Heavyweight academies take up the cause of US postdocs

Jessa Netting, Washington

Beleaguered postdoctoral researchers in the United States have acquired some influential allies. This week, the nation's academies of science, engineering and medicine released guidelines intended to improve the lot of postdocs — many of whom are frustrated by low pay, long hours and inadequate recognition for the work they do.

Postdoc groups hope this high-level endorsement of their complaints will give them leverage in negotiating for improved conditions. "I think it will make a fantastic difference," says Pauline Wong, a postdoc in biological chemistry at Johns Hopkins University in Baltimore and president of its postdoctoral association. "It will open the eyes of institutions for whom postdocs' concerns are not on the radar screen."

Postdocs exist in a netherworld between graduate students and faculty members, usually with no official status. As a result, they often miss out on the benefits assigned to these groups. Graduate students, for instance, receive training and career guidance, whereas faculty benefit from health insurance. And both students and faculty members can turn to established grievance procedures if problems arise. But postdocs say that their uncertain status leaves them vulnerable to neglect and exploitation by unscrupulous lab chiefs.

Responding to widespread complaints — and a few horror stories — the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine asked their Committee on Science, Engineering, and Public Policy to investigate the issue. Over the past year, the committee has conducted focus groups, issued questionnaires and studied earlier surveys in compiling its report, *Enhancing the Postdoctoral Experience for Scientists and Engineers*.

The report lists ten 'action points' for urgent attention (see box). It stresses that

Academic postdocs' pay lags behind other sectors.

postdoc positions should be apprenticeships for a research career, not simply support for individual projects, and argues that postdocs should receive appropriate financial compensation. But it stops short of recommending a minimum salary.

But will employers act on the recommendations? Kimberly Paul, a biochemistry postdoc and vice-president of the Johns Hopkins Postdoctoral Association, believes the guidelines would have real teeth if grant-giving agencies wrote them into their conditions for receiving funding. The report encourages the National Institutes of Health (NIH) and the National Science Foundation (NSF) to do this.

The NIH is changing the regulations for postdocs at its campus in Bethesda, Maryland. In fact, says Michael Gottesman of the NIH Office of Intramural Research, virtually all the recommendations are already in force for the agency's own postdoctoral employees.

But neither the NIH nor the NSF have done anything to enforce guidelines for postdocs employed on grants they award to universities. "This is not an enforcement agency," says William Noxon of the NSF's Office of Legislative and Public Affairs. "We can't really do anything."

► <http://national-academies.org/postdocs>

France finally picks Parisian site for new synchrotron

Declan Butler, Paris

France this week decided to construct the proposed third generation synchrotron, Soleil — a decision a decade in the making. Paris beat Lille in the bid to host the FFfr1.65 billion (US\$218 million) facility. Construction will begin in autumn 2001 and be completed in 2005.

Never in France has a decision over a large science facility been so politically controversial. Three years ago it seemed that Soleil was on the brink of approval from prime minister Alain Juppé's government, and would be sited in Bordeaux, where he was mayor.

Then the government was beaten by the Socialists in a snap election. Last August, research minister Claude Allègre abandoned Soleil, deciding instead to contribute to the planned synchrotron Diamond outside Oxford, England — provoking strong protests from French scientists. But Roger-Gérard Schwarzenberg reopened the case when he took over from Allègre last April.

Speaking at a press conference in Paris on Monday, Schwarzenberg said that he was convinced that Soleil was "scientifically necessary" and "financially possible", emphasizing that, unlike other large facilities, synchrotrons serve many disciplines. Prime minister Lionel Jospin has endorsed the decision.

No fewer than 11 regions bid to host the machine, with three, including Paris, each putting cheques of FFfr1.2 billion on the table. Lille said it would pay whatever it was asked to.

The contest was close until the end, and many scientists felt that the northern city of Lille would win, despite the scientific arguments for building Soleil on the Saclay Plateau near Paris — home of the LURE synchrotrons which it will replace, along with many high-technology companies and major research centres.

Lille's case was strengthened by France's keenness to decentralize science away from the Paris region. The city also had an ally in Martine Aubry, who is scheduled to quit her post as minister of social affairs and become the Socialist party's candidate for mayor of Lille.

Schwarzenberg defended the choice of Saclay by referring to the three main criteria used by the working group that advised the government on Soleil. These are the geological and general quality of the site, accessibility, and the quality of the scientific environment. Unlike

Actions to improve the postdoc's lot

- Award institutional recognition, status and appropriate financial compensation.
- Develop distinct policies and standards for postdocs.
- Develop mechanisms for regular communication with advisers, institutions, funding organizations and disciplinary societies.
- Monitor and provide formal performance evaluations.
- Ensure postdocs have access to health insurance.
- Set limits for total time of postdoc appointment.
- Invite participation of postdocs when creating standards, definitions and conditions.
- Provide substantive career guidance.
- Improve quality of data on postdoctoral working conditions and employment prospects.
- Improve the transition of postdocs to regular employment.

Aubry: lobbied in vain for Lille.

► Allègre, who revealed few details regarding his decisions on Soleil, Schwarzenberg made the report public.

Taking a swipe at his predecessor, who announced Soleil's abandonment during August, when France is on holiday, Schwarzenberg said he had waited until September to "to avoid any announcement in the month of August".

The regions will provide an unprecedented proportion of Soleil's costs; the state will end up paying just FF200 million–300 million. The regions already contribute towards the cost of the planned national university, and Schwarzenberg hinted that regional money would play an increasing role in the research budget.

The machine will have an energy range of 2.5 to 2.75 GeV, producing beams from the ultraviolet to both soft and hard X-rays. Four beamlines will be dedicated to biological research instead of the two proposed originally. Twenty-four beamlines will be built at first, increasing to 40.

Soleil will have a company's legal structure, enabling it to function continually and offer higher salaries: rules at public research organizations would not allow such flexibility. ■

Drug-resistant HIV shows a worrying increase in the UK

Natasha Loder, London

The United Kingdom has seen a large increase in new cases of multidrug-resistant HIV over the past five years, according to a researcher at the Public Health Laboratory Service (PHLS) who is calling for wider testing for resistance.

Multidrug-resistant HIV is resistant to one or more members of all three classes of anti-HIV drug. It develops in patients who are receiving therapy, and is transmitted by normal HIV infection routes. This is the first time such an increase has been seen.

Deenan Pillay, of the PHLS's Antiviral Susceptibility Reference Unit at the University of Birmingham, presented the figures at last week's British Association science festival at Imperial College in London. The data are from a register of patients who had recently contracted HIV, all testing HIV-negative in the preceding 18 months or showing recent seroconversion at the time.

Pillay found that five out of 24 patients who had been infected up to May 2000 had key resistance mutations. In the previous five years, only one in 40 was similarly infected.

The news will disappoint many scientists and clinicians. High-level resistance mutations are less prevalent in studies in other countries, leading some to hope they would remain rare. Robert Shafer, an assistant professor of medicine at the University of Stanford, California, is cautious about interpreting unpublished figures.

But he says that "if correct, they are important and distressing," because they suggest that it is not just those unaware of their infection who are spreading HIV, but also people who know of their condition and have access to treatment.

Resistance often develops because

patients cannot maintain the harsh drug-taking regime. But even those with full compliance have a 20% failure rate in the United Kingdom, possibly because the treatment is unable to halt viral replication entirely.

Pillay told the meeting that "the emergence of drug resistance is virtually inevitable" and warned that the spread of resistant strains in the United Kingdom threatened "the success we have seen in anti-viral therapy to date". New classes of drug could offer hope to patients with multidrug-resistant HIV.

There are currently 14 anti-HIV drugs in three classes: nucleoside analogue reverse-transcriptase inhibitors, non-nucleoside reverse-transcriptase inhibitors, and protease inhibitors. Despite rising numbers of HIV cases, the number of deaths from AIDS in England and Wales has halved since 1995 — partly owing to the introduction of protease inhibitors in 1996 as part of combination therapies that suppress viral replication.

Once a virus develops resistance this often confers high- or low-level resistance to other drugs in the same class. But occasionally a mutation can make the virus particularly sensitive to another drug in the same class.

Shafer has created a database linking data on the sequences of HIV-1 reverse transcriptase and protease, drug treatment histories and drug susceptibility, which he hopes will help in the design of treatment regimes. Genetic tests can show why patients are failing therapy and could help doctors design the best long-term drug treatment regime.

Pillay, whose unit conducts such tests, says this "is now recommended in order to guide the most effective therapies". But each test costs about £300 (US\$426), and some National Health Service trusts are refusing to pay for them. Shafer says that preliminary data suggest that the cost of testing are offset by a decreased use of ineffective drugs. ■

Neuroscientist to lead Salk Institute

Rex Dalton, San Diego

Ending a year-long search, neuroscientist Richard Murphy has been named the new president and chief executive of the Salk Institute in La Jolla, California. Currently director of the Montreal Neurological Institute at McGill University in Canada, Murphy will take up the post on 1 October.

Born in Massachusetts, Murphy earned his doctorate in zoology from Rutgers University, and worked at Harvard University and the University of Alberta in Edmonton before moving to McGill in 1992. His main research has been into the way

neurotrophins — proteins that promote the growth and survival of nerve cells — are produced in the brain.

"He has shown considerable skill for attracting new resources and talent and generally raising the level of facilities and research wherever he has been," Frederick Rentschler, chairman of Salk's board, said in a statement.

Murphy will have to keep established scientists happy while encouraging new talent. Internal conflicts drove previous president Tom Pollard to give up the post last year (see *Nature* 400, 805; 1999). ■