sue.) "We recognize the federal government plays a very important role in researching cures for disease," Bush said in recommending the largest increase in NIH's history.

But Bush was mum on the subject that has much of the science community talking: the pain his proposal is expected to inflict on nonbiomedical science budgets (*Science*, 23 February, p. 1463). He was expected to request only a 1.3% increase for the National Science Foundation (NSF), whose budget now stands at $4.4 billion. Scientists are also bracing for grim news for science programs at NASA, the Department of Energy (DOE), the U.S. Geological Survey, and the Environmental Protection Agency.

Whether Congress will follow Bush's blueprint, however, is unclear. Congress traditionally increases the president's request for NIH, and already, Senators Arlen Specter (R–PA) and Tom Harkin (D–IA) have introduced legislation calling on the Senate to back a $3.4 billion increase. Dozens of House and Senate lawmakers have also signed an array of letters to Bush and congressional leaders asking for major science budget increases at NSF, DOE, and NASA.

The first real test, however, will come this spring, when congressional budget committees issue road maps to spending panels overseeing specific agencies. Researchers, says one House aide, "are going to know pretty early just how far they'll have to push the rock up the hill." **–DAVID MALAKOFF**

RESEARCH ETHICS

Query by Congress Halts New Policy

A complaint from a powerful member of Congress has at least temporarily scuppered a new federal requirement that institutions teach their biomedical researchers how to act responsibly. The Public Health Service, which issued the ethics education policy on 1 December, has put the requirement on hold while the Office of Research Integrity (ORI) reviews concerns voiced by the House Commerce Committee, which oversees the National Institutes of Health. The delay, part of a broader examination of actions taken by the outgoing Clinton Administration, marks the debut on research issues of the panel's new chair, Representative Billy Tauzin (R–LA), who is expected to be much more active than his predecessor.

The rules were the government's response to a growing consensus in the biomedical research community that prevention, through education, is the best way to reduce scientific misconduct. Accordingly, the new policy required institutions to develop a "basic program of instruction" on responsible research conduct covering topics such as data sharing, record keeping, and animal care. All staff members were supposed to have completed their training by 1 October 2003 or their institutions could lose federal funding. The training shouldn't take more than a few hours, estimates ORI, which is developing a 3-hour Web-based course as one option for schools.

Although biomedical and university advocacy groups support the idea, they have complained that the rules would be expensive to implement and cover too many people. The 1 December version contained a few changes from an earlier draft, giving institutions more time and allowing them to decide who should take the course. But "the most objectionable" sections were still there, says Howard Garrison, a spokesperson for the Federation of American Societies for Experimental Biology (FASEB).

Those complaints led the Commerce Committee to include the rules in a review of the Clinton Administration's last-minute regulations. A 5 February letter from Tauzin and James Greenwood (R–PA), chair designate of the oversight subcommittee, says that, although the committee "strongly support[s]" the ORI policy's intention, "we are troubled by ORI's process in implementing such efforts." The policy should have been issued as a formal rule, the letter explains, after steps such as a review by the White House, cost analysis, and publication of the entire text rather than simply a notice in the *Federal Register*. "There are procedures that have to be followed," says a committee staffer.

ORI doesn't believe the policy is equivalent to a formal rule, ORI Director Chris Pascal explained in a 14 February reply to Tauzin, because it gives institutes "considerable leeway" in how to implement it. ORI also notes that it reviewed more than 100

CREDIT: KENNETH LAMBERT/AP

Enforcer. House Commerce chair Billy Tauzin says NIH research ethics office broke the rules.

ScienceScope

SAGE Decision Russian researchers have lost a key court fight over the ownership of a hoard of precious metal, endangering a major international experiment. A Moscow court last week rejected the Baksan Neutrino Observatory's appeal of an earlier order to hand over 7 tons of gallium to the Russian Ministry of Fuel and Power Production. Scientists say the transfer would end the $60 million Soviet-American Gallium Experiment (SAGE), which uses an underground gallium-laced detector to study neutrinos streaming from the sun (*Science*, 23 February, p. 1470).

The ruling marks the latest twist in a 4-year struggle over the silvery-white metal. It began when the power ministry moved to acquire SAGE's gallium, presumably so the government could eventually sell the metal, which is used in semiconductors and brings up to $600 per kilogram.

The observatory, however, is in no hurry to comply with the latest court order. "There are many ways to delay," says Leonid Bezrukov, deputy director of the Institute for Nuclear Research. But he fears that opponents may use other tactics to seize the metal. Local police have already launched one investigation into alleged gallium "waste" by the researchers, and Bezrukov says "no one knows what could happen next."

Bad Break? Although some scientists complain that biomedical research is getting more than enough funding (see p. 1677), some lawmakers want the U.S. government to offer a new tax break to encourage greater giving to medical studies. The legislators introduced a bill this week that would give a deduction to science backers who donate stock options to universities and other nonprofits engaged in medical research.

"With stock options playing a larger role in employee compensation packages in the new economy, people should have the option of giving ... without having a portion siphoned off for Uncle Sam," says Representative Jennifer Dunn (D–WA), who is sponsoring the legislation with Representative Ben Cardin (D–MD) and Senators Bill Frist (R–TN) and Robert Torricelli (D–NJ). Dunn claims the change could bring $1 billion to medical charities over 5 years.

But a similar bill that Dunn introduced last year won only lukewarm support from many philanthropic and scientific groups. The problem, they say, is that singling biomedical science out for a tax benefit might lead to complaints from other disciplines. Says one lobbyist: "Why shouldn't ecology get the same treatment?"

comments and met with FASEB and other organizations before issuing its final policy. But Pascal says that ORI has stopped the clock to review "both the substance of the policy and the process." A committee staffer says that suspending the rule "is appropriate" and that the panel has not yet decided on its next step. –JOCELYN KAISER

PLANETARY SCIENCE

Cosmic Misfits Elude Star-Formation Theories

TOKYO—Astronomers have become increasingly perplexed over the last few years by a strange new class of celestial body. Too small to fit conventional definitions of brown dwarfs, they nonetheless move through star-forming regions in a manner that separates them from planets orbiting a star. Once seen as anomalies, their growing numbers are forcing astronomers to sit up and take notice (*Science*, 6 October 2000, p. 26). On 14 February, a Japanese team raised the stakes by reporting its discovery of more than 100 of these objects in a star-forming region known as S106. "This poses a big challenge for the standard picture of star formation," says Shu-ichiro Inutsuka, a theorist at Kyoto University.

Yumiko Oasa of the University of Tokyo and colleagues there and at the National Astronomical Observatory of Japan spotted the band of cosmic misfits while using NAOJ's Subaru Telescope on Mauna Kea, Hawaii. They were observing infrared emissions from a region approximately 2000 light-years from Earth in the constellation Cygnus. In addition to hundreds of brown dwarfs, the team spotted more than 100 fainter free-floating objects. Plugging data on luminosity and estimated age into models of how very low-mass stars evolve, the team estimated the objects' masses at 5 to 10 times that of the planet Jupiter. An analysis of their infrared emissions placed the objects within the region.

"Our discovery sheds new light on the ubiquity of isolated planetary-mass objects," says Oasa about her work, the basis for a Ph.D. thesis approved last month. A brief report of the discovery and photos have been posted on the NAOJ Web site (www.nao.ac.jp).

Joan Najita, an astronomer at the U.S. National Optical Astronomy Observatories in Tucson, Arizona, cautions that more work is needed. In particular, spectroscopic analysis of the objects' emissions would determine their temperature, which could be used to confirm their mass. But Najita says the essential message is believable. "I think these kinds of results show that the process that makes stars can also make things that are substellar," she says.

The objects don't neatly fit any conventional definitions. Brown dwarfs are usually smaller than about 75 Jupiter masses, the minimum size needed to ignite the hydrogen stars need to burn, but larger than 13 Jupiter masses, what's necessary to fuse deuterium and produce a faint glow. By failing to reach this lower limit, the new objects are hard to account for. Most astrophysicists believe brown dwarfs and stars condense directly out of vast seas of tenuous gas known as molecular clouds, whereas planets form in disks of matter swirling around nascent stars. Small lone bodies, however, don't mesh well with either scenario.

Mother lode. More than 100 planetlike objects have been found in a star-forming region called S106.

CREDIT: SUBARU TELESCOPE/NATIONAL ASTRONOMICAL OBSERVATORY OF JAPAN

Two theories about the origins of planetary objects shed light on the elusive creations but fall short of supplying a complete answer. One proposes that they are ejected from young stellar systems, the other that they form from molecular cloud cores with masses too low to give birth to stars. But Inutsuka says neither idea can account for the large numbers of smaller objects spotted in S106. "I think [Oasa's report] will prove extremely important for pushing the modification of currently accepted theories of star formation," he says.

Motohide Tamura, an astronomer at NAOJ and Oasa's thesis adviser, says that scientists need to spend more time observing these phenomena. "So far, only a very limited number of [star-forming] regions have been observed," he says, too few to conclude just how common the objects are. With the teams planning to use Subaru to investigate other regions, the number of free-floating objects seems certain to grow.

–DENNIS NORMILE

CHINA

Two Honored, Other Prizes Go Unclaimed

BEIJING—China's newest—and by far richest—prize for lifetime scientific achievement was awarded last week to a mathematician and an agronomist. But the gala state celebration on 19 February was dampened by evidence of how far the country's research community still must go to compete globally: First place in two other major categories of scientific achievement went unclaimed after officials decided that no researchers were worthy of the honor.

The winners of the new State Supreme Science and Technology Award, which comes with a 5 million yuan ($600,000) prize, are Wu Wenjun and Yuan Longping. Wu, 82, is a topologist who developed a computer algorithm for solving a collection of polynomials, the equivalent of proving a geometric hypothesis. It is useful in pattern recognition and other computer tasks. Newspaper reports say that he also may have been the first Chinese scientist to own a personal computer.

Yuan, 72, is considered the father of hybrid-rice technology in China and is credited with helping China achieve a threefold boost in rice production over the past 4 decades. He has also amassed a personal fortune by lending his name to a high-tech seed company formed last year, in exchange for equity in the new company.

The awards, conferred by Chinese President Jiang Zemin, were created to highlight outstanding achievement and demonstrate the importance of science in the nation's economic development. Some 90% of the prize money will be plowed back into research at their former work sites—in Wu's case, the Chinese Academy of Sciences' Institute of Mathematics and System Science in Beijing; for Yuan, the Hunan Academy of Agricultural Sciences. The remainder is for their personal use, or as Wu told reporters: "I think that is my own business."

Wu and Yuan were chosen from among 14 finalists to receive what is expected to be an