieste, Italy, founded largely on the initiative of Nobel laureate Abdus Salam. Cho says APCTP will share that center's mission to educate future generations of scientists from the developing world by hosting workshops and seminars. There is even talk of offering full-fledged graduate-level courses.

But Cho emphasizes that APCTP's primary objective is "to be one of the best in the world." Adds Yang: "If the papers published by people associated with the center produce an impact in physics research, we would consider that a success."

–Dennis Normile

CONGRESS AND THE BUDGET

Panel Strikes Balance for NASA, NSF

Republican and Democratic lawmakers skirmished bitterly on the House floor for 2 days last week over the direction of science spending. The focus of the verbal brawling was a bill, to authorize programs, that has little chance of making it all the way through the legislative mill this year. So the debate was something of a sideshow to discussions on the 1997 budget that were taking place in a cramped room down the hall. There, a panel of House appropriators quickly and quietly approved small increases for NASA, the National Science Foundation (NSF), and research at the Environmental Protection Agency (EPA). These spending levels, for the fiscal year that begins on 1 October, suggest that this year's appropriations process may actually be much shorter and sweeter than last year's debacle.

The modest funding boosts are less than the Administration wanted for those agencies, but they exceed guidelines set last month by House Republicans in an effort to eliminate the deficit. And while the panel went along with Republican calls to cut global climate change programs and NASA's Earth Observing System (EOS), the reductions are less drastic than those outlined in the omnibus science authorization bill, H.R. 3322, that led to verbal fireworks on the House floor.

A FIRST LOOK AT SOME 1997 R&D BUDGETS

Agency	FY 1996	House Panel*
National Science Foundation (Selected programs)	$3.22 billion	$3.25 billion
Research	$2.31 billion	$2.42 billion
Education	$599 million	$612 million
Infrastructure	$100 million	0
NASA selected programs		
Mission to Planet Earth	$1.3 billion	$1.2 billion
New Millennium program	$342 million	0
Human Space Flight	$5.47 billion	$5.36 billion
Environmental Protection Agency		
Science and Technology	$524 million	$540 million

* Figures do not include across-the-board reduction of 1.32%.

SOURCE: HOUSE APPROPRIATIONS VA, HUD, IA SUBCOMMITTEE

The appropriations bill, approved on 30 May by a subcommittee chaired by Representative Jerry Lewis (R–CA), would increase NSF funding by 1%. The agency's research account would grow by $108 million, a 4.6% boost but still short of the Administration's request for an additional $166 million. Although legislators endorsed NSF's plan to eliminate its $100 million academic research infrastructure program, they included language that would hold NSF officials to their promise to spend $50 million from the research account on large instrumentation grants. And the entire program could be revived in the Senate.

Lewis's panel chopped NASA's request for EOS by $220 million, leaving the program with $1.2 billion, or about $87 million less than this year. The remainder of NASA programs were largely untouched, except for two increases requested by the Administration but not part of NASA's formal budget request. The White House asked for $558 million to replenish the agency's overloaded tracking and data-relay satellites, which the panel approved, and $342 million to work on new spacecraft technology, which it rejected. Including that tracking-system money would give NASA an overall budget of $14.2 billion, up from this year's $13.9 billion. Without the extra funding, however, the agency's budget plunges to $13.6 billion.

Lewis's subcommittee approved $540 million for EPA's science and technology budget, $39 million less than the president requested but a $16 million increase over 1996. Among programs targeted for cuts were the Environmental Technology Initiative and global climate change efforts.

These numbers are hardly set in stone, however. Lewis's panel also proposed a 1.32% across-the-board cut for all the agencies under its jurisdiction to ensure the committee does not exceed its allocation. "We fully expect that cut will go away," says one House staffer, if the subcommittee can receive more money for its programs. As it stands, however, NASA would lose $187 million and NSF, $43 million. The House Appropriations Committee meets on 13 June to consider the bill before it goes to the floor. The Senate will mark up its own version in July.

In contrast with Lewis's bill, the omnibus authorization bill could lead to a realignment of research programs and deep reductions in staff at NSF. It would limit NSF to six directorates—one less than the existing number. The change is aimed at NSF's social, behavioral, and economic sciences programs. Representative Robert Walker (R–PA), chair of the Science Committee, and NSF Director Neal Lane exchanged strongly worded letters last month on the topic, with Lane attacking