US physics

# Changing pattern in north-east

*Boston*

ALTHOUGH a large percentage of the US government's 1987 research and development budget is destined for defence-related projects, not all Strategic Defense Initiative (SDI) research is being supported by "new money". Physics researchers whose projects have been going on for years, says an analyst at the American Institute of Physics, are suddenly finding their grants recategorized "SDI".

This technology bleed between defence needs and physics research, particularly in astronomy, makes it difficult to tell whether defence monies are reshaping the pattern of university research. Both Dr Frank Pipkin and Dr Jerome Friedman, heads respectively of the physics departments at the Massachusetts Institute of Technology (MIT) and Harvard University, insist that government funds for research on their campuses carry no strings. Both universities stipulate that no professor can accept a grant for research which is secret.

That is why most objective-focused defence research is instead being carried out by industry as well as government laboratories which have become prominent since the Second World War in such fields as isotope separation and lasers. As a result, instrumentation at Lawrence Livermore and IBM, for example, contrasts temptingly with university laboratory facilities.

Harvard's instrumentation, says Pipkin, is "decrepit": especially since the arrival of computer-controlled instruments, the cost of updating laboratories runs into millions of dollars. Researchers who have chosen an academic setting, he says, must pick their physics problems carefully, accepting as a boundary condition their inability to compete in certain areas.

Dr T.K. Williams, staff physicist at the Department of Energy (DOE), differentiates between teaching instrumentation and government-funded research equipment. Two interdepartmental laboratories at MIT illustrate the gap: the National Magnet Laboratory, funded by the National Science Foundation (NSF), and the linear accelerator laboratory, funded by DOE, are both equipped with modern instruments and draw users from industry as well as academic institutions.

Although research funds may be string-free, university physics programmes must still dance to the tune of government grant agencies. As in the national trends, most of Harvard's 120 and MIT's 300 graduate students in physics are supported by research assistantships. At MIT, the sources are DOE and NSF, as at Harvard, as well as the National Aeronautics and Space Administration because of MIT's large astrophysics programme. Harvard will not be able to make good cuts in this support, says Pipkin; although nobody can yet predict the full effects of the Gramm–Rudman deficit reduction act, less support means fewer graduate students.

Meanwhile, the use of the legislative process to set aside funds for specific university programmes, as at Northeastern and Boston Universities, has been a cause of controversy. Academics at Harvard and MIT are unanimous in calling this a "distortion of funding" and "a dangerous trend", but do not want to be personally identified because they acknowledge that these "set-asides" are a way in which lesser programmes may be given a hand up in the competition for research funds.

One of the beneficiaries is Boston University, whose president, Dr John Silber, is committed to transforming the graduate school programme. The university has, for example, committed itself to spend $10 million over two years on its physics department, with continuing support of $1.5 million a year. Undergraduate enrolment is expected to triple and graduate enrolment to double (from 55 to 100). Sixteen new faculty positions are scheduled to be filled over five years, but already four offers have been accepted and four are outstanding.

These increases presume that Boston University can find a niche for itself by concentrating on fields such as computational physics and superstrings, which are not specialities at Harvard and MIT, and by fitting in between the "small size" of Harvard and MIT, plagued by "a faculty of old men with decreasing grants" (a charge Friedman refutes). Its new faculty members list the excitement of transformation as an important reason for coming to Boston University. **Elizabeth Collins**

# Benefits of inaction

*Washington*

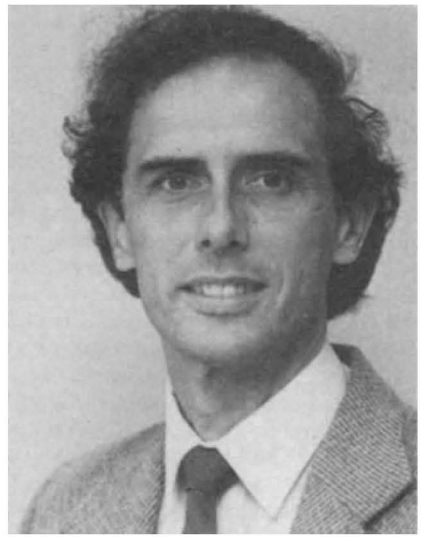
**THE US Congress won a bout last week in its tug-of-war with the administration over extramural research grants at the National Institutes of Health (NIH) — by doing nothing.**

**By failing to approve the administration's proposed $77 million rescission to NIH's 1986 budget within a 45-day period, Congress increased the number of grants from 5,500 (the number sought by the administration) back to 6,100 (the number provided for by Congress).**

**The rescission, proposed on 6 February, would if implemented have cut $53 million from the $3,000 million total for extramural grants, as well as $14 million from research into acquired immune deficiency syndrome (AIDS). NIH officials did not, however, seem unduly alarmed by the prospect: it is virtually unheard of for Congress to approve rescissions for a popular agency such as NIH. But because the number of grants has now jumped again, the cuts to individual grants now being negotiated (about 3 per cent below recommended amounts) will actually be greater than if the rescission had been approved.** Tim Beardsley

# Vancouver move

**DR John Schrader, the Australian immunologist, is to be the first director of the Biomedical Research Centre that is being established in Vancouver, Canada. Currently at the Walter and Eliza Hall Institute of Medical Research in Melbourne,**



**Schrader will take up his post in September and will have a staff of about 30 scientists. The centre has been set up by a company that is half owned by the Terry Fox Medical Research Foundation of British Columbia, a charity established by the province of British Columbia, and half by Wellcome Biotechnology Ltd, a subsidiary of Wellcome Foundation Ltd, the British pharmaceutical company.**

**The new centre has a research budget of £15 million over five years. Continued support will depend on its research record as well, no doubt, as on sales of Wellcome's interferon in British Columbia. The interferon is to be made in a cell culture facility, known as the Biomedical Processing Centre, that is to be built with Wellcome know-how but is owned by the Terry Fox Medical Research Foundation. The foundation, through its wholly owned company, Pacific Isotopes and Pharmaceuticals Ltd, has exclusive rights to make and market Wellcome's interferon in British Columbia. Eventually all parties concerned may benefit from the sales of other immunoregulators, a main focus of Schrader's present and future research.** Peter Newmark