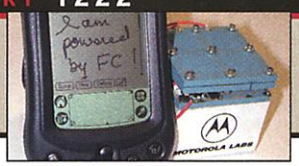
LEAD STORY 1222
Fuel cells for your laptop?



1226
New ways to beat drought

1229
Bringing back northeast fisheries

working out agreements amicably, he reports, although he is still waiting to hear from MIT and California. He declined to comment on specific fees but stated firmly that "any commercial use" of the mouse "does require a license from DuPont."

–ELIOT MARSHALL

NSF REAUTHORIZATION

Community Hails Bill To Double Budget

Science lobbyists have spent the past 4 years trying to get equal treatment for the National Science Foundation (NSF). They have been urging Congress to do for NSF what it is doing for the National Institutes of Health: double its budget, now $4.8 billion, over 5 years. Last week, they achieved a symbolic victory when Representative Sherwood (Sherry) Boehlert (R–NY), chair of the House Committee on Science, introduced a bill (H.R. 4664) that aims to accomplish just that.

The bill faces a long and uncertain trip through the congressional labyrinth. But it includes a provision that could have a more immediate impact on the agency and perhaps even on the controversial practice of congressional earmarks. It requires NSF to rank proposed major new research facilities so that legislators will no longer feel free to pick and choose from among approved but unfunded projects, which circle expectantly like planes arriving at a crowded airport.

Boehlert, a self-professed "cheerleader" for NSF, has long resisted the doubling argument, scorning it as the product of "randomly generated numbers" (*Science*, 11 May 2001, p. 1048). Instead, he has urged the community to spell out exactly what is needed and how much it will cost. Last week, however, Boehlert joined ranks with his admiring constituency. Leading the biggest science pep rally in years, the chair declared that NSF needs annual increases of 15% for the next 5 years if it is to succeed in bolstering basic research and education. Asked why he had changed his mind, Boehlert said that "there's a certain appeal to having a lofty goal. ... I would have asked for a tripling [of NSF's budget], but I wanted to be realistic."

Out in force. Representative Sherry Boehlert, at podium, and other legislators are enveloped by science lobbyists at a press conference unveiling the NSF bill.

Even before Boehlert took to the microphone, scores of scientific societies papered the Capitol Hill venue with press releases praising him for his "leadership and vision" in calling for more federal dollars. NSF director Rita Colwell, although obliged by her position to support the president's request for a meager 5% boost next year, nevertheless calls the bill a "terrific show of bipartisan support by Congress."

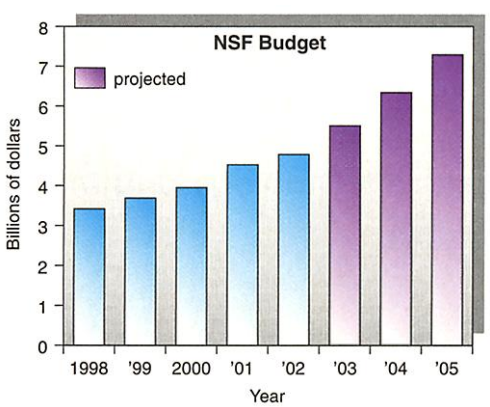
Despite the euphoria, congressional aides and lobbyists acknowledge that the bill is just a small step in a long legislative process. Although the House is likely to back the bill, no version has yet been introduced in the Senate. And even a full congressional endorsement won't generate a penny more for NSF unless another set of legislators, who sit on the appropriations committees that control NSF's purse strings, climb onboard.

The science committee can play a bigger role in the other major component of the bill: compelling the NSF director to rank the importance of proposed facilities. Currently, the agency's governing body, the National Science Board, says "yea" or "nay" to specific projects without indicating priorities.

That process works fairly well when NSF has enough money to do everything. But when money's tight, some approved projects get left out of NSF's budget request. Last year that led to a free-for-all, with backers of specific projects seeking congressional help to move up in the queue (*Science*, 27 July 2001, p. 586). These so-called earmarks are an unwarranted intrusion into scientific peer review, say many legislators. If NSF ranks its big-ticket items, says Representative Nick Smith (R–MI), who chairs the committee's research panel, that "would be a huge step toward making better decisions." The president's science adviser, John Marburger, also thinks it's a good idea: "Any process that establishes priorities for funding is good," he says.

Colwell agrees that such an exercise is important, and she notes that the bill "leaves priority-setting in the hands of the director, which is most appropriate." But sources say she views any mandatory sharing of those rankings with Congress as an encroachment on her prerogatives as a member of the executive branch. Colwell declined to elaborate, saying that "I'd prefer not to comment on pending legislation."

–JEFFREY MERVIS



Bigger bumps. The House bill would boost NSF's allowed budget by 15% a year for 3 years, a much larger jump than in recent years.

CREDITS: (TOP TO BOTTOM) ASTRA; SOURCE: NSF

U.S. ANTITERRORISM

Panel Would Screen Foreign Scholars

The U.S. government is putting another brick in the wall to shore up homeland security. This one is intended to prevent foreign terrorists from masquerading as researchers.

Last week White House officials unveiled a proposal to create a panel that would screen foreign graduate students, postdocs, and scientists who apply for visas to study "sensitive topics ... uniquely available" on U.S. campuses. The proposal comes as a relief to higher education officials, who had feared a more intrusive policy that would dampen the flow of foreign students and scholars. "This is an excellent framework for protecting national security, although many details remain to be spelled out," says Terry Hartl of the American Council on Education, which has followed the issue closely. "They seem to be fairly

narrow and defensible criteria," agrees George Leventhal of the Association of American Universities, a group of 63 major research institutions.

Presidential science adviser John Marburger unveiled the proposed policy last week at briefings for Congress and the higher education community. It flows from a 29 October 2001 presidential directive intended to stop foreign students and scientists from "abusing" the visa process by which they gain entry to U.S. educational institutions. (The U.S. Department of Agriculture has gone much further, declining to sponsor any new visas for foreign scientists to work in its labs. See *Science*, 10 May, p. 996.)

Roughly 175,000 students or scholars enter the country each year to carry out scientific work, says James Griffin, a Department of Education official who is coordinating the effort while on loan to the White House. Of those, he says, perhaps a few thousand will warrant a closer look under the new guidelines. "But that doesn't mean they will be denied entry," Marburger notes. Officials will look at what type of research they plan to pursue, where and with whom they will be working, and whether they will have access to specialized equipment of a sensitive nature.

The screening would be done by a new Interagency Panel on Advanced Science Security (IPASS), created by and composed of representatives from the major U.S. science agencies as well as officials from the State, Justice, and Commerce departments. "Combining science agencies with law enforcement agencies should make for a more rational and systematic review," says Hartl. University officials are also relieved that they will not have to decide which applicants warrant closer scrutiny. That will be the responsibility of either the State Department or the Immigration and Naturalization Service, although schools would be required to pass along information about significant changes in course work or research projects.

The co-chairs of IPASS will be appointed by Secretary of State Colin Powell and Attorney General John Ashcroft. Griffin says that the White House is weighing a suggestion from university officials to set up an expert committee to help IPASS define "uniquely sensitive" courses of study and areas of research.

A presidential directive spelling out how IPASS will operate is probably "a few months away," says Marburger. The announcement was made now, he says, to give the academic community plenty of time to react.

—JEFFREY MERVIS

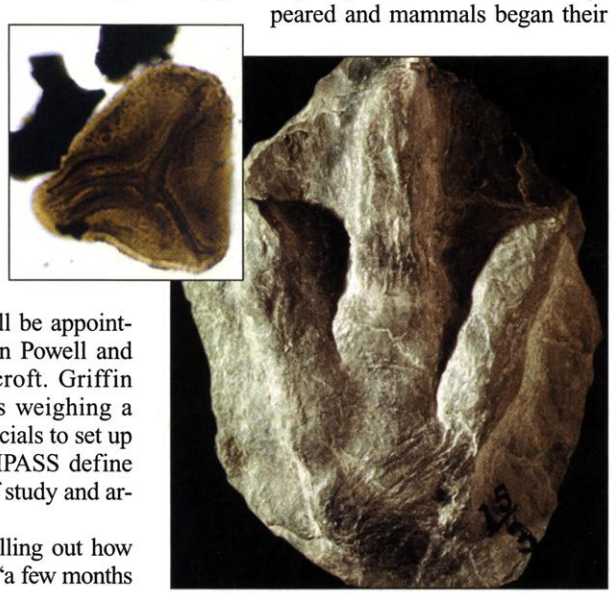
EVOLUTION

Did an Impact Trigger The Dinosaurs' Rise?

Large impacts would seem to be bad for dinosaurs. After all, a huge asteroid or comet ended the 135-million-year reign of the dinosaurs when it hit Earth 65 million years ago. But on page 1305, a group of researchers suggests that an impact also triggered the final rise of dinosaurs to dominance 200 million years ago. Proving that an impact is a two-edged sword will depend on demonstrating that a large body hit Earth at the very geologic instant that the dinosaurs' reptilian competitors abruptly died away and meat-eating dinosaurs came into their own.

By following fossil footprints, geologist Paul Olsen of Lamont-Doherty Earth Observatory in Palisades, New York, and his colleagues show for the first time that the final ascent of the dinosaurs was indeed abrupt, at least in eastern North America. And they now have a geochemical hint—although not yet proof—of an impact at the geologic instant that dinosaurs established their supremacy. "There was something interesting going on" 200 million years ago, says Olsen.

Linking evolution to impacts is a tough job. When researchers made the first impact-extinction connection in the 1980s, most of their colleagues were skeptical. But the case for an impact's wiping out the dinosaurs and numerous other creatures strengthened steadily following the discovery of high levels of iridium—an element rare on Earth but abundant in asteroids—in rock laid down at the boundary between the Cretaceous and Tertiary periods (K-T), when the dinosaurs disappeared and mammals began their



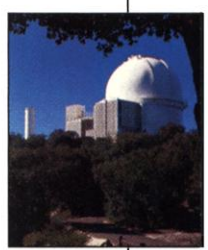
No mere coincidence? Fern spores (*inset*) marking a possible impact disaster immediately precede the first tracks of a new, bigger Jurassic dinosaur.

CREDITS: (TOP TO BOTTOM) NOAO/AURA/NSF; SARAH FOWELL; P. OLSEN

ScienceScope

Dimming Its AURA The National Science Foundation (NSF) has decided to let the Association of Universities for Research in Astronomy Inc. (AURA) run two major observatories for another 5 years despite criticism of AURA's long-term planning.

Last week NSF's governing board gave the green light to a contract with AURA to manage the National Optical Astronomy Observatories (below) and the National Solar Observatory. In the first-ever competition for a prize worth up to $216 million, AURA bested Research Corp., a private foundation in Tucson, Arizona, and the Universities Research Association Inc., which runs Fermilab for the Department of Energy.



Last year a National Research Council report faulted AURA for not preparing the groundwork for two instruments deemed essential for the field's progress: the Giant Segmented Mirror Telescope and the Large-Aperture Synoptic Survey Telescope. NSF has told AURA that it must do better at helping the U.S. community plan the next generation of telescopes.

"We have made it clear to AURA that this is not a carte blanche renewal," says Robert Eisenstein, the outgoing NSF assistant director for mathematics and physical sciences (see p. 1219). An external advisory committee will provide "an added level of scrutiny," he says.

Wait Till Next Month France has a new team of ministers overseeing research and higher education. But their tenure could be short-lived if the Socialists, as some analysts predict, win next month's parliamentary elections and replace them with their own appointees.

Researchers are keeping a close eye on the new health minister, Jean-François Mattei, a geneticist and parliamentary deputy from the Marseilles area. Two years ago Mattei mobilized researchers for a petition campaign against patenting of genes (*Science*, 23 June 2000, p. 2115), but he has also upset scientists by advocating strict limitations on human embryo research. Meanwhile, François Loos, a relatively unknown engineer and industry manager who helped run President Jacques Chirac's campaign, has been given day-to-day responsibility for French science within a new superministry for education and research headed by philosopher Luc Ferry.

"We are just holding our breath," says one Paris-based biologist about the upcoming elections.