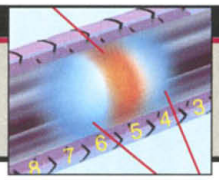






released immediately, and any group who wants to analyze and write them up should do so—with appropriate credit," she explains.

But the letter signed by Preuss and leaders of the International Nucleotide Sequence Databases is only fueling the flames. Although Birney agrees with its broad outlines, he would prefer a more flexible approach. Data producers, data users, and database managers "have to all get into a room and figure out the best structure" to ensure access but give credit to sequencers, so that they "don't just become unseen supporting cast." The U.K. biomedical charity Wellcome Trust hopes to do just that at a meeting it is organizing this January. **–LESLIE ROBERTS**

U.S. SCIENCE POLICY

## GOP Takes Senate, Budget Uncertain

U.S. science advocates face a new political landscape in Congress. When voters handed Republicans control of the Senate last week, ending a brief era of divided government, they put President George W. Bush in a stronger position to advance policies—from a ban on human cloning to a permanent tax break for corporate research spending—with implications for scientists. The shift could also delay pending budget increases for the National Institutes of Health (NIH) and other science agencies.

For the past 18 months, Democrats have held a single-vote majority in the 100-member Senate, giving them control of all committees and the legislative agenda. But the election will give Republicans at least 51 seats when Congress reconvenes in January. Republicans also strengthened their small majority in the House of Representatives.

The upheaval could temporarily disrupt the flow of grants to researchers if congressional leaders decide to put off final action on spending bills that fund NIH, the National Science Foundation (NSF), and other science agencies until the new Congress convenes. Those bills, which would provide double-digit increases for NIH and NSF, cover the fiscal year that began 1 October, but none have yet been passed and the agencies are running on a temporary spending measure. If lawmakers, back in town this week for a special postelection session, decide to extend the temporary spending measure until the end of January, NIH and other agencies will be forced to delay awards for a slew of new grants—including bioterrorism research—planned for early next year.

In the long term, lobbyists don't expect the Republican takeover to reverse growing bipartisan support for government spending on science. Key spending panels, for instance, are expected to be led by Republicans with a pro-research slant, including familiar faces such as Senators Arlen Specter (R–PA) and Kit Bond (R–MO).

Republican control does worry some biomedical research groups that are opposed to a ban on research involving human cloning, however. The White House and the House of Representatives have backed legislation that would ban not just reproductive cloning but the use of cloning techniques to create embryos for research or therapies, but outgoing Senate Majority Leader Tom Daschle (D–SD) helped a bipartisan group block the bill in the Senate. The expected new majority leader, Trent Lott (R–MS), is believed to be more willing to bring the issue to a vote. "It certainly will be easier to get [a cloning ban] on the floor," worries Anthony Mazzaschi, a lobbyist for the Association of American Medical Colleges in Washington, D.C.

Republican leaders might also speed up action on other bills of interest to researchers. One creates a new Department of Homeland Security, which would back terrorism-related R&D. Another is a massive energy bill that authorizes extensive new research programs. The Bush Administration has also discussed making permanent an existing tax break for corporate spending on R&D.

The new Congress will be missing some veteran science advocates, chief among them Representative Connie Morella (R–MD), whose district includes NIH and the National Institute of Standards and Technology. She lost a close race to lawyer Chris van Hollen. But the House's "physics caucus" remains intact: Representatives Vernon Ehlers (R–MI) and Rush Holt (D–NJ), the body's two academically trained physicists, won reelection easily.

**–DAVID MALAKOFF**

**THE 2003 SPENDING LOGJAM**

| Appropriations bill | Last step cleared | |
|---|---|---|
| | By House | By Senate |
| Labor-HHS (NIH) | No action | Floor approval |
| VA-HUD (NSF, EPA) | Committee approval | Committee approval |
| Energy | Committee approval | Committee approval |
| Interior | Floor approval | Committee approval |
| Commerce (NIST) | No action | Committee approval |
| Agriculture | Committee approval | Committee approval |
| Defense | Signed by president | |

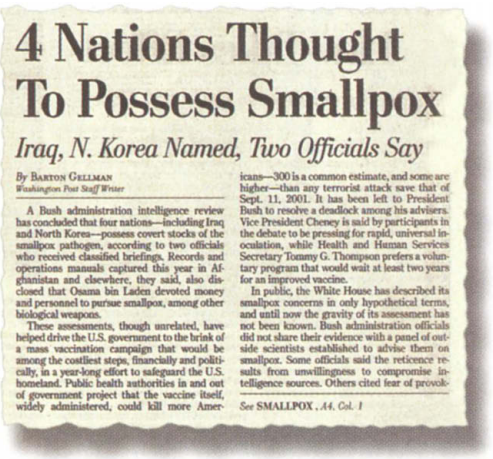
CREDITS: (LEFT TO RIGHT) SOURCE: U.S. CONGRESS; *THE WASHINGTON POST*

SMALLPOX

## Leaks Produce a Torrent of Denials

*France?* That's how many researchers and policy-makers reacted when they read a page one *Washington Post* story on 5 November that listed France, along with Russia, North Korea, and Iraq, as countries that U.S. intelligence sources believe hold clandestine stocks of smallpox virus. French officials had an even stronger reaction: A statement issued by France's Ministry of Foreign Affairs categorically denied the assertion "in the strongest terms."

The World Health Organization (WHO) declared in 1980 that its vaccination program had eradicated smallpox from the human population, and WHO member states agreed to destroy all but two stocks of the virus: one held at the U.S. Centers for Disease Control and Prevention in Atlanta, Georgia, and the other at VEKTOR in Koltsovo, Russia. Experts have suspected, however, that samples of the virus might be in the hands of ill-



4 Nations Thought To Possess Smallpox

*Iraq, N. Korea Named, Two Officials Say*

By Barton Gellman
*Washington Post Staff Writer*

A Bush administration intelligence review has concluded that four nations—including Iraq and North Korea—possess covert stocks of the smallpox pathogen, according to two officials who received classified briefings. Records and operations manuals captured this year in Afghanistan and elsewhere, they said, also disclosed that Osama bin Laden devoted money and personnel to pursue smallpox, among other biological weapons.

These assessments, though unrelated, have helped drive the U.S. government to the brink of a mass vaccination campaign that would be among the costliest steps, financially and politically, in a year-long effort to safeguard the U.S. homeland. Public health authorities in and out of government project that the vaccine itself, widely administered, could kill more Americans—300 is a common estimate, and some are higher—than any terrorist attack save that of Sept. 11, 2001. It has been left to President Bush to resolve a deadlock among his advisers. Vice President Cheney is said by participants in the debate to be pressing for rapid, universal inoculation, while Health and Human Services Secretary Tommy G. Thompson prefers a voluntary program that would wait at least two years for an improved vaccine.

In public, the White House has described its smallpox concerns in only hypothetical terms, and until now the gravity of its assessment has not been known. Bush administration officials did not share their evidence with a panel of outside scientists established to advise them on smallpox. Some officials said the reticence results from unwillingness to compromise intelligence sources. Others cited fear of provok-

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intentioned people in Russia, North Korea, and Iraq. French officials were outraged to be included in such company.

The *Post* story reported that the assessment came from the Central Intelligence Agency's Weapons Intelligence, Nonproliferation and Arms Control Center, which had "high but not very high" confidence in its information about France. One high-level source confirmed to *Science* that the story accurately reflected the content of the intelligence reports. (And 2 months earlier, U.S. Health and Human Services Secretary Tommy Thompson, in a little-noted 4 September *Post* story, said, "We can speculate" that France has the virus.) But several experts questioned the accuracy of the reports themselves. D. A. Henderson, who headed WHO's smallpox eradication program and now advises the U.S. Department of Health and Human Services on bioterrorism, says, for example, "I know of no information that would indicate to me that it was being retained [by France]." He adds: "It is not impossible that someone provided information about 'smallpox,' not realizing that 'smallpox vaccine' is quite another virus. This has happened before."

The *Post* story itself noted that some Administration officials were alarmed that France had been included in the list. As the story said, France holds a key United Nations Security Council seat and "is the linchpin of U.S. diplomatic efforts to establish a legal basis for war with Iraq." (France did end up joining other members in approving a U.N. Security resolution that forces Iraq to disarm or face "serious consequences.")

Apart from the alleged French connection, the leaked information could influence intense discussions now raging in the Administration about how widely the U.S. government should distribute smallpox vaccines, which can produce severe side effects. "It's designed to increase the level of anxiety and to influence the opinion of people who are conservative [about mass vaccinations]," complains Kenneth Shine, former president of the Institute of Medicine and now head of the newly formed RAND Center for Domestic and International Health Security in Arlington, Virginia.

One wing of the Bush Administration has pushed to make the vaccine available to anyone who wants it, whereas another has urged the more cautious approach of vaccinating only health care workers and other "first-line responders" in the case of a bioattack with the virus. Insiders expected a final decision several weeks ago, but indecision has prevailed as the White House continues to wrestle with the possibility that mass smallpox vaccination could do more harm than an actual bioattack with this vanquished killer.

–JON COHEN

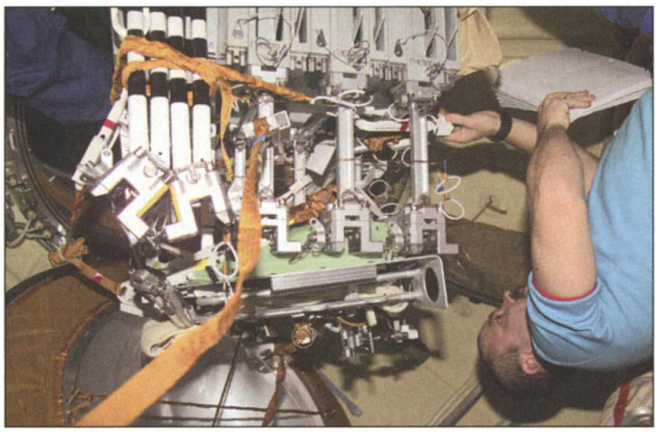
SPACE STATION

## Report Boosts Work In Physical Sciences

Physical scientists are striking back. A panel convened by the National Research Council (NRC) argues that areas such as fundamental physics and materials science deserve a prominent place on the international space station alongside experiments in the life sciences. That message is somewhat at odds with tentative NASA plans to revamp research on the orbiting laboratory.

The panel's report, requested by NASA 2 years ago and submitted last week, promises to ratchet up the competition among different disciplines scrambling for limited time, space, and funding on the station. NRC moved up the report's release in the hope of influencing NASA's 2004 budget request, now under review by the White House. "This gives me ammunition to try and grow the program," says Eugene Trinh, who heads the agency's physical sciences division. Other physical scientists say the NRC study could help rescue their discipline from second-class status.

The 15-member panel rated fundamental physics, low-temperature, and precision clock experiments among the most important areas to pursue and those likely to have the highest impact; the collection of thermophysical data on liquids in microgravity was ranked near the bottom. Panel members—a majority of whom do not receive NASA funding—say they were impressed by a dramatic increase recently in the quality of both the investigators and the results from recent space experiments. "It is clear this research is contributing to a broader field, although most people don't



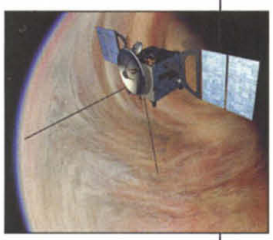
**Physical evidence.** A Russian cosmonaut adjusts instruments to study external particles that might threaten the space station.

CREDITS: (TOP TO BOTTOM) MEDIALAB/ESA; NASA

## ScienceScope

**Venus Rising** Europe's mission to Venus is back on track. The European Space Agency (ESA) last week gave Venus Express the go-ahead for a 2005 launch after managers swallowed an $8.5 million shortfall in Italy's contribution.

Last May, budget and scheduling problems prompted David Southwood, ESA's director of science, to cancel the $160 million probe of the veiled planet's atmosphere, magnetic field, and geology. But officials resurrected it a month later after an outcry from scientists—and despite doubts that the Italian Space Agency could meet its financial commitment (*Science*, 19 July, p. 317).



ESA has now decided to cover the deficit, leaving Italy to chip in spare parts for instruments it has built. The deal smoothes the way for Venus Express to become the sole space mission to Earth's neighboring planet until 2009, when Japan plans to launch its Planet C probe.

**At the Speed of IT** The National Academies are sometimes accused of being so slow that their reports are out-of-date by the time they appear. Last week, the authors of a new study on information technology (IT) admitted that, in their case, the critics are right. The admission served to make their point about how universities must do a better job of keeping up with the rapid pace of IT changes and to launch an effort to foster discussions about ways to do so.

"This report is probably the least important thing we're doing," confesses James Duderstadt, chair of an effort begun nearly 3 years ago to assess how high-speed computing and communications are changing academia, from teaching introductory courses to managing the books. The report, *IT and the Future of the Research University*, was launched at the height of the economic boom, when IT prophets were forecasting the demise of traditional learning.

Although that hasn't happened, the report warns institutions that "procrastination and inaction are dangerous courses" of action. Instead, says Duderstadt, president emeritus of the University of Michigan, the academies' Government-University-Industry Research Roundtable will begin "an ongoing dialogue" to help universities "protect their capacity to produce the talent and knowledge this nation needs."