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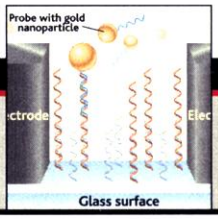

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Rapid microbe analysis

SCIENTIFIC COMMUNITY

Universities Review Policies for Onsite Classified Research

BOSTON—U.S. academic researchers are again debating the wisdom of doing secret science on campus. But some Bush Administration officials hope that the answers will be different from the ones most universities came up with a generation ago.

Last week, the Massachusetts Institute of Technology (MIT) launched a review of its policy toward classified research, which is now banned from the Cambridge campus. It's the latest major U.S. research university to do so in the wake of the 11 September terrorist assaults and subsequent anthrax mail attacks. And officials at Duke University in Durham, North Carolina, disclosed this month that they have rejected a grant that would have required the Pentagon to approve the release of any results.

Government officials—including White House science adviser John Marburger—have suggested that homeland security may require academic scientists to withhold the fruits of some research, such as the genetic sequences of potential bioweapons or the recipes for toxic chemicals. Such a step would clash with policies at most major research institutions, however, which state that such restrictions are detrimental to teaching and scholarship.

Many of the policies were adopted during the Vietnam War, and the issue flared up again during the defense buildup of the 1980s. In contrast, some observers have noted that universities have fewer qualms about similar restrictions imposed by industrial sponsors.

At Duke, officials say that military funding agencies wanted to attach new requirements after 11 September to at least three grants, including one involving engineering research. In two instances, according to vice provost James Siedow, the school "pushed back" and convinced the agencies to drop the rules. "But in one, we had to tell the [researcher] that he couldn't accept the grant under our policy," Siedow told a National Academy of Sciences public policy panel earlier this month in Washington, D.C. Duke received $210 million in federal research funding in 1999, ranking 18th in the country.

At MIT, the 10th largest recipient of federal science funds, administrators "have refused every single proposed" grant restriction since 11 September, says aeronautics engineer Sheila Widnall. But on 13 February officials announced that Widnall, a former secretary of the Air Force, will lead a six-member faculty committee that will review the school's "policies on access to and disclosure of scientific information," including how it handles proprietary research sponsored by industry. The committee's report is due at a May faculty meeting.

Fresh look. Sheila Widnall is leading MIT's review of classified research rules, which now permit such work at off-campus affiliate Lincoln Lab.

The University of Washington, Seattle—which does a small amount of classified research as part of its $385 million allocation from the federal government—is mulling a similar study, says Alvin Kwiram, the school's vice provost for research. "We want to think about how the current state of war might affect our relationship with the government," he says.

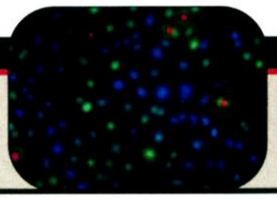
Like Washington, MIT currently bars classified research from most of its campus but allows it at the affiliated Lincoln Laboratory in Lexington, Massachusetts. Other major research institutions have similar arrangements. They include Johns Hopkins University in Baltimore, Maryland, the top-ranked recipient of federal research funding, with $778 million. These off-campus facilities, with fenced-off classified research centers, typically bar students and foreign scientists.

At least one science administrator says that a researcher's quest for knowledge should include the right to conduct secret research. "Academic freedom demands that if tenured faculty want to do classified research, they should be able to do it," Larry Druffel said at a recent military science convention in Charleston. Druffel is president of the South Carolina Research Authority, a consortium of research parks in the state.

Widnall believes that the strings attached to such research—including publication delays or restrictions that could hinder the careers of graduate students and postdocs—make such a policy unwise. Academic researchers who want to do classified research, she argues, "can go work for Boeing or Wright-Patterson" Air Force Base in Dayton, Ohio.

Other university officials worry that their faculty members may already be under pressure to accept restrictions imposed by government funders, despite campus policies to the contrary. The Pentagon currently imposes no limits on basic research that it funds and seeks review only of applied science projects. But "it's a policy with nuance," says John Sommerer, an administrator at Johns Hopkins University's Applied Physics Laboratory in Laurel, Maryland. "As a practical matter, some investigators are urged by [military] sponsors to delay or withhold basic research results, … [and] universities are kidding themselves if they think all faculty will adhere to an academic policy that is not in their best interests."

Marburger says he is glad to see such issues raised in public, although he admits that he is not an impartial observer. The nation needs talented academic scientists to fight the war against terrorism, he says, even if that means they might sometimes have to remain tight-lipped about their work. And he says he would favor rules that no longer "stigmatize" classified research.



As a former university president, however (he headed the State University of New York, Stony Brook, for 14 years), Marburger also upholds the principle of autonomy. "It's important for universities to straighten this out campus by campus," he says.

–DAVID MALAKOFF

CLIMATE CHANGE

More Science and a Carrot, Not a Stick

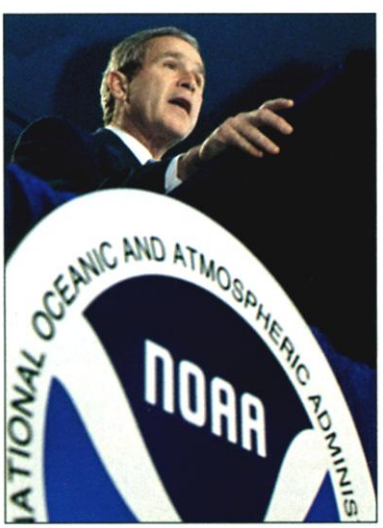
President George W. Bush last week delivered on his promise to face up to the threat of global climate change. But the new policy, which includes a slight bump in climate-related research, seems unlikely to alter entrenched views on the intensely politicized subject. Speaking at the Silver Spring, Maryland, headquarters of the National Oceanic and Atmospheric Administration (NOAA), Bush outlined a go-slow, entirely voluntary alternative to the reduction of greenhouse gas emissions required by the Kyoto Protocol. Whether the approach will ever net any significant emission reductions is unclear, but Representative Sherwood Boehlert (R–NY), chair of the House Science Committee, pronounced himself satisfied with its tone if not its substance. "The statement shifts the debate once and for all from whether to limit carbon dioxide emissions to how much to limit them," says Boehlert, who has criticized past environmental positions of his party's standard-bearer.

Bush's speech also highlighted two science initiatives, totaling $80 million, that are part of his 2003 budget request submitted this month to Congress. The Climate Change Technology Initiative would pump $40 million through the Department of Energy into as-yet-unidentified research and development, presumably including hot areas such as sequestration of carbon dioxide, with the goal of reducing greenhouse gas emissions. The $40 million Climate Change Research Initiative (CCRI) would complement research under the continuing $1.7 billion U.S. Global Change Research Program (USGCRP), which Bush's father began more than a decade ago. Presidential science adviser John Marburger last week told Boehlert's panel that the money would focus on finding science-driven answers to issues "of more immediate value to policy-makers" than what the global change program is addressing.

The president's new strategy aims for an 18% reduction by 2012 in "greenhouse gas intensity," the amount of emissions per unit of gross domestic product. The more efficiently Americans use fossil fuels and the more they use renewable energy, the more greenhouse gas intensity will decline. Bush hopes to entice businesses by providing $4.6 billion dollars over 5 years in tax credits for the use of renewable energy sources. He would also encourage more efficient use of fossil fuels by enhancing the existing registry of emission reductions and giving credits to businesses that show absolute reductions in emissions. These credits would become valuable if U.S. emissions were ever directly regulated; in the meantime, they would remain meritorious but useless.

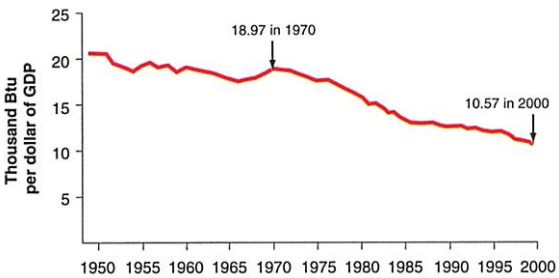
The prospects for attaining Bush's goal "depend a lot on what investors think," says economist Raymond Kopp of the think tank Resources for the Future in Washington, D.C. Businesses are more likely to respond voluntarily, he says, if they believe that future regulation will punish slackers.

But Kopp and others note that the goal, even if attained, is not as ambitious as it might sound. Greenhouse gas intensity has been declining for many decades, including a 17% drop in the most recent decade. A government forecast of a 14% decline in the next decade would leave only 4% to come from the voluntary incentives. The total is less than 20% of the reduction in U.S. emissions spelled out under the Kyoto Protocol, which the U.S. has rejected and which in itself would not have detectably reduced global warming.



Please help. Restraint of greenhouse gas emissions will be entirely voluntary.

The research initiatives are designed to help the government decide whether any regulation may be required, Bush explained. The $40 million CCRI would explore carbon cycling—which controls how much carbon dioxide remains in the atmosphere—and aerosols, including soot, that can either mask or enhance greenhouse warming. It would also bolster global climate observations in developing countries. NOAA would receive $18 million under the initiative, including $5 million to establish a climate modeling center at its Geophysical Fluid Dynamics Laboratory in Princeton, New Jersey. That might strengthen U.S. climate modeling now lacking in focus (*Science*, 5 February 1999, p. 766). The National Science Foundation would get $15 million, including $5 million to explore how society can cope with a changing climate.



Right direction. The president's goal is to accelerate the decline in energy consumed per dollar of economic output.

Scientists welcome the research initiative, despite its modest size next to the $1.7 billion USGCRP, which is scheduled for a $44 million boost. "It's not very much money compared to USGCRP," agrees climatologist James Hansen of NASA's Goddard Institute for Space Studies in New York City. "But it is a signal to the agencies that this is the direction they should be going with the dollars they already have." Scientists, he says, were already getting the message as they scrambled to help refine the priorities Bush set last June.

–RICHARD A. KERR

ANIMAL WELFARE

Senate Says No to New Rodent Rules

Biomedical research groups have won a major victory in a long-running battle over U.S. government regulation of laboratory mice and rats. But the war isn't over.

The U.S. Senate last week voted to bar the U.S. Department of Agriculture (USDA)

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