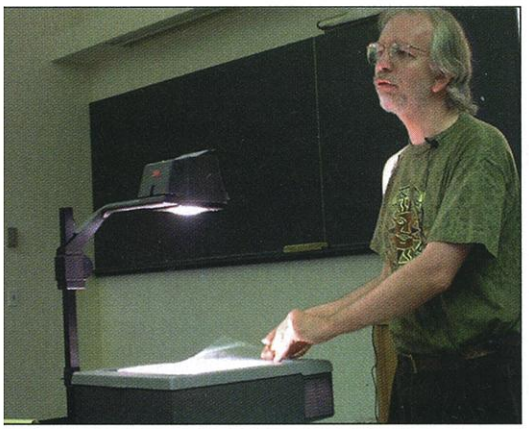


In the spotlight. Piet Hut is fighting to keep his job at the Institute for Advanced Study.

precocious age of 32. This summer the institute asked a court to enforce a 1996 agreement in which Hut promised to leave by 2001. This month Hut countersued, saying that he was coerced into signing the document and that the institute is trampling on his academic freedom. The matter was first reported by *The New York Times*.

A number of scientists have come to Hut's defense; many feel that the institute is making a big mistake. "It's not Piet Hut's fault," says University of California, Berkeley, astronomer Frank Shu, who adds that "the institute made a gamble" when it appointed someone so young. "Now they have to either live with it or find some compromise." Alar Toomre, an applied mathematician at the Massachusetts Institute of Technology, says that IAS, by going to court, "is damaging its own reputation more than anything Piet Hut might have done."

The institute's director, Phillip Griffiths, issued a statement saying that the conflict is a contractual one and "not an issue regarding tenure or academic freedom." In its suit, filed on 25 July before the federal district court of New Jersey, IAS argues that Hut hasn't fulfilled his early promise and should abide by the 1996 agreement. Institute officials declined to comment further on the case.

IAS tapped Hut in 1985 as an up-and-coming assistant professor at Berkeley with a solid publication record in stellar dynamics. In 1986 he and an IAS postdoc, Joshua Barnes, published the famous Barnes-Hut "tree algorithm" that is widely used in computer simulations. By 1989, however, according to the institute's complaint, then-director Marvin Goldberger felt that Hut ought to "look for another position," and Hut agreed that "he was not performing … and … would never perform at the level … achieved by other faculty members."

In 1993, a visiting committee called Hut's appointment a "mistake," according to the court document, and in 1995 the faculty of the School of Natural Sciences agreed at a meeting—attended by Hut—that "Hut's presence was having a detrimental effect" on the IAS. In 1996, the institute froze Hut's salary and got him to sign a letter agreeing to leave in 2001. In 1999, he signed a formal contract, but withdrew his consent during the 1-week period allowed by the contract.

Hut dismisses the negative job assessments, saying that there has been no formal evaluation of his work and that the visiting committee had little regard for his field of computational physics. He says the problem started with a 1993 dispute with string theorist Ed Witten over Hut's desire to buy an expensive supercomputer. Witten has declined to comment. Hut also says that the institute threatened to cut his salary and marginalize him if he didn't sign the 1996 letter. He says he went along initially because he saw no alternative.

Hut has no shortage of supporters. Computer scientist Joseph Traub of Columbia University and the Santa Fe Institute calls him "one of the most stimulating, creative, intelligent, serious scientists" he has known. More than a score of other scientists, including Princeton astrophysicists Edwin Turner and Bohdan Paczyński, have publicly defended Hut's scientific credentials and accused the IAS of violating his academic freedom. Hut also has many admirers among those working in the interface of science and religion, a subject that has attracted his interest in recent years.

As for his earlier work, Shu explains that stellar dynamics and computational modeling was a hot area in 1985 but that, "for whatever reasons, the subject suffered a decline" as cosmology and theoretical physics moved to the fore. Some of Hut's contributions, such as building a special-purpose chip for rapid calculations, are more valued in engineering than in physics, he adds.

Whether or not Hut belongs at IAS, many scientists think that the institute has committed a major blunder in going to court. "They're giving themselves and, to some extent, science a black eye," says Shu. "It's bad for everybody."

–CONSTANCE HOLDEN

CREDITS: (LEFT TO RIGHT) MITSU HADEISHI; AMY VEDDER AND A. WILLIAM WEBER

ECOLOGY

Pacific Salmon Run Hot and Cold

Overfishing. Dams. Disease. There's plenty to blame for the ups and downs of Pacific salmon—and humans are often the guilty party. But a new study spotlights another, more natural force driving salmon numbers: climate.

Using a novel technique, described on page 795, paleoceanographer Bruce Finney of the University of Alaska, Fairbanks, and his colleagues have been able to chart the

ScienceScope

Matchmaking A trio of leading Canadian science groups want to create a new "National Academies of Canada" that will provide expert advice to the government. Earlier this month, the heads of The Royal Society of Canada, the Canadian Academy of Engineering, and the Canadian Academy of Medicine (being established by the Canadian Institute of Academic Medicine) asked the government to spend $2 million a year to found the new body. That's less than other nations spend to obtain similar advice, says Royal Society president William Leiss.

But few politicians besides science czar Gilbert Normand have endorsed the idea. The lack of enthusiasm may stem from a consultant's 1994 conclusion that the Royal Society had failed a government-sponsored, $5 million, 5-year test to see if it could reposition itself as some form of national academy. Still, if the proposal matures, the new academy could fit snugly into the Interacademy Council, an international body being established "to do studies for the U.N., World Bank, and similar clients," says U.S. National Academy of Sciences president Bruce Alberts.

Great Apes Cash In Conservationists are jubilant over a new federal effort to protect great apes. After hearing how logging and illegal hunting are pushing several species to the brink of extinction, the Senate last week unanimously passed the Great Ape Conservation Act. The measure, already approved by the House and a sure bet for President Clinton to sign, authorizes the government to spend up to $5 million a year over the next 5 years to protect wild chimpanzees, gorillas (above), orangutans, gibbons, and bonobos.

Ape programs might not get any cash this year, however, as Congress has already finished work on the 2001 spending bill that covers the U.S. Fish and Wildlife Service, which will administer the fund, says Christine Wolf of the Fund for Animals in Silver Spring, Maryland. And although the bill allows the government to spend up to $5 million per year on apes, supporters will have to lobby hard to convince Congress to appropriate the full amount. Similar funds for elephant, rhino, and tiger protection routinely get no more than $1 million a year. But chimpanzee expert William McGrew of Miami University in Oxford, Ohio, isn't disappointed. Even $1 million, he says, could make a big difference to ape conservation in key African and Southeast Asian countries.

RESEARCH COSTS

Canada to Begin Funding Overhead on Projects

OTTAWA, CANADA—Winning a competition last year for Canada's biggest new scientific facility in 30 years was quite a coup for the University of Saskatchewan. But along with the right to host the $116 million Canadian Light Source (CLS) came a king-sized headache: the need to find an estimated $9.4 million each year to operate the 2.9–giga electron volt third-generation synchrotron radiation facility once it's finished in 2004. It's a problem facing all Canadian universities, which unlike their U.S. counterparts receive no money for overhead on federally funded research projects. But help may be on the way.

Last week federal Finance Minister Paul Martin announced a $268 million outlay for future equipment awards provided by the Canada Foundation for Innovation (CFI), a $1.3 billion entity created in 1997 to rejuvenate labs in universities and research hospitals. The funds would be awarded competitively in support of infrastructure grants such as the $37.8 million that CFI gave Saskatchewan last year to help finance the synchrotron facility.

The money, part of an unusual minibudget unveiled in the run-up to a parliamentary election scheduled for 27 November, is the first direct federal outlay for overhead costs, which up to now have been met by a combination of provincial operating grants to universities and federal transfer payments for postsecondary education. School administrators say it meets a desperate need.

"Universities have to be able to take advantage of research opportunities," says Peter MacKinnon, president of the University of Saskatchewan. But big projects like the CLS do carry unreimbursed costs, as do individual investigator grants awarded by the country's three research granting councils. "Universities are often left with the obligation of finding money for matching programs or for meeting indirect costs," MacKinnon says. "It's imposing a very considerable burden on all institutions, particularly on the research-intensive ones."

To fill the gap, administrators have traditionally looked to private donations and grants from provincial governments. But those sources are drying up, says Manuel Buchwald, chief of research at the Hospital for Sick Children in Toronto. As provincial governments clamp down on health care spending and on university budgets, he adds, "it's becoming increasingly difficult for the institution where the research is done to provide the indirect costs."

The new pot of money is a response to those pressures. But it won't erase the problem. The money can't be used to support existing equipment or facilities, notes CFI president David Strangway, and it won't be given automatically to all future CFI infrastructure awardees. "There are a lot of interesting questions for us to resolve," says Strangway. For example, he says, CFI has yet to come up with a good definition of indirect costs, and it's still debating whether small replacement facilities should get overhead funding.

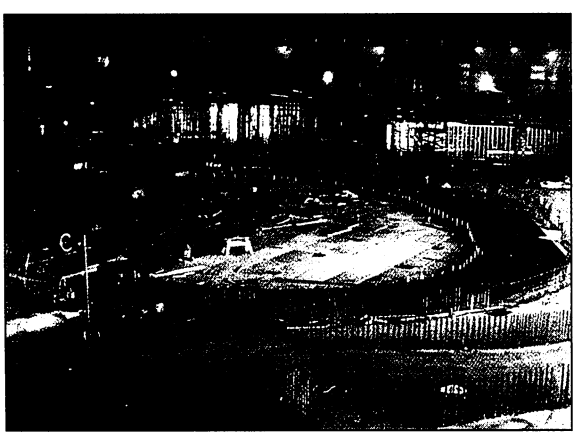
Although the logistics must still be worked out, Strangway imagines asking groups seeking future CFI infrastructure grants to include a specific request for indirect costs. These combined proposals would be assessed by peer-review committees. This new process will start in the next funding cycle, which begins in January with a call for proposals, leading to awards in late 2001.

MacKinnon sees a plan for growth in that next cycle. The light source, called Saskatchewan's "Field of Beams," is scheduled to open with 10 beamlines (conduits for carrying the synchrotron light to workstations), and researchers hope to add 20 more. MacKinnon says that "it would be nice to think that CFI operations funding would be available for additional beamlines."

University officials say they welcome the support but note that the new fund only scratches the surface of what is needed. They hope for additional resources after the election from the governing Liberals, who have a commanding 20% to 25% lead in the polls. "There is still a very, very compelling case for a broader program to deal with the indirect costs of tricouncil-funded research and other publicly funded research," says MacKinnon.

–WAYNE KONDRO

Wayne Kondro is a writer in Ottawa.



CREDIT: THE CANADIAN LIGHT SOURCE/UNIVERSITY OF SASKATCHEWAN

Brighter light. New government program would help pay to operate facilities, including additions to the Canadian Light Source, under construction in Saskatoon.

ScienceScope

The Verdict Is In In a first-of-its-kind case, a Japanese court has ordered a university to pay for the "academic harassment" of a female faculty member. Kumiko Ogoshi, a research associate in the department of public health at Nara Medical University, claimed that her supervising professor, who has not been identified, tried to get her to quit by spraying discarded chemicals in her office, packing up her office while she was away, and withholding research funds. Ogoshi and others say such treatment helps to explain why only 7% of all full professors at Japan's universities are women.

The compensation, awarded earlier this month by Osaka District Court, amounts to just $5000. And the court sidestepped Ogoshi's bid to make her boss personally liable for his behavior by saying that, as a public employee, he is protected from such suits. Still, the decision was "gratifying," Ogoshi says.

The university has appealed the ruling, saying that "the professor's actions were the result of the plaintiff's work performance and were legal and appropriate."

Secure Area Energy Secretary Bill Richardson has asked a think tank led by John Hamre, a former deputy defense secretary, to study how the Department of Energy (DOE) can maintain security without jeopardizing science (*Science*, 6 October, p. 22). Ironically, last week's announcement came just days after Congress voted—over DOE's objections—to require more agency employees to take polygraph tests, which researchers say have hurt morale.

The report, due out next year from the Washington-based Center for Science and International Studies, is intended to show "how to make science and security compatible," says Maureen McCarthy of DOE's National Nuclear Security Administration. But skeptics wonder if the study will change the minds of congressional leaders dissatisfied with DOE's security efforts. "This is after the fact," opined policy analyst Al Teich of the American Association for the Advancement of Science (which publishes *Science*).

This year's defense authorization bill, for instance, would extend lie detector tests—currently required for about 1200 staffers at DOE labs—to up to 5000 more agency employees who handle sensitive information. It would also bar the Energy Secretary from exempting researchers from testing, even at the risk of degrading the science.

Contributors: Wayne Kondro, Gretchen Vogel, Dennis Normile, Andrew Lawler and David Malakoff