clude manufacturing tiny electronic and mechanical devices, creating nanoscale materials such as tubes built from carbon molecules, and exploring the laws of physics at miniature scales. Researchers will also ponder a host of biological puzzles, such as how to image cell structures and proteins.

Organizers of the mesoscale center have proposed a new 4500-square-meter building that, because of the need for special clean rooms and vibration-free labs, could cost $30 million. That money will probably be raised separately. And in a move that is both symbolic and practical, they want to put it between buildings housing the physics, chemistry, and engineering departments. "Our hope is that we will get students [from different departments] lining up to use the machines and finding out what their counterparts across the street are doing," says theoretical physicist David Nelson.

Nelson also believes the new center will help Harvard beat the competition in signing up faculty and graduate students. Already, he says, news of the center has "attracted the attention of people we might try to recruit." He calls setting up the center, which will join similar new centers being completed at Rice University in Houston, Texas, and smaller facilities at several other schools, "the kind of opportunity that comes maybe once in an academic career."

Planning for the initiatives began last summer, when Knowles, urged on by scientists serving on Harvard's Board of Overseers, assembled half a dozen researchers to discuss how to expand the FAS's science programs. The discussions were aided by a decision last month to increase the payout from the school's overall endowment by 28%, to about $500 million a year. Although much of the new money will go to scholarships and other uses, some funds from FAS's $5.6 billion portion of the endowment were earmarked for science.

Harvard's expenditures don't surprise academics at other elite research institutions. "They are making downpayments in excellent areas that their peer institutions are also looking at," says Jeremiah Ostriker, provost at Princeton. Still, the size of Harvard's investment and the school's cachet have academics talking. "It's timely, and it's brilliant," says materials chemist Tom Mallouk, of Pennsylvania State University in State College, of the nanotech center and its interdisciplinary focus. The genome center "is a wonderful idea," adds Ung-Jin Kim, director of Caltech's Genome Research Laboratory, noting that investments in the field are likely to produce useful results.

But the promise of tangible gains won't necessarily lure other elite institutions to follow in Harvard's footsteps. "We're not obligated to do a 'me too,' " George Rupp, president of Columbia University in New York City, told *Science* last fall as rumors spread of the Harvard initiative. "We'll find the niches where we have an advantage. There is more scientific talent around than Harvard can use." –DAVID MALAKOFF

TERRORISM

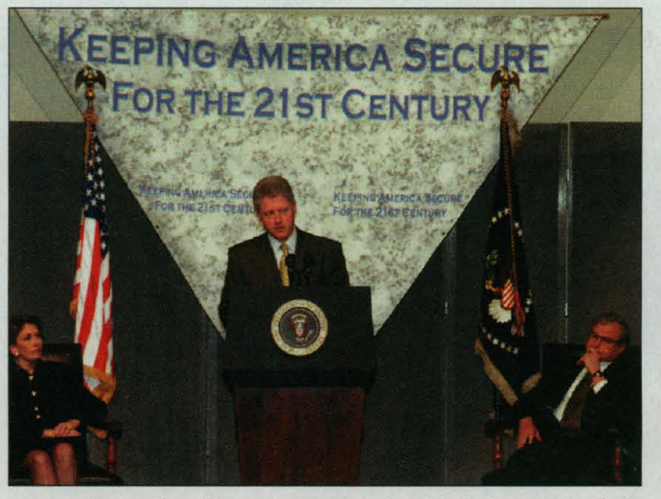
Defending Against Bugs and Bytes

Flanked by Nobel Prize–winner Joshua Lederberg and four Cabinet members, President Clinton announced on 22 January at the National Academy of Sciences in Washington, D.C., that he intends to ask Congress for about $2.85 billion to fight terrorist threats to the U.S. civilian population. If approved, the antiterrorism package could provide significant support for a few areas of biomedical research, including vaccine development, genetic studies of human pathogens, and development of high-speed medical diagnostics. It would also give a boost to applied computer science.

Clinton's plan is part of his year 2000 budget, which will be spelled out in detail next week. The Administration has been trotting out the budget highlights in a series of statements, including a speech by Vice President Al Gore last week laying out details of a major new computer research initiative (see p. 613).

Clinton said that he has been "nagging" his staff about bioterrorism "for the better part of 6 years," and that Lederberg—a molecular biologist and former president of The Rockefeller University in New York City—helped give credibility to his worries. Lederberg assembled a panel of experts last year to advise the Administration, Clinton said, and "then I had experts to cite on my concern, and nobody thought I was just reading too many novels late at night." Other advisers have persuaded him of the need to step up protection against attacks on military and civilian computer systems, Clinton said. He mentioned several frightening events—such as the nerve gas attack on Tokyo subway riders by the Aum Shinrikyo cult in 1995—which convinced him that "we have to be ready to detect and address a biological attack promptly, before the disease spreads."

The new budget will call for $1.385 billion for "domestic preparedness" projects aimed at protecting civilians against weapons of mass destruction—a broad category that includes nuclear, chemical, and biological attack. The proposed increase amounts to a raise of about 8%. Some areas targeted in this initiative are the development of new vaccines for anthrax and cholera ($30 million); research on faster diagnostics, antimicrobial agents, and genomic studies of potential bioterrorism agents, such as the organisms that cause anthrax, tularemia, and plague, at the National Institutes of Health ($24 million); new product regulatory review at the Food and Drug Administration ($13.4 million); and public health



Preemptive strike. Clinton announces that his budget will include $2.85 billion to combat bio- and cyber-terrorism.

SOURCE: THE WHITE HOUSE

surveillance at the Centers for Disease Control and Prevention ($86 million).

In addition, the Administration would like to set aside $1.464 billion for "critical infrastructure protection and computer security," which Clinton said is 40% more than the government now spends in this area. Most of the money would pay for applied research on computer security through the Department of Defense. About $3 million would fund new computer science scholarships, Clinton said, to create a "cyber-corps" of electronic network defenders.

Congress seems likely to approve, or even increase, the amount of funding Clinton proposes to spend on antiterrorist projects, according to Representative Curt Weldon (R–PA). Weldon, chair of the House armed services subcommittee on research, says he has been "hammering" on the Administration to support civilian defense programs like these. "While I welcome the statement by the president," Weldon says, "it's about time the White House got on this bandwagon." –ELIOT MARSHALL

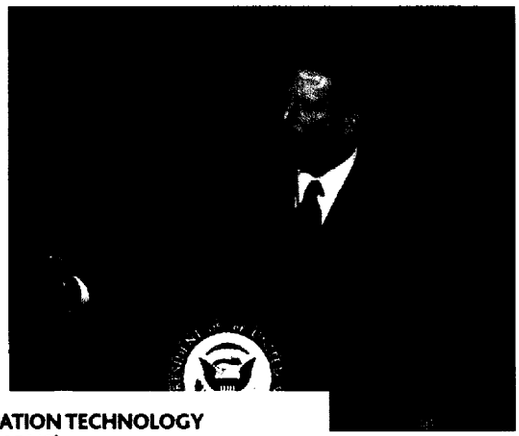
COMPUTING

Gore Presents Plan to Spend $366 Million

ANAHEIM, CALIFORNIA—The field of computing is chock-full of acronyms, from RAM to Y2K. Last weekend the Clinton Administration coined another one: IT^2, to describe its plan to boost basic research in information technology. Speaking here at the annual meeting of the American Association for the Advancement of Science (AAAS, the publisher of *Science*), Vice President Al Gore unveiled details of an initiative that would add $366 million to the $1.5 billion already in the federal budget this year for information sciences, a 28% increase. Next week the Administration will submit the proposal—dubbed Information Technology for the Twenty-First Century, or IT^2—to Congress as part of its fiscal year 2000 budget proposal. Gore's preview was part of a deliberate series of leaks designed to highlight key initiatives in the president's budget (also see p. 611).

The widely anticipated plan (*Science*, 15 January, p. 302) is the White House's response to an August 1998 report from a presidential task force that urged greater investment in the kind of basic computing that produced the Internet and other digital breakthroughs. The task force recommended an increase of $1 billion over 5 years. Gore's announcement "did a remarkable job of responding to our report—I'm optimistic we can convince Congress it's the right thing to do," says Ken Kennedy, a computer scientist at Rice University in Houston, Texas, and a co-chair of the panel. But Republican leaders in Congress, although likely to support the concept, may well reshape the details to avoid giving Gore an accomplishment he can tout on the campaign trail.

In his speech, Gore said the new money is needed to bolster long-term research neglected by companies. "We must do more to use science and technology to sustain our prosperity," he said, adding that the Administration also supports another 1-year extension of a $2.4 billion tax credit for companies that invest in R&D.



CREDIT: AP

Challenge grants. Vice President Gore announces IT initiative at AAAS meeting.

NEXT STEP FOR INFORMATION TECHNOLOGY (IN $ MILLIONS)

Agency	Software, etc.	Supercomputers	Ethical issues	Total
NSF	$100	$36	$10	$146
DOD	100	0	0	100
DOE	6	62	2	70
NASA	18	19	1	38
NIH	2	2	2	6
NOAA	2	4	0	6
TOTAL	$228	$123	$15	$366

If approved, the majority of IT^2 funds are slated for peer-reviewed university research aiming to create machines and software that could run at speeds exceeding 40 teraflops—or 40 trillion calculations per second—by 2003. The money would be divvied up among

ScienceScope

Stem Cell Switcharoo Senator Arlen Specter (R–PA) now says he won't hurry to lift the controversial ban on federal funding of human embryo research. In an attempt to accelerate promising studies of human stem cells, Specter's staff had drafted a bill to end the legal taboo against using embryo tissue from private fertility clinics in taxpayer-funded labs. It would have given these labs direct access to "spare" frozen embryos, which are the source of one type of stem cell. But at a 26 January hearing, Specter suggested he will shelve the bill now that the Department of Health and Human Services, parent of the National Institutes of Health (NIH), has announced that stem cell research doesn't violate the ban (*Science*, 22 January, p. 465). Scientists hope this new interpretation will enable them to work with privately developed cells, which they aim to coax to grow into an array of transplantable tissues.

Curiously, Specter's cautious approach—which would prevent a contentious debate over the ban—is welcomed by an odd couple: the U.S. Catholic Church and members of the American Society for Reproductive Medicine (ASRM). The clerics like the status quo because it continues the funding ban, which has been attached as a "rider" for several years in succession to NIH appropriation bills. ASRM members favor it because the current rider expires with the 1999 appropriation in September. There is a chance, at least, that Congress will decide not to renew the ban. From their point of view, no law would be better than an "improved" law.

Mix and Match A prominent Japanese scientist has added his voice to the rising international chorus calling for stronger links across academic disciplines. Hiroyuki Yoshikawa, president of the powerful, independent Science Council, has been talking up the idea of mixing social scientists into projects that have broad implications for the public. Cloning experiments, for example, might add ethicists to the usual mix of biologists, while public health experts might join nuclear fusion teams.

The idea is to look at research "from a very wide point of view," Yoshikawa says. His "very important" ideas will get a hearing during an upcoming review of Japan's R&D policies by the Council for Science and Technology, says Hiroo Imura, former president of Kyoto University and a member of the panel, which advises the prime minister.