

► hoped that full approval for the project will be obtained by 2001, with limited operations starting in 2005, and that the array will be fully operational by 2009.

Keiichi Kodaira, director-general of Japan's National Astronomical Observatory (NAO), which oversees LMSA, argues that Japan's involvement will bring substantial benefits to the project. "Since LMSA is already in the advanced stages of its design and development phase, there is much that Japan could contribute to the development of ALMA," says Kodaira.

But he says that Japan would not be able to join ALMA as an official partner until it can secure the necessary funding from the Ministry of Education, Science, Sports and Culture (Monbusho), which oversees NAO.

"One of the problems is the fact that we have a very different funding system from that of US and European research institutes," says Kodaira. "Since the budget request for next year has already closed, we hope to secure relevant funding after the merger of Monbusho and the Science and Technology Agency (STA) in 2001."

Until then, LMSA and ALMA are expected lead a separate existence, although the three sides have agreed on Japan's early involvement in the project at a scientific and technological level. Negotiations are currently taking place to add Canada to the US team, and Spain to Europe's participation.

Kodaira says that Japan will participate in the design and development phase of ALMA, including the investigation of the site.

Last week's meeting included discussions on the design differences between LMSA, which was planning to build 50 ten-metre antenna dishes, and ALMA, which plans to build 64 telescopes with 12-metre antennas. The purpose of the meeting was "to plan how to maximize ALMA's scientific potential", says Paul Vanden Bout, director of NRAO.

ALMA, whose members also include the European Southern Observatory, France's Centre National de la Recherche Scientifique and the United Kingdom Particle Physics and Astronomy Research Council, is to study the structure of the early universe, the formation of the stars and the evolution of galaxies.

Kodaira hopes that ALMA will change the general perception in Japan that astronomy has no practical applications. He says that research into millimetre-wave interferometry could lead to new technologies in telecommunications, information technology and semiconductors, all priority areas in next year's budget. **Asako Saegusa & Natasha Loder**

Aim for better business sense to bolster Russian science

Moscow

The Russian Academy of Science (RAS) has set up a new body, known as the Above-Budget Foundation (ABF), to manage its property and channel the income it receives to supporting scientists and their work.

According to Gennady Mesyats, the academy's vice-president responsible for ABF activities, the new body has already generated more than \$1 million in income, even though it started operating only a few months ago.

"Next year we hope to get \$3 million, and in the coming years ABF plans to operate with tens of millions of dollars," says Mesyats. "We hope that this will enable our libraries to subscribe to all major journals, and that we can finance expeditions, and solve our most acute financial problems."

Mesyats told a meeting of the academy's praesidium in Moscow last week that, for the first time in recent years, the government has this year transferred all the money it had allotted to science both on time and in full. But the praesidium emphasized that the total amount being made available is still insufficient to meet the needs of Russian science.

External income is therefore very important, Mesyats emphasized, particularly given that the budget money can only be used for specified purposes, such as salaries, and cannot be redistributed. The academy owns considerable property, which until recently has been inefficiently used. It has 38 buildings in Moscow alone, and many stores, hotels and other real estate around the country.

The academy also receives income from its scientific ships, and substantial revenue is raised through its international academic association 'Science', which manufactures



and distributes copies of scientific exhibits.

The academy also makes money from publishing. More than 80 scientific journals are published in English by a recently founded publishing company, Nauka, which is expected to raise \$1 million next year, partly because publication of the two leading Russian physics journals was transferred to it from the American Institute of Physics.

The ways in which these funds are to be spent are discussed at weekly meetings of the RAS praesidium, chaired by Yuri Osipov, the academy's president. This year's priorities have included buying apartments for young scientists, providing petrol supplies for mountain observatories and supporting scientists' widows.

"Finding external funds is a new activity for us, even though in other countries it is quite normal; up to 30 per cent of the income of US universities comes from using their property, such as stadiums, parking places and living quarters," says Mesyats. **Carl Levitin**

Anger at Israeli sex crimes DNA bank

Jerusalem

Israeli police have been accused by the Association for Civil Rights in Israel of illegally taking DNA samples from suspected sex offenders in their search for a serial rapist.

The police have taken saliva samples from previous suspects in other sex cases, even though they are not believed to have any connection with the serial rapist, who has attacked women in the Tel Aviv region during the past year. The samples are being used to produce DNA profiles for a police data bank.

But Dan Yakir, the counsel for the civil rights association, has written to Israel's attorney-general, Elyakim Rubinstein, claiming that this activity is "manifestly il-

legal" and "seriously violates the fundamental rights to freedom, privacy, and respect". He adds: "The police have no authority to summon for investigation a person against whom there is no specific suspicion."

Yakir also argues that the establishment of a DNA data bank on sex offenders is illegal without legislation on this. But a spokeswoman for the Ministry of Internal Security says DNA samples are taken only with subjects' written consent. She acknowledges that the samples are being taken not only to find the serial rapist, but also to "advance the investigations of other rapes". But she argues that the samples benefit those who give them by clearing them of the crimes. **Haim Watzman**