based on falsified data.

"It's a conclusion that scientists are very reluctant to arrive at, but it is what happened in this case," says Pier Oddone, deputy director for research at LBNL. "Our conclusion was that the data had been fabricated." After an investigation, says Oddone, "the lab took action" and in May dismissed the individual thought to be responsible. Ron Kolb, a spokesperson at LBNL, declined to describe the alleged misconduct or to mention names, but he confirmed that Victor Ninov, who was in charge of the data analysis of the experiment, has been fired from the laboratory. And now, scientists in Germany say they have found falsified data in two other experiments that Ninov participated in: the 1994 and 1996 discoveries of elements 110 and 112.

The LBNL discovery began to fall apart last year. After GSI, LBNL, and other laboratories failed to replicate the experiment, an LBNL team reanalyzed the original data. Shockingly, the crucial evidence for the "discovery"—cascades of alpha particles that accompany the deterioration of a superheavy element—was nowhere to be seen (*Science*, 3 August 2001, p. 777). "They looked again at the old data, the magnetic tape, and they couldn't find the decay chain among the data," Hofmann says. "The conclusion was that it was produced artificially."

LBNL informally retracted the discovery last July. This week, all 15 authors of the original discovery paper except Ninov published a formal retraction of their claim in the 15 July *Physical Review Letters*. And, according to Hofmann, two experiments performed at GSI—for which Ninov was in charge of data analysis—also showed signs of scientific fraud. "When we reanalyzed our decay chain for element 112, we saw that the first decay chain was produced artificially," he says. "In the original data, only one alpha particle was measured. Four additional alphas were artificially added to this one." In the GSI experiment for element 110, the second of four decay chains also seems to be a fabrication, Hofmann says.

"I couldn't understand it; I still cannot understand it," says Hofmann. "We had good data. There was no reason to produce artificial ones—and [the culprit] would be sooner or later discovered." Luckily for the GSI team, the good data were enough to prove the existence of elements 110 and 112. But elements 116 and 118 vanished along with the spurious data, leaving the scientists at LBNL stunned and embarrassed. "It is a shock. The reaction is astonishment and anger," says Oddone.

—CHARLES SEIFE

MIDDLE EAST

Archaeologists Keep Joint Project Rolling

ÇATALHÖYÜK, TURKEY—Barely 100 kilometers separate the University of Haifa from the Palestinian Association for Cultural Exchange (PACE) in the West Bank town of Ramallah. But military rules prevent travel between the two cities. So this month, a group of Israeli and Palestinian archaeologists and educators from the two institutes, working together on a U.S.-funded project to explore and protect their shared history, journeyed all the way to south-central Turkey to seek common ground.

To be sure, no peace has flowed from a 1998 agreement between then–Israeli Prime Minister Benjamin Netanyahu, Palestinian Authority Chairman Yasser Arafat, and U.S. President Bill Clinton, negotiated at Wye River, Maryland. But the agreement did result in a $10 million fund, provided by the U.S. Department of State, for cooperative Israeli-Palestinian projects. Last fall, $400,000 from that fund was awarded to a joint project to conserve and promote archaeological sites that are key to the region's complex history. Unable to meet on their home territories, 13 representatives of the project teams met at the Neolithic site of Çatalhöyük from 29 June to 3 July to get the ball rolling. "We are working together to preserve the cultural heritage of the region," says archaeologist Adel Yahya, director of PACE.

The visit was in part prompted by the group's desire to learn the latest results from 9500-year-old Çatalhöyük, which has been under excavation by a British-American team since 1993 (*Science*, 14 December 2001, p. 2278). But the dig's conference room also provided a neutral place for the group's initial meeting.

The Palestinians made it to Çatalhöyük only after a series of adventures that included slipping out of Ramallah during the Israeli-imposed curfew, holing up briefly in Jericho,

Bridging the gap. Çatalhöyük archaeologists learn about Israeli-Palestinian heritage project.

CREDITS: (TOP TO BOTTOM) MICHAEL ASHLEY LOPEZ

ScienceScope

Science and Security The proposed U.S. Department of Homeland Security (DHS) ran a gauntlet of 11 House committees last week, with lawmakers recommending several tweaks in the department's research agenda (*Science*, 5 July, p. 27). In general, the changes are intended either to shelter existing programs or give science a higher profile within the new department.

The House commerce committee, for example, proposed keeping $2 billion for bioterrorism research at the National Institutes of Health and Centers for Disease Control and Prevention, which would work jointly with the new department on setting priorities. The House Science Committee suggested an undersecretary for science and technology and a research think tank, in line with a recent National Academy of Sciences report. The Armed Services Committee gave the department authority to set up a research center at one of the Department of Energy's nuclear weapons labs, with Lawrence Livermore National Laboratory in California the presumed favorite, although a Senate energy panel discussing the labs' role in homeland defense last week heard Senator Pete Domenici (R–NM) criticize the lab's track record on other projects.

House leaders hope that Congress will present the president with a bill by the first anniversary of the terrorist attacks. But that means reaching agreement with the Democrat-controlled Senate, which is working on its own blueprint. Still, as one biomedical lobbyist says, "it's useful that [the commerce committee] took note of our concern."

Bright Future Science is a major winner in a 3-year funding plan released by the U.K.'s Labour government this week. The budget of the government's Office of Science and Technology will increase by 10% per year, from a current $3.1 billion to $4.6 billion by fiscal year 2005–06. "These increases in funding are a clear signal that the government is prepared to put its money where its mouth is when it comes to science," says Robert May, president of the Royal Society. Decisions on how the funds will be divided among the six grant-awarding research councils and the central government labs will be made in October.

The biennial plan also contains money to improve science teaching in schools and universities and to bolster university research labs. Graduate students will also benefit from the largess, with annual stipends set to nearly double to $19,000.

and then crossing the Allenby Bridge into Jordan, where they caught a flight to Turkey. "We were not sure until the last minute whether it would work," says Yahya.

Archaeologist Ann Killebrew, who recently moved from Haifa to Pennsylvania State University, University Park, and serves as co-coordinator of the project with Yahya, says that the project is intended to "emphasize sharing sites rather than owning them." The group has chosen to begin work at three sites: Acre (ancient Akko) in northern Israel and Beitin and Al-Jib on the West Bank. Acre, which dates at least from biblical times and was subsequently occupied by Assyrians, Greeks, Romans, and others, is "the best-preserved Crusader city in the world," says Killebrew. And the villages of Beitin and Al-Jib, the sites of the biblical cities of Bethel and Gibeon, respectively, also harbor elaborate Bronze Age water systems and even earlier evidence of occupation during the Chalcolithic (Copper Age) period.

In the original plan, joint teams would eventually work at each site. But given the restrictions on travel between Israel and Palestine, the project leaders say that each team will have to work separately for the time being. "We have a virtual collaboration," says Yahya. "We are in contact by e-mail all the time. And as soon as the situation changes, we will be delighted to carry out joint activities."

With the political situation so dismal, project members say they have no choice but to move ahead with their project. "The worst thing to do would be to wait for better times," says University of Haifa archaeologist Mina Weinstein-Evron. "If we wait for better times, there will never be better times."

–MICHAEL BALTER

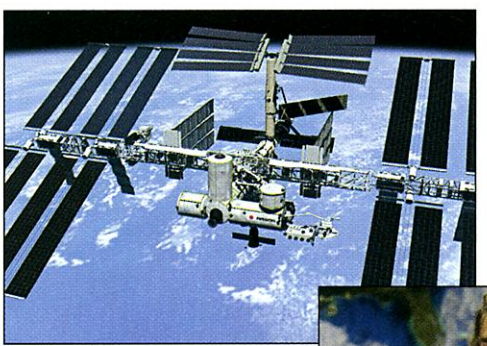
SPACE STATION RESEARCH

Bigger Is Better for Science, Says Report

A blue-ribbon panel has told NASA that the research program planned for the international space station will lack scientific credibility unless the controversial station is expanded beyond the size and scope currently envisioned. The report, by a team of NASA-appointed researchers, is a clear rebuke to plans by the Bush Administration to limit the orbiting laboratory's crew and size, and it could prove politically troublesome in NASA's budget negotiations with the White House and Congress.

In March, NASA Administrator Sean O'Keefe asked Columbia University endocrinologist Rae Silver to head a 20-person panel that would recommend research priorities for the orbiting facility (*Science*, 24 May, p. 1387). Last week, Silver laid out the results in a sometimes stormy 3-hour presentation to NASA advisers and officials. The report, to NASA's Advisory Council, recommends 15 high-priority research areas using facilities such as a centrifuge and animal and plant habitats. But although scientists who support work on the station are hailing the panel's message, some agency officials, advisers, and panel members themselves feel that the report is flawed and that some of the recommended priorities are skewed. "They ducked the hard questions," groused one agency adviser.

O'Keefe did not endorse the findings but said he was "encouraged" by them. Charles Kennel, director of the Scripps Institution of Oceanography in San Diego, California, and chair of the advisory council, said his group agrees that expanding the station beyond what's known as "core complete" is "essential" and plans to incorporate the panel's findings into the council's own recommendations, due in September. Although Silver's task force was technically independent, Silver showed O'Keefe a draft list of priorities last month, and the panel worked closely with NASA's office of biological and physical research. Silver, however, says NASA officials "did not affect our deliberations."



More is more. A panel led by Rae Silver (*right*) says science would be better served by a space station larger than the version now planned.

Some panelists are unhappy with how the panel ranked various fields represented on the orbiting laboratory. Nearly half of the 32 areas were rated "first priority," including radiation health, cell and molecular biology, and fluid stability and dynamics. Developmental biology, fire safety, and two other fields fell into the second tier, and biotechnology and structural biology joined two other fields with a third-place ranking. Evolutionary biology and materials synthesis and processing were among eight areas in fourth place. Only one specialty—biology-inspired microfluids technology—was recommended for termination, with the panel saying that it does not require experiments in low-Earth orbit.

"I have serious concerns about the way [the ranking] was done," says Noel Jones, a retired protein crystallographer and one of three physical science panelists who either dissented or wrote minority opinions. "It was very arbitrary," he says, with "no set of uniform criteria" for setting priorities. Another critic, Andreas Acrivos, an engineer at the City University of New York, concluded that the report was "strongly slanted towards the biological-medical areas." Silver dismisses such complaints as self-serving. "People are concerned that their own areas might be lopped off," she says.

The report urges NASA to build and launch quickly major facilities such as a large centrifuge. "If you don't have a centrifuge, you might as well be a biologist from 200 years ago … running around with a notepad," Silver says. Plant and animal facilities also should be installed as soon as possible, she adds, and a science officer should be appointed to coordinate station research.

One recommendation was more political than scientific. "NASA should cease to characterize [the station] as a science-driven program" if it does not go beyond the current plans for a scaled-back lab, the report states. Because of management problems and cost overruns, O'Keefe has restricted the station to a three-person crew rather than the original design that could accommodate six or seven astronauts and more instrumentation. But Silver says that NASA's own data show that the core complete version, maintained with four annual shuttle launches, would leave virtually no room for scientific payloads later in the decade.

The station's supporters embraced the call for a more robust facility. "It is past time for the NASA administrator to stop pretending core complete … is a viable or desirable goal," declared Representative Ralph Hall (D–TX). But former senator and current NASA adviser John Glenn, NASA chief engineer Dan Mulville, and retired aerospace executive and NASA adviser Tom Young worry that the Silver panel's conclusion could threaten rather than bolster support for the station within Congress, which each year debates the project as part of NASA's budget. The panel's complaint that current plans can't be justified on scientific grounds "could be used to kill the whole program," says Glenn, and Mulville warned that the White House could use the report to argue that "if there's no research, there's no reason to continue the program."

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