

mann says, "a few" of the time-series studies that EPA drew on to set the daily limit on fine particles "used the same S-plus approach." Agency scientists will take that into account in their latest review of PM_{2.5} science, which will delay the next version of the rule. Bachmann says the standard "could" change, but "it's too soon to tell."

Scientists in other disciplines, from economics to genomics to ecology, use the S-plus GAM model. David Smith of Insightful Corp. in Seattle, which sells S-plus, says "it's really hard to say" whether many other researchers have had this problem, but his inquiries to some 2000 S-plus users on an e-mail list last week suggest not. Hastie, who co-wrote the S-plus GAM, says these pollution studies are "an unusual situation" because "they're doing very fine-scale modeling, and the effects are very small."

Biostatistician Gerald van Belle of the University of Washington, Seattle, notes that a recent journal article pointed out that defaults can also gum up results with a popular stats package called JMP. Says van Belle: "99% of people are going to be working on problems for which the default settings are appropriate." But when their problem is unusual, he says, they might need to take a look inside the box of their statistics package.

—JOCELYN KAISER

DOE WEAPONS LABS

Livermore Keeps It All in the Family

The appointment of an insider to head Lawrence Livermore National Laboratory ends a politically charged search that highlighted the sharp tensions between the lab's managers, the University of California (UC), and its boss, the Department of Energy (DOE). The new director, theoretical physicist Michael Anastasio, takes the job just as President George W. Bush has assigned the lab a more visible role in U.S. homeland defense (see p. 1944).

Anastasio, 53, was appointed 4 June to succeed Bruce Tarter, who is stepping down 30 June after 8 years as head of the \$1.5 billion nuclear weapons lab. "He's the safe choice," says one Livermore researcher about the 20-year Livermore veteran, who has led the division that designs plutonium triggers in nuclear weapons as well as the effort to ensure the safety and reliability of those

weapons without testing them. In a press conference, Anastasio backed the Administration's policy not to test nuclear weapons and pledged good relations with the university and Los Alamos National Laboratory in New Mexico, Livermore's longtime rival.

Those relationships require much mending. The university, which operates both Livermore and Los Alamos for DOE, came under withering fire this spring for attempting to appoint Ray Juzaitis, a senior administrator at Los Alamos, to head Livermore (*Science*, 3 May, p. 821). Juzaitis eventually withdrew from consideration, and last week a chastened UC president Richard Atkinson took responsibility for the episode, saying, "I failed to communicate with the key people. ... It was my fault."

Both Livermore and Los Alamos have been criticized heavily in the past 2 years for cost overruns, breaches in national security, and alleged racial profiling and discrimination. DOE has pressured the university to tighten its managerial reins and reduce the traditional rivalry between the two labs. Choosing a Los Alamos employee to head Livermore was part of a strategy directed by John McTague, a former science adviser to President Ronald Reagan who now oversees the labs for the university.

But when word leaked in April that Juzaitis was the favored candidate, Livermore's supporters went into high gear. They complained to the White House, DOE, and lawmakers that he was too junior—and that he had overseen the division that included Wen Ho Lee, a physicist accused of improperly copying classified material. On orders from DOE, Atkinson abruptly canceled a press conference at which he was to announce the new director.

The following week, Juzaitis declined what he calls a firm job offer. In a 30 April letter to Atkinson, Juzaitis says he withdrew because of "negative reactions in Washington, within the university, and at Livermore." He also decried the "unwarranted linking of my name to the Wen Ho Lee affair."

Government officials who decline to be identified complain that UC officials did not reveal Juzaitis's link with Lee in discussions with Administration managers and congressional lawmakers. "It shows a complete lack of political savvy," says one. Representative Ellen Tauscher (D-CA), who represents the Livermore area, at the time criticized UC's failure "to be sensitive to national security, the culture, and the unique qualities of the labora-



Final choice. Michael Anastasio prepares to lead Lawrence Livermore lab.

ScienceScope

Scientist-Statesman The father of India's missile program has been nominated to be president of the country. If chosen, Avul Pakir Jainulabdeen Abdul Kalam (below), an aeronautical engineer, would be the first scientist to hold the largely ceremonial position.

Kalam, 71, is the former head of the Defence Research and Development Organisation, where he spearheaded India's guided missile program and played an important role in preparing for the country's 1998 nuclear tests. A civil servant with no known political affiliations, Kalam is also a member of India's Muslim minority, which the Hindu-led government has been working to win over. An election will be held next month if an opposition candidate is put forward.

Kalam is a "remarkable team person, full of humility," says Martanda Varma Sankaran Valiathan, president of the Indian National Science Academy in New Delhi, adding that his selection shows the importance of technology development to the country. Last year, Kalam stepped down from a 2-year stint as the government's principal scientific adviser to work with students considering careers in science.



Nanocoordination? A bigger effort is needed to coordinate science on the smallest scale, according to a report released this week by the U.S. National Academy of Sciences. Fifteen federal agencies and departments currently participate in the U.S. government's National Nanotechnology Initiative, which has spent some \$1 billion over the last 2 years to promote science at the atomic scale. Although the agencies meet regularly to mesh their programs, the report concludes that they could use more help.

Samuel Stupp, a materials scientist at Northwestern University in Evanston, Illinois, who chaired the 16-member panel that wrote the report, says the biggest problem is that there is "no advice from outside" or straightforward way "to seek opinions from the community at large."

To build those bridges, the panel recommends that the White House Office of Science and Technology Policy (OSTP) set up a new advisory board of outside scientists to coordinate nanoscience strategy. It also suggests that the office manage a special grant fund for interdisciplinary research. OSTP currently does not hand out any money. OSTP officials say they are studying the recommendations.



Field of nightmares? A British TV thriller has stirred up the controversy over GM crops.

profile attack last week. Leading the charge was Robert May, president of the Royal Society, the U.K.'s preeminent scientific body. "Fields of Gold," he said in a statement, is "ludicrous" and "hysterically inaccurate" and is "propaganda."

The vehement protests included calls for BBC to pull the program before it aired. BBC did not comply, although it posted on one of its Web science pages what could be construed as a disclaimer about the show's premise, noting that "most scientists think that the risk to our health from this is remote."

The program was scripted by Ronan Bennett, known for his politically charged fiction about Northern Ireland, and Alan Rusbridger, an editor at *The Guardian*, a highly respected left-leaning U.K. newspaper. Last summer, the two asked University of Cambridge geneticist Mark Tester to vet their script. Tester provided suggestions to make the script more plausible, including a possible means for mixing GM wheat with the bacteria. But he harshly criticizes the accuracy of the final product, especially the ease with which the fictional farmer transfers the gene into the plant and the highly improbable transfer of the resistance gene from the wheat into bacteria. The program, he told *Science*, "raises concerns that have no scientific basis."

Bennett says that he and Rusbridger rewrote some scenes according to Tester's advice. Moreover, he says it was Tester who brought the idea of horizontal gene transfer to their attention in the first place. When Tester reviewed the script, Bennett says, "he did not take objection to any of it, he just made suggestions." Indeed, in an e-mail to the BBC in July 2001, Tester said he remained "open-minded" about the gene transfer scenario. As for the demand for the show's cancellation, Bennett says, "it has a whiff of book burning about it." Rusbridger claims that many scientists gave positive feedback. He also points out that U.K. officials have expressed concern over horizontal transfer in government documents.

Despite the scant research on horizontal transfer of transgenes, several scientists who

saw the program agree that it is implausible. "If genes moved with any frequency from plants to bacteria, we'd find them in bacterial genomes. We don't," says Peter Lund, a molecular biologist at the University of Birmingham, U.K. An outbreak of vancomycin-resistant bugs, Lund and others say, is much more likely to come from existing resistant bacteria than from a plant.

But Lund adds that the show reflects real concerns among Britons: "We have no trust in politicians or big business, and very limited trust in or understanding of science." Even a critic from the conservative *Times* of London sympathized with the urge to confront the dangers of GM crops: "The public have been taught fear and skepticism not by radical agitators but by businessmen and their political allies, who were prepared to take irresponsible risks with our health."

The show's anti-GM message comes at a particularly inopportune time for the U.K. government, which announced last week that it would sponsor televised national debates on GM food safety this summer. Few, however, believe that television, whether in the form of public debate or a GM thriller, will reconcile such bitterly opposed viewpoints.

—BEN SHOUSE

Ben Shouse is a writer in New York City. With reporting by Adam Bostanci in Cambridge, U.K.

ECOLOGY

A Coral by Any Other Name ...

Although the undersea landscape is peppered with corals of many shapes and sizes, there's no consensus about whether the different configurations denote different species. Some researchers think so and call each by a different name. But others argue that because many corals interbreed, they do not qualify as distinct taxonomic entities. Now on page 2023, Harvard University researchers say they have set the record straight, at least for three species found in the Caribbean. By performing more extensive genetic studies than



All in the family. When elkhorn coral (right) eggs are fertilized by staghorn coral (middle) sperm, a bushy hybrid (left) results.

ScienceScope

One of Their Own An in-house geologist has taken the helm of the Smithsonian's troubled National Museum of Natural History in Washington, D.C.—at least temporarily. Until a permanent director is found, Douglas Erwin, an expert in ancient mass extinctions, will be in charge of the museum's research program, which some scientists say is threatened by changes proposed by Smithsonian chief Lawrence Small (*Science*, 14 September 2001, p. 1969).

Erwin, chair of the museum's paleontology department, steps in for Dennis O'Connor, who left last month for an academic post. O'Connor served just 7 months after replacing Robert Fri, who left last year in part because of disagreements with Small.

University of Pennsylvania anthropologist Jeremy Sabloff, who heads a committee evaluating Smithsonian science, is pleased with Erwin's appointment, as well as that of Irwin Shapiro—head of the Smithsonian Astrophysical Observatory—who last month became undersecretary for science. Given the turmoil, "having strong voices for science is absolutely necessary," Sabloff says. But he notes that a search committee is already writing a job description for Erwin's replacement.

MIT Reports on Secret Science After a 3-month study, a faculty committee at the Massachusetts Institute of Technology (MIT) this week recommended that the school retain rules that bar classified research from campus. But the panel said the university should establish a new committee to track evolving government rules on scientific secrecy and consider expanding off-campus laboratories to handle expected growth in classified work.

MIT leaders ordered the report last February, after some universities reported that federal funders were pressuring them to restrict some basic research in the wake of the 11 September terrorist attacks (*Science*, 22 February, p. 1438). Most schools ban secret work from campus and bar prior government review of basic science results.

In its 50-page report, the panel—led by engineering professor Sheila Widnall—reaffirmed MIT's commitment to "an open research environment" on campus. But it predicted that MIT's classified work—done at affiliated Lincoln Laboratory—will grow. In particular, the panel said "it is not too hard to imagine" a new lab for secret biological research. MIT officials say the report will help guide the use of such facilities.

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