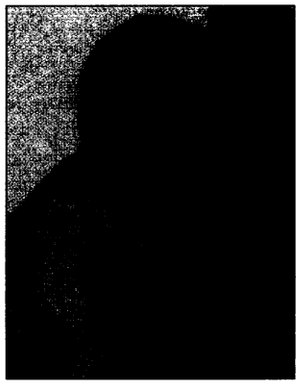
and offers a surprisingly clear evolutionary record. Says Bull: "This is the study that's going to go into the textbooks."

–GRETCHEN VOGEL

FORMER SOVIET SCIENCE

Ukrainian KGB Puts Heat on Researchers

In an episode that is rekindling memories of Soviet-era repression, Ukrainian security agents last week accused three marine scientists of crimes against the state: shipping sensitive data out of the country and illegally accepting Western currency for research. The unprecedented post–Cold War investigation has stirred an international effort to persuade the Ukrainian government to rein in its version of the KGB before formal charges are brought. Prosecuting the researchers, observers in the West say, could put scientific collaboration with Ukraine into a deep chill.



Price of success? Piontkovski's grants could land him in jail.

Like many talented scientists who have chosen to stay put in the former Soviet Union, Sergey Piontkovski and his team at the Institute of Biology of the Southern Seas (IBSS) in Sevastopol, Ukraine, have supplemented their meager state salaries with grants from Western organizations. Piontkovski has been more successful than most, pulling in grants in recent months from the U.K. government's Darwin Initiative; a European Union agency called INTAS that supports former Soviet scientists; and the U.S. Office of Naval Research (ONR). According to several Ukrainian scientists, jealous co-workers at the institute may be trying to take Piontkovski down: "As far as I know, these people wrote a letter to the local KGB," says Alexei Mishonov of the Marine Hydrophysical Institute (MHI) in Sevastopol, now a visiting scientist at Texas A&M University in College Station.

Whatever aroused their interest, on 16 October Ukrainian security bureau (SBU) agents raided the homes and offices of Piontkovski; his former wife, Galina Piontkovskaya, who is also an IBSS scientist; and IBSS deputy director Yuri Tokarev. They seized the researchers' scientific papers, computers, money, and passports. "They confiscated everything," says Piontkovski, who when contacted at his home by *Science* claimed that the SBU was monitoring his telephone calls. If convicted of illegal funds transfers, he says, all three scientists could face steep fines and up to 8 years in prison. Tokarev, Piontkovski says, was also accused of passing Soviet-era data to the West. The SBU investigation has since expanded to target MHI scientists also funded by the three grants, says Mishonov.

Work under the grants involves analyzing and digitizing a wealth of data on plankton bioluminescence collected by over 50 Soviet ocean expeditions from 1970 to 1990, as well as voyages undertaken by Ukraine and Russia after the Soviet Union dissolved. The grants call for making the information, a measure of the ocean's total biomass, available to the scientific community on CD-ROM. "I can hardly see how this kind of plankton studies can represent a risk to the national security of any nation," says marine biologist Luis D'Croz of the Smithsonian Tropical Research Institute in Panama. "This is simply absurd." The data "were not classified in any way," adds marine biologist Robert Williams of the Plymouth Marine Laboratory in the United Kingdom, a co–principal investigator on the ONR and Darwin grants, although he points out that the National Academy of Sciences of Ukraine prohibited the release of Soviet acoustic data that might give insights into submarine movements.

Ukraine's Byzantine currency laws make it hard for Western officials to evaluate the allegations of illegal funds transfers. "We have told the Ukrainian government time and again that they are creating a hostile environment for investment," says Gerson Sher, director of the U.S. Civilian Research and Development Foundation. Sher estimates that three times as many tax-free dollars for science would flow into Ukraine if the legal situation were clarified. "It's like the IRS [Internal Revenue Service] in our own country—if they want to get you they'll find a way," he says. Mishonov agrees: "It's very easy to find a currency law that's broken." INTAS director David Gould, however, says his agency has abided by the law in funding scientists under a program sanctioned by the Ukrainian government.

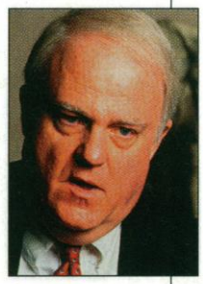
To send a signal that the SBU's own steps are being monitored, the European Union's representative in Kiev has taken up the matter with Ukraine's Ministry of Foreign Affairs, while Piontkovski's colleagues at IBSS and at foreign institutions have appealed to Boris Paton, the powerful academy president, to bring his influence to bear. If the SBU is preparing a broader campaign against Western-funded Ukrainian scientists, warns Williams, he and others who wish to sustain their colleagues may have to keep them at arm's length, for "fear of placing them in jeopardy."

–RICHARD STONE

CREDITS: (LEFT TO RIGHT) A. MISHONOV; SAM KITTNER

ScienceScope

Beijing Brouhaha Brushing aside last-minute objections from an influential congressman, the National Science Foundation (NSF) last week gave the green light to a science policy meeting in China involving officials from both countries. Representative James Sensenbrenner (R–WI, right), chair of the House Science Committee, was supposed to deliver the keynote address at the 3-day Beijing conference organized by Thomas Ratchford, a senior science official in the Bush Administration who now teaches at George Mason University in Fairfax, Virginia. Ratchford has a $325,000 NSF grant to explore U.S.–Chinese roles in a "borderless, knowledge-based 21st century economy."

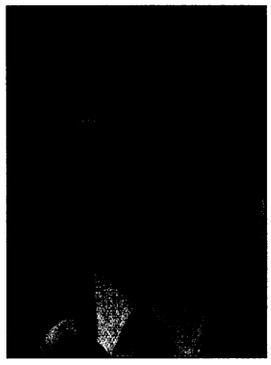


But Sensenbrenner pulled out on 20 October, blasting China's "repeated efforts to obtain or misuse sensitive military technologies," and urged NSF to cancel the meeting. Ironically, he broke the news to NSF director Rita Colwell in a call that interrupted a meeting with reporters in which she and presidential science adviser Neal Lane had heaped praise on Sensenbrenner and his Republican colleagues for their help in passing the just-signed 2000 budget for NSF and NASA.

Colwell spent the next day conferring with Lane and other scientists before deciding that the meeting should go on. The seminar "is not linked to [Sensenbrenner's] specific concerns" and upholds "the principle of free circulation of scientists," she says. Sensenbrenner released a statement expressing disappointment with NSF's decision, which he said "prompts further questions about the Administration's handling of S&T issues involving China."

Opinion-Makers How do British scientists think they rate with the public? The Wellcome Trust aims to find out. Next month, with support from the government's Office of Science and Technology, the biomedical research charity will begin face-to-face interviews with a "nationally representative" sample of 1600 U.K. scientists in a bid to discover—among other things—how they see their role in society and how the fuss over genetically modified foods has shaped their attitudes toward the media. Preliminary results of the survey, to be conducted by the market research firm MORI, will be available next spring, with a final report in July.

Fisheries, which hopes to receive money to speed up work on sequencing and analyzing the rice genome. "The Millennium Projects are emphasizing areas where additional spending is needed," adds Leo Esaki, a Nobel Prize–winning physicist and former president of the University of Tsukuba. But others are more cautious in their praise. "In some cases, it's hard to tell just what's included," says an official from the New Research Centers Planning Office of RIKEN (the Institute of Physical and Chemical Research) outside Tokyo, which has proposed five Millennium Projects.



Scientific help. Prime Minister Obuchi hopes Millennium Projects will boost economy.

Obuchi caught the scientific community off guard in August when he asked each agency to nominate research-oriented projects to address social and economic needs in three broadly defined categories: information technology, the aging of society, and the environment. The projects, ideally involving cooperation among government, industry, and academia, are intended to boost the nation's technological prowess and address pressing societal needs. Priority areas for projects of up to 5 years include such goals as connecting all primary and secondary schools to the Internet, creating a paperless government by 2003, enhancing the skills of older workers, reducing the use of dioxin and PCBs, and developing fuel cell–powered cars.

Although some scientists worried initially that the awards would circumvent established selection procedures, most agencies ended up nominating projects from among those already in the pipeline in the hope of moving them forward or freeing up funds for other projects. Officials also coordinated their proposals to ensure that everyone would get a piece of the pie. "I think we have almost gotten what we wanted," says Nobuhiro Muroya, deputy director of the Science and Technology Agency's Planning and Evaluation Division. The three categories also proved remarkably flexible, with rice genome work fitting within the "needs of an aging society."

In addition, the Millennium Projects will pad Japan's R&D bottom line. Without them, projected science spending would remain relatively flat, at $30 billion for the fiscal year beginning on 1 April. But crediting the entire $2.4 billion to science would mean an annual increase of more than 8%.

The uncertainties surrounding the projects pose some problems for planners. At RIKEN, for example, it's not clear how much money will go to two projects on the list: a new institute to focus on cell development, differentiation, and regeneration; and a project to study single nucleotide polymorphisms, subtle genetic variations that distinguish human beings that may lead to drugs tailored to an individual's characteristics (*Science,* 9 July, p. 183). Officials also hope to get some money for a new research center to focus on plant genetics and genomics, including 50 new positions.

Another uncertainty stems from the fact that Obuchi has invited the public to submit ideas before the list of projects is finalized in December. Just how the public will participate is up in the air, however. Muroya says a telephone hot line is a possibility. Any suggestions will be reviewed by the Council for Science and Technology, the nation's highest science advisory body, which is chaired by the prime minister.

–DENNIS NORMILE

CREDIT: KATSUMI KASAHARA/AP; GRAPH SOURCE: NSF/DIVISION OF SCIENCE RESOURCES STUDIES

OBESITY RESEARCH

Leptin Not Impressive In Clinical Trial

Like a promising starlet with her first box-office flop, the hormone leptin, which made a stunning debut 5 years ago as a potential weight-loss drug, has met with disappointment after the conclusion of its first clinical trial in humans. On a positive note, the results, which appear in the 27 October issue of *The Journal of the American Medical Association*, show that some study participants given leptin lost more weight than controls. The differences were statistically significant, however, only in obese subjects given the two highest leptin doses.

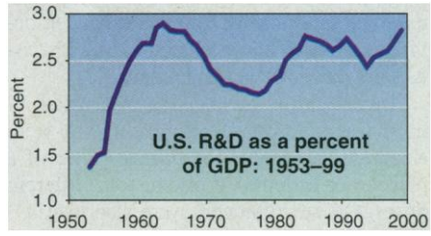
And because it's a protein, the hormone had to be injected, which produced redness and swelling severe enough to cause subjects to drop out of the study early. What's more, some obese volunteers cheated on their required diets. As a result, they gained weight despite receiving the drug. "I was not very impressed," says Jeffrey Flier, a longtime leptin researcher at Harvard Medical School in Boston. "Leptin, given the way the researchers gave it to a group of people with a common variety of obesity, is relatively ineffective in most of them."

There still may be hope for leptin as a diet therapy, however, if researchers can uncover what made the few individuals who responded to the drug more sensitive; it could enable them to identify patients likely to benefit. But that sort of finding, even if it comes soon, will still leave the majority of obese individuals—an estimat-

ScienceScope

Upwardly Mobile A strong economy has pushed the share of U.S. resources devoted to research to the highest level since the race-to-the-moon boom of the 1960s. This year the United States will spend 2.79% of its $88 trillion gross domestic product (GDP) on R&D, concludes a new National Science Foundation report (NSF 99-357, at www.nsf.gov/sbe/srs). The $247 billion investment extends a 6-year uptick and erases an earlier decline that had triggered dire warnings of a loss of U.S. leadership in science. The most recent figures keep the United States close to Japan's 2.92% and comfortably above Germany's 2.3%.

This year's $20 billion, 8.8% spending boost is fueled by industry, which funds 68% of the U.S. scientific enterprise. Meanwhile, the federal government's spending share slipped to 27%, the lowest percentage since NSF began collecting data in 1953. "It's a reflection of good economic times," notes NSF's Steve Payson. If industrial investment remains strong, he says, next year's figures could beat the 1964 record of 2.87% of GDP.



Minority Report The National Institutes of Health (NIH) already has too many institutes and centers, according to NIH director Harold Varmus. But his lack of enthusiasm for subdivisions hasn't stopped Congress from proposing more. This week Senator Ted Kennedy (D–MA) planned to throw his legislative weight behind a bill to create a new Center for Research on Domestic Health Disparities, which would study health problems of particular concern to minorities.

Kennedy's bill is expected to mirror one proposed in the House on 30 June by Representative Jesse Jackson Jr. (D–IL). Jackson's bill (HR 2391) calls on NIH to fund research that aims to find out why ethnic minorities and "individuals in underserved communities" are likely to die earlier than whites of diseases such as cancer, diabetes, and AIDS. Jackson has already signed up 70 co-sponsors, including members of the Asian, black, and Hispanic caucuses. But neither bill is expected to make much progress this year.

Contributors: Jeffrey Mervis, Constance Holden, Eliot Marshall