US universities

Commercial interest*Washington*

Legislation passed last year by the US Congress to encourage the scientific community to take a greater interest in the commercial exploitation of their research — for example by giving universities and small businesses the right to patents resulting from federally-sponsored research — is already bearing fruit. Spurred by the new patent laws, Stanford University is considering whether to invest university funds in companies set up by faculty members to exploit their research. And the National Institutes of Health (NIH) are expected to reverse a 20-year-old policy which excludes scientists who work for profit-making companies from applying for competitive research grants.

At the same time, there are renewed pressures in Congress for legislation to offer private corporations tax incentives for supporting basic research in universities. One attraction for the universities stems from the increasing constraints on federal funding, but industrial support for university research — at present only about 3 per cent of the total — is unlikely to become a substitute for the federal government.

New NASA man*Washington*

The Reagan Administration is expected to announce shortly the appointment of Dr James Beggs, at present executive vice-president for aerospace at General Dynamics Corporation, to be the next administrator of the National Aeronautics and Space Administration (NASA). Dr Beggs was NASA's associate administrator for advanced research and technology in the late 1960's and before joining General Dynamics had acted as Under-Secretary in the Department of Energy. His name was informally mentioned by Vice-President George Bush during a visit to the Kennedy Space Centre last week, and a formal announcement about Dr Beggs's nomination is expected from the White House this week.

Meanwhile there is still no news about the post of science adviser and director of the Office of Science and Technology Policy (OSTP). A decision by the White House to include funds for OSTP in its budget request for 1982 indicates that no official decision has yet been made to eliminate the office or its activities. However, there are several rumours in Washington that the science adviser's post may be downgraded, and that OSTP could be absorbed into the Office of Management and Budget, with which it worked increasingly closely during the Carter Administration. **David Dickson**

The Stanford proposal was put to a meeting of the university's committee on research two weeks ago by Dr William Massey, professor of business administration and vice-president for business and finance. In particular, he spoke in favour of setting up a Stanford investment trust which would operate partly on capital provided by the university and partly on capital raised outside. Such a trust would make "modest" equity investments in the early financing of high-technology companies whose products derived in some way from work at Stanford.

Several scientists at the Stanford meeting, among them Dr Edward Garvin, an adjunct professor at the Stanford Linear Accelerator Center, were concerned about the potential impact on research activity of the new proposals, particularly if it meant that the potential ability to earn money for the university became a major factor in making research choices or faculty appointments.

At NIH, the change in rules covering applications for research grants is expected to be announced in the *Federal Register* within the next few weeks. It reverses a restriction applied to all funding by the Public Health Service in 1962, partly as an attempt to ensure that research funds were used to help build up university and medical schools, partly because of some well-publicized abuses.

A return to the situation of before 1962, which would not require ratification by Congress since the decision was essentially administrative, has been under discussion for several years. The document setting out the change in procedures is now said to be awaiting merely the signature of Health Secretary Mr Richard Schweiker, who is not expected to raise significant objections.

The legislation had some important administrative implications. For example, changes in the patent law now required NIH to keep track of all patents awarded to universities from federally-sponsored research, in order that the institutions should be able to exercise "march-in rights" if they consider that a patent is not being sufficiently exploited.

Dr Charles Lowe, head of the institutes' Office of Medical Applications of Research, warned that such changes could have important implications, and steps might be necessary, for example, to protect the integrity of the peer review process. His warnings were echoed by Dr Philip Siekevitz, professor of cell biology at Rockefeller University in New York, who said there was a danger that biomedical research priorities would be shifted from social need to return on investment.

Dr Donald Fredrickson, director of NIH, said he expected that many of the changes described by Dr Lowe would come about and that NIH would in particular be looking closely at the experiences of the National Science Foundation in forging ties between industry and universities.

David Dickson

UK astronomy

Change of direction

Responsibility for the construction of the La Palma observatory in the Canary Islands, Britain's hope for good optical astronomy in the Northern Hemisphere, will be handed over to Professor Alexander Boksenberg, now professor of physics at University College London, on 1 October. Professor Boksenberg will then succeed Professor F. Graham Smith as director of the Royal Greenwich Observatory, which is responsible for building and subsequently operating the La Palma site. Professor Smith, a radioastronomer, will succeed Sir Bernard Lovell as professor of radio astronomy at the University of Manchester and director of the Jodrell Bank radiotelescope.

The La Palma observatory, which will house four major telescopes, is likely to be the Greenwich observatory's largest project for a long time to come. The Science Research Council, which made the new appointment, hopes that one of Professor Boksenberg's first tasks will be to chivy the Spanish authorities, who have been responsible for some delay, into speedier action. But Professor Boksenberg sees his main task as encouraging astronomers in British universities to take the fullest possible part in the new observatory. He would like to see their involvement extend beyond the use of the telescopes for observation to the design of instruments and software, either in their own laboratories or at the Greenwich Herstmonceux site.

Since the Royal Greenwich Observatory took on the construction of the La Palma observatory, its own research effort has gradually diminished, a trend that Professor Boksenberg would like to see reversed. He hopes to encourage more astronomers to join his organization and, by collaboration with universities and Britain's other major observatory, the Royal Observatory Edinburgh, to transform the astronomy community into "a happy family".

Professor Boksenberg's previous experience seems particularly relevant to an organization involved in both instrument-building and astronomical research. His expertise in building image intensifying instruments has won him collaboration on several major worldwide telescopes. The image photon counting system, his big success, earned him observation time on the Kitt Peak and Palomar Mountain Observatories in the United States. He is at present building instruments for the faint object camera, Europe's contribution to the space telescope.

His observations have been mainly extragalactic, of quasars in particular. As well as using groundbased optical telescopes, he has also worked with data from and designed instruments for the

International Ultraviolet Explorer satellite. Professor Boksenberg hopes to retain an interest in astronomy at University College London by becoming a visiting professor there. **Judy Redfearn**

Oak tree wilt

Europe in dread

Brussels

The European Commission is about to launch a research programme to find a cure for the tree disease oak wilt. And a system of import controls is already in force to ensure that wood from the United States does not trigger off an epidemic as devastating as Dutch elm disease.

Experts on both sides of the Atlantic fear that if oak wilt were to reach Europe, it would in the European climate be the death knell of the oak tree. The fungus has spread slowly in the United States and is concentrated in the areas below the Great Lakes. Oak wilt is a fungus (*Ceratostoma fagacearum*) whose spores are thought to be transmitted either by the scullitus beetle or by root grafting (roots intertwining underground). The fungus clogs the tree's vessels, blocking the movement of the sap.

Controversy has surrounded the necessity for and nature of the import regime. Britain and Ireland have been in favour of tight restrictions on imported wood. But aggressive lobbying by the German furniture industry has led to relaxation for some continental industries. The German industry requires oak logs with the bark intact for veneer furniture, and the United Kingdom's Forestry Commission has stressed that the bark poses the greatest dangers of transmission.

As things are, the logs have to arrive accompanied by a certificate to show that the wood comes from uncontaminated areas of the United States. The logs can then enter the Community only through a limited number of ports and cannot then be re-exported to another member state.

Further precautions are nevertheless being taken. The Community's import regime requires that the wood is square-edged, has been dried to remove 20 per cent of the moisture and is subject to heat and air treatment. In case of doubt, the wood can also be ponded or submerged in water to kill remaining fungus. The problem for the furniture industry is that such processes do the wood no good.

The research programme is being mounted in collaboration with American and Canadian research institutes (although Canada is still unaffected). Five contracts are about to be let by the Commission to plant research institutes in the United Kingdom, Germany and Belgium. Details of the programme have not been released, but one contract will go to the Forestry Commission. The total cost of the programme is estimated at 570,000 European Units of Account (£0.54 = 1 EUA) with Europe contributing just over a half, the United States 200,000 EUA and

Canada 50,000 EUA.

Although oak wilt has been known for the past 40 years, work is still going on to map the afflicted areas. Efforts will also be devoted to gaining a greater understanding of how the disease spreads; present evidence suggests that oak wilt would spread far more quickly in Europe than in North America.

Methods exist to kill the fungus in the wood but the more important challenge is to find a way of killing the fungus in the living tree.

Problems have arisen in coordinating the timing of the research, as the Americans are in less of a hurry. European research is also handicapped by the lack of infected wood, for obvious reasons. Relations between Europe and the United States are also coloured by the knowledge that Europeans were responsible for exporting Dutch elm disease to North America in the first place.

Jasper Becker

Soviet higher education

Candidates change

The Soviet system of higher academic degrees is due for radical overhaul, according to an article in the prestigious *Literaturnaya Gazeta* last week. On the eve of the Annual General Meeting of the Academy of Sciences of the USSR, it published a major critique of the system under which the degree of Doctor of Science is now normally awarded to mature and well-known scientists approaching their fiftieth birthdays.

The author of the article, L. Orlov, is a typical product of the system. He heads a research laboratory employing 50 scientists, and has published more than 80 papers. As a senior scientific worker, holding the degree of Candidate of Science, he earns 300 rubles per month. To obtain the extra 100 rubles a month which go with the title of Doctor of Science, he is now having to rework his research results into a formal thesis, to be defended in exactly the same manner as he defended his Candidate's thesis years ago.

Orlov does not deny that the two-stage degree system had its virtues when it was originally introduced 50 years ago, when the rapid expansion of Soviet science and the lack of trained personnel meant that young scientists who had not yet completed their doctoral research were employed in posts which would normally have gone to Doctors of Science. Under such circumstances, some pre-screening of these "doctoral candidates" was necessary.

Orlov considers the double-examination system no longer relevant since Soviet science and higher education has now reached an extremely high standard. He suggests that the two-stage system is actively harmful to science. Not only do the examiners sometimes let through a young scientist whose thesis is not entirely satisfactory, "since it is, after all, only a

Candidate's thesis", but the need to produce two such pieces of original research in one academic lifetime can seriously hamper a scientist's creativity.

The current Five Year Plan, approved by the Party Congress last month, specifically calls for flexibility in research and development in order to meet the demands of the scientific and technological revolution, and for improvements in training of scientists and workers in higher education. A provocative article in a leading journal is a traditional Soviet way of introducing a possible reform to public opinion, and is usually followed by a spirited "press debate". Orlov's proposals will probably attract considerable sympathy among scientists and academics. Not only would the adoption of a single higher degree eliminate the need to write a second thesis, it would also eliminate the chagrin arising from the present system, which as Orlov notes, gives formal parity between a Soviet "Senior Scientific Worker" who at forty plus has gained his doctorate after 15 years hard work, and some "27-30-year-old young Doctor of Science from East or West Germany".

Vera Rich

Irish research and development

Marching to Georgia

Ireland is to set up a new contract research institution in the hope of persuading the 800-odd foreign companies based — tax-free — in the country to do some research and development there at last. The new institution, announced last week, and to be called the European Research Institute of Ireland (ERII), will be set up in Limerick with the help of America's Georgia Institute of Technology and will offer 50 per cent government grants to companies wishing to place contracts with it.

Ireland's Industrial Development Authority, which is responsible for the arrangements, foresees ERII as leading Ireland into its third stage of industrial development. The first was purely domestic; the second involved the establishment of foreign industry; and the third will involve research and development placing Ireland among the modern technical countries. The problems in reaching that third stage have been first, that most Irish researchers travel abroad to do their work, to America or Europe, and second, that whereas other countries offered tax incentives to companies to invest in research and development, Ireland could offer none as the firms paid no tax anyway.

The new institute is seen as the solution to these problems, with the grants substituting for tax relief, and high salaries to attract expatriate researchers back to Ireland. The Industrial Development Authority calculates that it will be paying staff at Limerick enough to match the