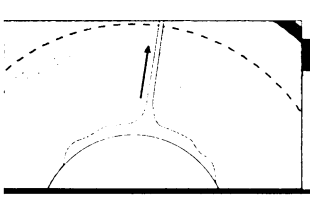


erations vice president for Bode Technology Group in Springfield, Virginia. As evidence, he cites the successful identification of remains found in Vietnam 30 years after the war.

Each match from the World Trade Center disaster made by the private labs will be verified by the medical examiner's lab. Police then will inform families in person. Shaler says he expects the entire effort to take a year. At this stage, cost is hard to estimate, says Shaler, who notes that the city and state can draw on relief funds appropriated by Congress.

The huge task will put DNA identification in the public spotlight. Forensic scientists say they have been hampered in the past several years by lack of staff, advanced equipment, and funding. New York City alone, for example, has 10,000 samples from alleged rapes yet to be processed. The Justice Department this summer proposed spending $30 million over the next 18 months to begin resolving the national backlog. Researchers are quietly hoping that their success in identifying the disaster victims will prove their worth and bring needed resources to their field. **–ANDREW LAWLER**

THE SOVIET LEGACY

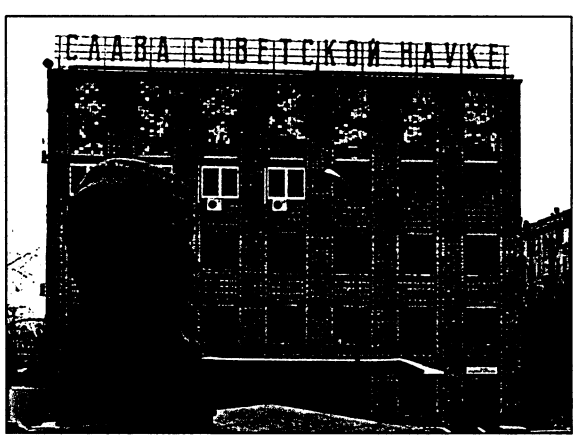
Hoping Software Will Help Keep the Peace

Hundreds of Russian nuclear scientists may soon find themselves writing commercial software in a novel bid to keep their weapons expertise from falling into the wrong hands. The deal, in the works for months, may herald other initiatives aimed at blocking weapons proliferation in the wake of the 11 September terrorist attacks.

The arrangement—announced in Washington, D.C., last week by the U.S. Department of Energy (DOE), the Kurchatov Institute of Atomic Energy in Moscow, and their Russian corporate partner—is salve for a bruised U.S. nonproliferation effort. In April, the Bush Administration proposed cutting $100 million from a raft of DOE programs to improve nuclear security in Russia, from securing plutonium stockpiles against potential smugglers to helping nuclear physicists find peaceful work (*Science*, 1 June, p. 1632). Last month's events, however, appear to have built stronger support for U.S. nonproliferation efforts. The attacks "crystallized the need to intensify cooperation" to keep weapons expertise out of terrorists' hands, says U.S. Representative Curt Weldon (R–PA), an expert on Russia.

A Russian company, LUXOFT, along with its U.S. partner CTG Inc., will take the lead in retraining the scientists, whose salaries will be paid by a $500,000 grant from the DOE's Initiatives for Proliferation Prevention (IPP) program. Previous projects in the $25-million-a-year IPP have typically paired U.S. companies directly with Russian defense scientists. Nevertheless, says DOE's Steven K. Black, turning weapons scientists into computer programmers "epitomizes the goal of the IPP."

The details of the Kurchatov project, which were being finalized in Moscow on 11 September as the World Trade Center and the Pentagon burned, may also help stem a decade-long decline at the institute. Its 5000 scientists, half the peak number from the 1980s, are seriously underpaid, says Boris Stavisski, a nuclear physicist who heads the Kurchatov Technopark, which seeks to commercialize the institute's research. Although fewer than two dozen scientists will be involved in the project's first phase, LUXOFT managing director Dmitry Loschinin says his firm expects to retrain 150 scientists over the next 2 years and perhaps 500 by 2006. Stavisski concedes that it will be difficult to steer some older scientists onto a new path, while others worry that such programs may fail to reach the crème of the weaponeers because the Russian government isn't ready to have its finest weapons designers shifted to civilian work.



CREDIT: IVAN SEKRETAREV/AP

Containment. New project will retrain 150 scientists from the Kurchatov Institute (above) over the next 2 years.

Even so, a new day may soon dawn for many other former Soviet defense experts. The Bush Administration is expected to propose several initiatives to expand R&D collaboration and nonproliferation programs at a summit meeting next month in Moscow between President George W. Bush and Russian President Vladimir Putin. "It's a new era in our relationship," says Weldon, one that requires "a concerted effort to show Russian scientists that there are opportunities outside of weapons development."

–ROBERT KOENIG

BIOMEDICAL RESEARCH

First House Vote Good For NIH Budget

U.S. biomedical research spending appears headed for another big boost. Congress last week took the first step toward finalizing a 2002 budget for the National Institutes of Health (NIH) when a House subcommittee approved a 12%, $2.5 billion increase, to $22.5 billion, for core research programs. The panel also urged NIH to forge ahead with controversial human stem cell research, rebuffed a White House proposal to trim spending at the Centers for Disease Control and Prevention (CDC), and boosted antibioterrorism budgets.

Biomedical groups are welcoming the NIH increase, although it falls almost $1 billion short of the amount needed to keep the agency on track to double its budget by 2003. The 2002 fiscal year began on 1 October, but Congress has given itself until the middle of the month to complete work on the 13 spending bills that direct U.S. government spending, with further extensions likely if needed.

NIH's raise was part of a larger $123.1 billion spending bill approved on 3 October by a House Appropriations Committee subpanel. Details were not available as *Science* went to press, but lobbyists and congressional aides say the bill, which also funds labor, education, and social welfare programs, provides roughly the amount for NIH basic research requested by President George W.

Bush. It also contains several hundred million dollars for improving science and math teaching as part of a successor to the Education Department's Eisenhower program.

A report accompanying the bill urges NIH to move ahead quickly to fund controversial research on human stem cells derived from embryos and adults. In doing so, it sidesteps a potentially bruising fight over existing language that instructs NIH not to fund research involving the destruction of human embryos by explaining that it does not conflict with recent White House rules restricting federally funded researchers to using stem cell lines created before 9 August (*Science*, 17 August, p. 1242). "The language and logic are tortured, but the message is clear: Get on with stem cell research," says one aide to a House Democrat.

Panel members also rejected a White House effort to trim CDC by adding more than $380 million to the Administration's request. That amount would boost CDC's budget by 5.5%, to $4 billion. In particular, lawmakers restored nearly $150 million to the CDC's health promotion budget, which sponsors education and advertising campaigns aimed at preventing disease.

The panel also added $50 million to a small increase requested by the White House for antibioterrorism programs within the Department of Health and Human Services, for an overall 25% boost to $300 million. Associated research and public preparedness efforts are expected to get more funds from the $40 billion emergency spending package that Congress approved in the wake of the 11 September terrorist attacks.

The full House is expected to sign its version of the NIH spending bill within a few weeks, shifting attention to the Senate. Biomedical researchers were hoping for even better news as early as this week from the Senate spending panel that oversees NIH, because its leaders, Senators Tom Harkin (D–IA) and Arlen Specter (R–PA), have already promised a $3.4 billion increase. Differences between the House and Senate bills will be worked out by negotiators from each body, perhaps before the end of the month.

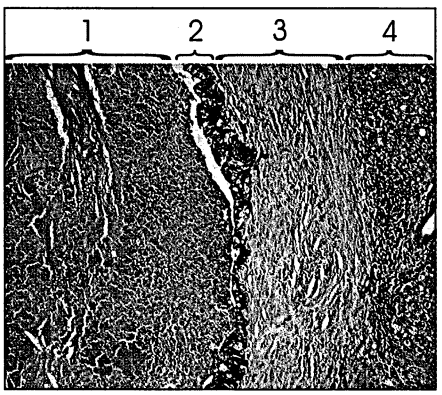
–DAVID MALAKOFF

CANCER RESEARCH

New Insights Into Metastasis

The metastatic cell is a tumor's stealth invader: able to slip into foreign territory, set up a beachhead, and grow until it kills. Indeed, it's the metastases, not the primary cancer, that usually defeat oncologists' efforts to cure their patients. Results published online today by *Science* (www.sciencexpress.org) now pinpoint a genetic change that may help colon cancer cells metastasize to the liver—information that could help researchers develop drugs to stanch the invasion.

The work, which comes from Kenneth Kinzler, Bert Vogelstein, and their colleagues at the Johns Hopkins Medical Institutions in Baltimore, Maryland, shows that a tyrosine



Mixed bag. In addition to living cancer cells (2), this liver metastasis contains dead and dying cancer cells (1) and a capsule of connective tissue (3), all surrounded by liver and inflammatory cells (4).

phosphatase enzyme called PRL-3 is expressed at higher levels in colon cancer cells that have metastasized to the liver than in nonmetastatic colon tumors and normal colon epithelial cells. In at least some cases, this was because of a genetic change, an amplification of the *PRL-3* gene. The finding suggests that an excess of the enzyme, which may normally help control cellular activities, somehow fosters the spread of colon cancer to the liver, its principal site of metastasis.

Although the Johns Hopkins workers do not yet know how *PRL-3* might spur colon cancer metastasis, other researchers are already enthusiastic. They note that although many gene changes have been tied to the early stages of cancer development, few have been linked to metastasis. There's "still remarkably little known about the molecular genetics and signaling pathways responsible for metastasis ... and that's the most lethal aspect of cancer," says Jeffrey Trent of the National Human Genome Research Institute in Bethesda, Maryland. The *PRL-3* discovery may provide an entrée to tracing one of those pathways, Trent and others say.

"Very exciting," is how cancer biologist Lance Liotta of the National Cancer Institute, also in Bethesda, describes the finding. Not only could the enzyme provide a good target for chemotherapeutic drugs, but it may also provide a molecular marker to help clinicians assess tumor aggressiveness.

The Johns Hopkins team looked for the molecular changes underlying colon cancer metastasis by using a technique called serial

CREDITS: (TOP TO BOTTOM) LONG H. DANG/JOHNS HOPKINS MEDICAL INSTITUTIONS; BROOKHAVEN NATIONAL LABORATORY

ScienceScope

EPA Science Bill Moving A plan to beef up science at the Environmental Protection Agency (EPA) is wending its way through Congress. Last week, the House Science Committee approved HR 64, which would direct the agency to appoint a new deputy administrator for science and technology to oversee all EPA research (*Science*, 21 July 2000, p. 371). The bill would also extend to 5 years the term of the assistant administrator of EPA's Office of Research and Development. (The term is currently undefined.)

The bill's sponsor, Representative Vernon Ehlers (R–MI), hopes for a vote on the House floor before Congress recesses this fall. Eventually he wants to merge his proposal with a companion Senate bill sponsored by Senator George V. Voinovich (R–OH). EPA has not yet officially weighed in on the legislation, but agency officials have reportedly expressed some concerns. Ehlers says he doesn't see that as an obstacle, because he is hearing "favorable signals from the White House."

Is Proximity Power? Physicist John Marburger (right), President George W. Bush's pick to be his science adviser and head of the White House Office of Science and Technology Policy (OSTP), had an easy confirmation hearing this week before a Senate committee. And science lobbyists predict that his nomination will sail through the full Senate by the end of the month. But once officially in place, Marburger may find his office arrangements in flux.

The Secret Service last week confirmed that, due to security concerns, OSTP staff have been moved out of their longtime offices in the Old Executive Office Building next to the White House and into offices outside the White House fence a few blocks away. The ouster apparently is part of a plan to make workers less vulnerable to truck bombs.

Marburger will reportedly retain a workspace near the corridors of power and told senators that he will have access to the president. But lower level OSTP staffers have heard that their transfer could be permanent. The separation, says one former OSTP staffer, will make it harder for science policy advocates to "cultivate the kind of water-cooler contacts that can make a big difference in getting your voice heard in policy debates."