

Johns Hopkins wins new space institute

Princeton loses space telescope ground base

Washington

After racing neck-and-neck to the finishing line, Johns Hopkins University of Baltimore has beaten Princeton University to be the site for a new research institute responsible for the operation of the space telescope to be launched early in 1985. The Space Telescope Science Institute will be managed by the Association of Universities for Research in Astronomy (AURA), a 14-university consortium. The award of the contract to AURA was announced last week by Dr Robert Frosch shortly before he left his position as administrator of the National Aeronautics and Space Administration (NASA).

AURA already operates the group of telescopes on Kitt Peak in Arizona for the federal government. It selected Johns Hopkins as the proposed site last year — even though the university itself is not a member of the consortium and does not at present have a major astronomy department. There were four other bids to operate the institute. Three of these would have put the institute at Princeton and the fourth, from the group which operates the Fermilab near Chicago, would have placed it near the particle accelerator.

The final choice was between AURA and the Princeton proposal from Associated Universities Inc., which already operates the National Radioastronomy Center and the Brookhaven National Laboratory. Dr Frosch accepted the recommendation of an evaluation team that the contract be awarded to AURA. It is thought that a deciding factor was the scope of the management scheme proposed by AURA, based largely on its Kitt Peak experience.

The new institute will be responsible for all aspects of the operation and use of the 2.4-metre optical telescope when it is launched into orbit 350 miles above the Earth from the space shuttle. Johns Hopkins University will provide a site and a new building on the edge of its Homewood campus, at a cost of about \$6 million. The AURA plan envisages an eventual staff of 150 people, including 40 full-time astronomers selected from around the world.

In addition, the institute is expected to take in up to 200 visiting scientists each year. They will be able to use the telescope 24 hours a day because, unlike surface-based optical telescopes, the sky will be permanently dark. Annual running costs are expected to be about \$10 million. Competition for the management contract has been fierce after bidding was officially

opened by NASA at the beginning of last year. There seems, however, to have been little of the political squabbling that has surrounded decisions about major scientific facilities in the past, in particular the controversies over the siting of new particle accelerators.

AURA has made much of the local facilities offered by Baltimore, which has recently been going through something of an urban renaissance. It also stressed the proximity of the city to the Goddard Space Flight Center, from which the manoeuvring of the telescope will be controlled and at which a small team from the institute will be based.

In the end, however, location is thought to have played a relatively minor part in the decision. Princeton is not much further from Goddard, and both cities have access to major international airports — one of the preconditions stipulated by NASA.

More important seems to have been a quantitative assessment made by the evaluation team of the facilities and management support being offered in each case. Johns Hopkins was not able to match the strong astronomy department offered by Princeton. Several of its physicists, however, including some members of the Applied Physics Laboratory (APL), have been closely involved in the design of the space telescope and its instrumentation.

Following NASA's decision, AURA announced that the acting director of the institute will be Professor Arthur Code, at present professor of astronomy at the University of Wisconsin in Madison. The acting deputy director will be Dr Robert Rich of APL. Dr Arthur Davidson,

professor of physics at Johns Hopkins, will be acting chief of the research support branch, and Dr William Fastie will be responsible for scientific instruments.

One factor which had concerned the AURA team while the proposals were being evaluated was the threat of federal action against Computer Sciences Corporation (CSC). The consortium had chosen the company to provide computer services, but CSC is under indictment for overcharging the federal government on time-sharing facilities.

Shortly before the management contract was awarded, however, NASA — having checked with the General Services Agency, on whose behalf the indictment has been filed — announced that although CSC has been suspended from bidding for future time-sharing contracts, it was still free to bid for technical support contracts, since these services were provided by another part of the company.

Johns Hopkins officials have welcomed the news about the institute. University president Steven Muller suggested that, given the dominant role that the space telescope is likely to play in optical observation until the end of the century, "there is true excitement at the prospect that Baltimore will now become the world capital of astronomy".

At Princeton, there was comparable disappointment. "To have hosted the institute would have been the next important step for the Princeton scientific community", one faculty member said last week. "Now we must go back and do some reassessing."

David Dickson

Dutch partners for La Palma observatory

The British Science Research Council may have found another collaborator for its optical astronomy observatory at La Palma in the Canary Islands. The Netherlands will probably join Spain, Sweden and Denmark in the collaboration to build and run the site. Last week, the council of the Netherlands Organization for the Advancement of Pure Research (ZWO) approved the deal "subject to contract", as the lawyers say. Professor Graham Smith, director of the Royal Greenwich Observatory which is coordinating the project, welcomes Dutch accession and thinks that the Netherlands may help especially with the supply of skilled manpower for management of the project.

The La Palma observatory, originally called the Northern Hemisphere Observatory, will eventually include our major British telescopes — a 1-m diameter Schmidt telescope, the 2.5-m Isaac Newton telescope (which is being transferred from Britain), a new 4.2-m telescope and a new 15-m radio telescope. Four smaller

instruments are being provided by Sweden and Denmark. Preparations for the observatory started in earnest eighteen months ago, after the protracted negotiations with Spain had been completed. Construction is well ahead, according to Professor Smith. The 1-m and the Isaac Newton telescopes are almost ready for removal to the Canary Islands and the observatory is on the verge of placing a contract for the mirrors for the 4.2-m telescope. A call has gone out to astronomers in several countries for the design of ancillary instruments for the 4.2-m telescope.

Successful bidders will be rewarded in part with observing time. The remaining contracts for the 4.2-m telescope are likely to be placed later this year, and the telescope could be working by the spring of 1985, but that date could slip by a year if the cash flow of the Science Research Council does not improve.

Much of the negotiation between the Netherlands and Britain has already been completed. In return for 20 per cent of the

cost, ZWO will be allowed to allocate 20 per cent of the observing time to Dutch astronomers. It has not yet been decided precisely how the Netherlands will help to solve the manpower shortage. When the observatory is fully operational, Professor Smith estimates that about 30 technical staff will be needed in La Palma at any one time. The difficulty is in persuading sufficient British scientists to uproot themselves for three years at a time.

ZWO has decided to pay its share out of its existing budget of about £40 million a year. Most of the money will come from the £6 million a year now spent on astronomy, implying a major shift in astronomy funding. Although most Dutch astronomers are expected to welcome the agreement, radioastronomers may feel hard done by.

The next step is for Professor van Lieshout, director of ZWO, to obtain the approval of the Dutch minister for science, who is reported to be enthusiastic. But the imminent Dutch election could mean that the issue will have to be decided by a new minister. All being well, however, Professor van Lieshout hopes that an agreement could be signed and sealed within the next four months.

Judy Redfearn

Toxic waste

Dutch dumps

Amsterdam

The cost to the Netherlands of dealing with chemical waste from years of heavy industrialization is mounting. So far about 3,000 dumps containing chemical waste have been found, 500 of them a recognized danger to public health. The Minister for Public Health and Environmental Protection estimated a few months ago that it would cost about £200 million to clear the 500 dangerous dumps, and this estimate is now £400 million.

In the village of Lekkerkerk, not far from the heavily concentrated chemical industries of Rotterdam, many buildings were found to have been built on a chemical waste dump. About 1,700 drums were recovered from the site, containing materials such as toluene and xylene from the dye industry and metals such as cadmium, zinc and lead. Some 300 houses were evacuated and 150,000 tons of polluted soil have had to be removed, while medical examinations may yet be carried out on the population. Several more chemical waste dumps have since been found in the same area.

After cases of cattle infertility and the discovery of dead birds, an investigation by the municipal environmental laboratory of Amsterdam has revealed that the Volgermeerpolder, a marshy area 5 miles from the centre of Amsterdam, contains about 10,000 drums of chemical waste from a 2,4,5-T factory previously owned by Philips-Duphar. The factory ceased

production in 1969 and was completely dismantled and dumped in the Atlantic, but its waste remained.

According to Dr H. Heida, director of the Amsterdam environmental laboratory, the drums contain a wide range of chemicals, including chlorobenzene and chlorophenol. However, some of the drums are known to contain 2,4,5-T and possibly the dioxin 2,3,7,8-tetrachlorocyclo-dibenzo-*p*-dioxin (2,3,7,8-TCDD), and it is this latter compound which it is feared may form the real danger.

Analysis of soil, water and livestock and of produce from gardens in the area has revealed the presence of chemicals from the dump in concentrations of tenths to hundredths of milligrammes per kilogramme weight.

However, the future of the dump rests on the problem of clearly identifying 2,3,7,8-TCDD. Samples from the drums have been analysed by Professor O. Hutzinger's team at Amsterdam University



The clearing of Lekkerkerk

and have also been sent to Milan for analysis by the laboratory involved in investigating the Séveso incident. A definite solution to the problem is not expected before the summer.

These pollution scandals prompted a national inventory of chemical waste in the Netherlands due to be completed by the end of 1980. So far, however, only two of the eleven Dutch provinces have reported their findings.

The problems of the Netherlands have also attracted international interest. Dr David Costle, administrator of the US Environmental Protection Agency, visited the Lekkerkerk dump while he was in the Netherlands to sign a memorandum on cooperation between the two countries. Dr Tolba of the United Nations Environmental Programme, a regular visitor to the country, is particularly interested in the chemical pollution problems.

The latest revelation was in December of last year, when small amounts of the toxic substance methyl bromide were found in drinking water in the horticultural area

between The Hague and Rotterdam. This chemical is used by market gardeners to disinfect the soil, and an estimated 2,000 tons a year are used in this area — 30 per cent of the total consumption in the European Community. The poison had apparently seeped through the PVC tubes used for private water distribution. As a result, the Minister for Public Health has made public water supply companies responsible also for private supply pipes. However, it now turns out that PVC tubes are widely used in the Netherlands for transporting water which has been tested for pollutants such as methyl bromide.

Casper Schuuring

Genetic engineering

Planning bugs

Washington

Echoes of the fierce public debates of four years ago are being heard once again in and around Cambridge, Massachusetts, as local city councils discuss the conditions they will place on the genetic engineering companies springing up in their midst.

The tones of the debate are more muted than before. And in each of the four communities — Cambridge, Waltham, Somerville and Newton — the talk this time is of negotiation rather than confrontation. Nevertheless, there is sufficient concern among the companies for the head of at least one to suggest the need for a "more coherent policy" towards local regulation, possible at the state level.

The most significantly affected so far seems to have been Genetics Institute. This is the company which has been set up by Dr Mark Ptashne, professor of molecular biology at Harvard University, and a local management consultant, Mr Tom Hexner, on privately-raised venture capital, after the Harvard faculty voted against university participation (see *Nature* 27 November 1980). Its backers include Venrock, a venture capital firm owned by the Rockefeller family, and Mr William Paley of Columbia Broadcasting.

Now the company faces a new hurdle — gaining acceptance in the local community. Last November, it applied to build a laboratory in Somerville, just inside the city's border with Cambridge and a few blocks from the university biology laboratories. The application has kindled a fierce public debate. At one point, for example, local citizens had suggested that research should be limited to P1 and P2 physical containment facilities, even stricter than restrictions in Cambridge, which allow work up to the P3 level.

City council members who were originally in favour of granting permission for the new laboratories with few strings attached have backed off in the face of the public controversy; many are preoccupied with severe budget cuts that have resulted from a recent reduction in property taxes.

At a public meeting last Thursday, the