Australia in space

New consortium blasts off

Canberra

AUSTRALIA's first space company, Auspace Pty Ltd, created on 5 January by collaboration between SA Matra, the French aerospace company, and Hawker de Havilland (Aust) Pty Ltd, has already tendered successfully for Starlab, the projected joint US-Canadian-Australian space telescope. A subsidiary of the British Hawker group (now part of British Aerospace), Hawker de Havilland owns 60 per cent of the new company and has no Australian equity. Matra, which owns the other 40 per cent, has been involved with Starlab for about two years, supplying it with expertise in space technology and in return accruing government offset credits.

Australian involvement with Starlab, originally intended as a complement to the US National Aeronautics and Space Administration (NASA)'s Space Telescope (ST), dates from an informal suggestion in 1979 by Professor Don Mathewson, director of Mount Stromlo and Siding Spring Observatories (MSSO), after the project was dropped from the NASA budget. Canada joined in shortly afterwards and, as a result of discussions between the three relevant government agencies, Starlab was planned as a free-flight telescope rather than a facility operated in the payload bay of the space shuttle during sorties. Canada will construct the body with the telescope, Australia the instrument package consisting of a camera, spectrograph and detector system, while NASA will develop the space platform, bear the costs of the first two flights by the space shuttle and then operate Starlab in orbit. The tentative launch date is 1990.

Starlab will be a modified Ritchey-Chretien telescope with a primary mirror of 1 metre diameter (ST has a 2.4-metre mirror), with a field of view a hundred times wider than that of ST but with a spatial resolution close to the ST threshold. Starlab will, like ST, accumulate signals from single photons within the wavelength range 100–1,000 nm. Starlab information from a large area of the sky will be used to point the more sensitive ST much as ground-based Schmidt cameras are used to direct large ground-based cameras. Starlab is designed for a lifetime of 20 years, with periodic refurbishment by the space shuttle.

Australia's contribution will be a wide-field camera called the Direct Imager, together with a long slit echelle spectrograph and associated detector systems. The large format photon-counting detectors, with more than 8×10^7 pixels (picture elements), present the greatest challenge to MSSO ingenuity.

For the time being, the MSSO group is engaged on design studies as a "public interest" project almost as an afterthought

with funds left over from last year's Industrial Research and Development Incentives budget. Much of the A\$3.337 million (£2 million) allocated for this phase will flow to the many companies subcontracted by Auspace. If the three partners decide in 1984 that the telescope should be built and launched, the final cost to the government will be about A\$30 million.

Auspace has ambitions beyond Starlab and will look further afield for future contracts. Stanley Schaezel, one of its directors, says that the company will start bidding for international satellite contracts, but not in the European arena against its parent companies.

Vimala Sarma

Todaro to leave NCI

Washington

DR George Todaro, director of the National Cancer Institute (NCI)'s Laboratory of Viral Carcinogenesis is to become scientific director of a new private company, Oncogen, in Seattle, Washington state. The company is a joint venture of Genetic Systems Inc. of Seattle and Syntex Corporation of Palo Alto, California. He will also be professor of pathology at the University of Washington Medical School.

Todaro's associates at his NCI laboratory at the Frederick Cancer Research Facility in Maryland say his departure is unrelated to the recent difficulties the facility has experienced (*Nature* 20 January, p.185). He decided to leave because this opportunity was too good to pass by, as it will allow him to continue his basic research and carry it through to applications for cancer diagnosis and new modes of treatment of cancer.

Todaro plans that the company will carry out research on monoclonal antibodies for the detection and treatment of various human tumours, on viral and cellular oncogenes, on human cancer-causing viruses, and on the role of the growth regulatory peptides in the control of cancer, the focus of much of his current research.

Genetic Systems Inc., which is already established in the building that Oncogen will occupy, is an established biotechnology company listed in *Nature's* biotechnology stock index. It is developing monoclonal antibodies as diagnostic reagents particularly for venereal diseases. Backed in part by Syntex, the company also has ties to the University of Washington Medical School and the Fred Hutchinson Cancer Center in Seattle. Last year Todaro explored the possibility of becoming Director of Scientific Programs at the latter.

Deborah Shapley

Soviet Jewry

Higher hurdles to jump over

BORIS Kanevskii, the Moscow mathematician who since 1979 has monitored the mathematics entrance examinations of Moscow University for anti-semitic bias, was last week sentenced to five years' exile in Siberia. His collaborator Valerii Senderov, in detention pending trial, is a former associate of the independent trade union movement SMOT and may face a heavier sentence. An 18-year-old student, Ilya Geltser, who had helped coordinate the findings, has been given a three-year suspended sentence.

Although anti-semitism is strictly forbidden by the Soviet constitution, during the past ten years a bias against Jews has become increasingly apparent in Soviet academic life. Prejudice is particularly prevalent among mathematicians, reflecting, apparently, the views of a relatively small but influential clique.

The first major *samizdat* account of anti-semitism in Soviet mathematics was compiled in 1976 by Dr Grigori Freiman, then a professor at the Kalinin State University and a Communist Party member in good standing. He was angered by the repeated refusal of the Higher Attestation Committee to accept the Candidature (PhD) thesis of his best student. Dr Frieman established that in the oral entrance examination in mathematics in particular, applicants with names suggesting Jewish (and also Armenian) origin were hived off into special groups which were set questions beyond the competence of even the brightest school-leavers.

Kanevskii and Senderov set out to provide a statistical comparison of the examination results of Jews and non-Jews in the entrance examinations of 1979–82 at three leading mathematical institutions — Moscow State University, Moscow Institute of Physics and Technology and Moscow Institute of Engineering and Physics. They found that whereas Gentiles (and, in particular, Russians) regularly obtained examination results commensurate with their school performance, qualified Jewish candidates often failed to score pass marks.

Having found that the three leading Moscow mathematical institutes investigated admitted not more than 0.8 per cent of students having at least one Jewish grandparent, Senderov and Kanevskii produced their own stop-gap solution — an unofficial "People's University of the Mathematical Sciences" for Jewish would-be undergraduates who had failed to gain a university place. Although a number of postgraduate seminars had been operating for years among the Moscow Jewish community, this was the first real attempt to do anything at the undergraduate level.

Vera Rich