U.S. CONGRESS

Agency Heads See Give in R&D Plan

Three of the government's top science managers told Congress last week that they intend to fight for more money than is penciled into the president's long-term budget projections for their agencies. But when House Science Committee Chair Robert Walker (R–PA) summoned them to Capitol Hill to ask for their opinion of the R&D cuts outlined in the Administration's proposal to balance the federal budget, they stopped short of repudiating the White House plan.

Walker has long been unhappy with the generally negative reaction from the U.S. science community to proposed Republican R&D cuts in last year's congressional plan to balance the budget by 2002. And this year, when President Bill Clinton proposed similar R&D cuts in his budget blueprint, Walker complained that the scientific community made no outcry. So Walker called a 2-day hearing to explore reactions to the Administration's plan and put science leaders on the spot. Last week—after three attempts to marshal the necessary witnesses had failed—executive branch officials reluctantly trekked to Capitol Hill and tried to defend the president's budget without biting the congressional hand that feeds them.

MARIO VILLAFUERTE/*SPACE NEWS*

Firing line. Lane, Krebs, and Goldin are grilled on Clinton's long-term budget.

It was an uncomfortable session for Walker's guests. The science managers—NASA Administrator Dan Goldin; National Science Foundation (NSF) director Neal Lane; and Martha Krebs, the Department of Energy's (DOE's) energy research program chief—had told Congress earlier this year that the White House projections for their agencies should be taken with a grain of salt. The cuts outlined in that plan would slash civilian R&D funding by 19% between 1995 and 2002, according to data presented by Al Teich, director of science and policy programs at the American Association for the Advancement of Science (AAAS, which publishes *Science*), while the Republican budget resolution would result in a 23% cut over the same period.

The White House plan would shrink NASA's budget from $13.9 billion in 1996 to $11.6 billion in 2000, reduce DOE's $3.6 billion spending in civilian R&D programs by $500 million during the same period, and increase NSF research funding from $2.4 billion to only $2.5 billion—far less than would be needed to match inflation. Republicans propose more modest cuts to NASA, deeper cuts for DOE, and about the same levels for NSF. Overall, the Clinton plan projects civilian R&D spending of $33 billion by 2002, with a significant increase in the final 2 years, while the Republican plan would provide $30.7 billion.

Republican lawmakers such as Walker and Senator Kit Bond (R–MO), chair of a panel that oversees funding for NASA and NSF, say that comments from Administration officials have made it clear the figures are meaningless. Testifying before Walker's panel, Bond called the Administration's projections a "scam" that posits a balanced budget without the pain of slashing programs. He declared that the figures for NASA would force the agency to jettison a major program—such as the Earth observation program, space station, or the space shuttle—or close major field installations.

But the R&D chiefs rejected Bond's accusation of duplicity. They argued that while the overall figure for domestic discretionary funding may be fixed, individual agencies can lobby the White House for more money. Goldin promised "one hell of a fight" in his efforts to ensure adequate funding for NASA's R&D efforts. Lane and Krebs echoed that stance, adding that it is too early to know what spending levels the Administration will request for specific agencies and programs in the years ahead.

While the agency officials sought to avoid a political confrontation, Democrats like Representative Harold Volkmer (D–MO) didn't hesitate to defend the Administration against Walker's attacks. "You are trying to make the president look bad," he told Walker before stalking out of the committee room. "That's what this is all about. ... And I don't think you and [House Speaker] Newt Gingrich [R–GA] are going to get away with it." But Representative Gil Gutknecht (R–MN) retorted that the Administration "can't say it has a budget plan and then say it's not our budget plan."

The partisan debate misses a more ominous point, believes Representative George Brown (D–CA), the ranking Democrat on the panel: Either plan spells big trouble for U.S. R&D. "Both the Administration and Republican budgets are declining precipitously," he says. "On this scale, they look nearly identical."

Brown said that rather than argue over which of the two declining curves is better, lawmakers should join together and find ways to boost investment by government and industry in science and technology. But given the wide partisan rift on the Science Committee and the fact that the campaign season is already in full swing, an apolitical meeting of minds is unlikely before next year.

–Andrew Lawler

SCIENTIFIC COMMUNITY

U.S. Joins "Science Shop" Movement

AMHERST, MASSACHUSETTS—A phrase popularized by community activists—"Think globally, act locally"—can serve equally well as a slogan for university-based scientists who want to use their knowledge to help their neighbors. That's the view of Massachusetts Institute of Technology-trained nuclear engineer and political scientist Richard Sclove, who hopes to coordinate the actions of dozens of North American citizens' groups, nonprofit centers, and university outreach programs already conducting community-interest research. His model is a network of 38 public "science shops" in the Netherlands, university-based centers where community groups, public interest organizations, local governments, and labor unions can commission faculty and students to investigate societal concerns ranging from air pollution to teen alienation.

Two weeks ago, Sclove gathered together some 50 activists, scientists, and university officials who share his beliefs to lay down plans for a Community Research Network. The meeting took place at Amherst College in western Massachusetts, and was sponsored by the Loka Institute, an Amherst-based policy-studies center he directs. This type of gathering is essential for success, says Brigit Fokkinga, a sociologist and director of the science shop at the University of Nijmegen in the Netherlands, who knows from experience that universities tend to promote grant-getters and prolific publishers, which makes things hard for scientists who want to focus their attention on the community. "The function of our network was to be strong for each other, to exchange information and strategies," says Fokkinga, who spoke to conferees about the Dutch program's early years in the 1970s. "Your developmental stage reminds me of what we went through then."

The idea of a national community research network emerged early last year, after Sclove described the Dutch science shops in his book *Democracy and Technology* and in an article in *The Chronicle of Higher Education* that generated e-mail from hundreds of community organ-

izers. "I was surprised that dozens were involved in community research centers I had never heard of, and more surprised yet that many hadn't heard of each other," Sclove says. Groups such as the Policy Research Action Group, a Chicago-area organization that sponsors community research projects by interns and research assistants from local universities, for example, worked largely apart from other groups pursuing similar goals, such as the Community Partnership Center at the University of Tennessee, Knoxville, where graduate students are trained to help communities gain access to the Internet, among other activities.

A "SCIENCE SHOP" SAMPLER

Organization	Location	Goal
Good Neighbor Project for Sustainable Industries	Waverly, MA	provides technical support for industrial pollution prevention
The Highlander Center	New Market, TN	connects environmentally threatened communities with concerned scientists
Center for Neighborhood Technology	Chicago, IL	helps small metalworking shops meet new environmental regulations
John Snow Inc.	Boston, MA	facilitates "popular epidemiology" on health effects of hazardous chemicals
Group de Recherche-action en Biology du Travail	Montreal, Quebec	helped workers study occupational hazards in poultry slaughterhouses

SOURCE: LOKA INSTITUTE

One strategy that a national network must pursue to succeed is to advocate changes in the reward structure of academic science so that researchers can spend more of their time working with community groups, said Carolyn Raffensperger, a lawyer and coordinator of the Science and Environmental Health Network, a national alliance of environmentalist organizations. She says scientists now get little credit toward promotion for time spent advising public-interest organizations, and have difficulty publishing results drawn from participatory, multidisciplinary, or public-interest–driven research. As U.S. science shops become more visible and numerous, "our hope is that university administrators, journal editors, legislators, and the public will see the value in community-based research," Raffensperger says.

No one is underestimating institutional resistance, however. So before departing, conference participants formed committees to flesh out the research network's governance structure, informational programs, and fundraising strategies. And they agreed to hold a second meeting this autumn to bring more grassroots groups into the network. One person who thinks all this might work is John Gerber, director of the University of Massachusetts extension program, which co-sponsored the conference. The 74 agricultural extension offices at U.S. public universities, Gerber notes, already have decades of experience working with local communities, and could help lead the charge for more public-interest research. That would take "some reprioritization," Gerber admits. "But these are changes we all need to make."

–Wade Roush

AIDS RESEARCH

Reports Bolster Viral Cause of KS

Proving that an organism causes a disease can be tricky under the best circumstances. And when the disease is a major public health problem, explanations of its cause can generate passionate arguments. So it is with the proposal that a new herpesvirus is the cause of Kaposi's sarcoma (KS), a tumor famous for the purple skin splotches that 20% of HIV-infected gay men develop. Back-to-back papers published in the 25 July *New England Journal of Medicine (NEJM)* and the 1 August *Nature Medicine* offer conclusive proof of their claim, say supporters. But some prominent skeptics are still far from convinced.

The new studies extend the work of Columbia University molecular biologist Yuan Chang and her husband, epidemiologist Patrick Moore, who first identified KS-associated herpesvirus (KSHV)—also known as human herpesvirus-8—in 1994 (*Science*, 16 December 1994, pp. 1803 and 1865). In the current papers, Chang, Moore, and co-workers report that antibodies to putative KSHV proteins are common only among those with KS—and among people who eventually develop the disease. "This is essentially the last piece of evidence needed for proving causality," said Moore in a Columbia press release. A third paper in *Nature Medicine*, by Don Ganem and colleagues at the University of California, San Francisco, offers additional evidence by showing that the antibodies are common only in an HIV-infected population.

In the *NEJM* article, the Columbia group applied the new antibody test, developed by Shou-Jiang Gao, to blood samples from 122 blood donors, 22 people infected with Epstein-Barr virus—a virus related to KSHV—and 20 HIV-infected hemophiliacs. None of these people had antibodies to KSHV. In contrast, a separate analysis of 40 gay men with AIDS-associated KS showed that 32 (80%) had the antibodies. What is more, stored blood samples of the 80% who tested positive revealed that 52% of them had made the antibodies 6 to 75 months before KS appeared.

This group's *Nature Medicine* paper extends the epidemiologic evidence by showing that the supposed KS antibodies could also be found in more than 70% of Italian and Ugandan AIDS-KS patients. The Ganem group's paper provides supporting evidence for the link between KS and KSHV by showing that the antibodies were found in 30% of 279 HIV-infected blood donors, but in only 1% of the HIV-uninfected donors.

The new studies don't explain one intriguing question facing researchers: Why do other human herpesviruses appear widely throughout the population, while KS in AIDS patients is almost exclusively confined to gay men? Chang and Moore don't address why the virus has established itself in the gay population, but they believe their work shows it is not ubiquitous.

Their latest findings have won over several noted KS-AIDS researchers. But they have had trouble convincing other leaders in the field, including Robert Gallo, who thinks that HIV itself leads to KS. Gallo, head of the University of Maryland's Institute of Human Virology, stresses that these new results are "very, very interesting." And he says he is keeping an open mind about the possibility that KSHV causes KS. "Nothing rules it out," Gallo says. However, he adds, "these data are certainly not proof of causation."

Among his reasons for doubt, says Gallo, is a recent report from Philip Browning of Vanderbilt University offering evidence that, contrary to the Moore and Chang findings, the virus may be widespread in populations that don't develop KS. Steven Miles of the University of California, Los Angeles, who organized the May conference at which Browning presented his findings, says his lab has had similar results.

But Miles sees a middle ground in the dispute. "I firmly believe [KSHV] is involved with the pathogenesis of the disease," he says, "but we're still missing a trigger as to what causes it."

–Jon Cohen