

NASA 'needs better analytical equipment'

[WASHINGTON] The US space agency NASA must invest in new ground-based laboratory equipment if it wants to get the most out of samples returned from Mars and other extraterrestrial bodies in the next decade, says an advisory group.

By the time Mars samples are returned to Earth in 2008, most NASA-funded equipment will be at least 20 to 25 years old and obsolete, unless there is a major effort to upgrade, says the group.

Michael Drake, director of the University of Arizona's Lunar and Planetary Laboratory, says the present mass spectrometers, ion microprobes, electron microscopes and other equipment used to study extraterrestrial samples may not be up to the job.

Drake headed a task force asked by NASA's science office to look into the requirements for Laboratory Instrumentation for Analysis of Returned Samples (LIFARS). NASA invested heavily in laboratory facilities at the time of the Apollo programme in the 1960s, when hundreds of pounds of rocks were returned from the Moon. But since then there has been a "catastrophic decline in supporting infrastructure", says Drake.

Scientists studying meteorites and other extraterrestrial samples have worked around the problem in recent years by borrowing time on expensive equipment funded by the National Science Foundation



(NSF) and other agencies. But access is limited to scientists with NSF grants, he says.

The answer, according to Drake and other planetary scientists, would be a modest investment by NASA of around \$13 million a year in facilities for agency-funded researchers. The money would also help develop technologies such as resonance ionization mass spectroscopy, which promises greater precision in identifying isotopes. The NASA spending, if approved, would be coordinated with that of the NSF, the Department of Energy, universities and industry, all of which use similar equipment for different purposes.

No extraterrestrial samples have been

brought back to Earth for more than 20 years, but several such missions are planned. NASA's Genesis spacecraft will collect samples of charged solar wind particles and return them to Earth in 2003. In 2006, Stardust will return interstellar dust particles and dust from a comet's coma, and the Japanese-US Muses-C spacecraft will return material from an asteroid. Most ambitious will be the Mars sample return in 2008.

The Mars mission poses special problems because of the remote possibility that the returned rocks could be biologically active, or that they could be contaminated by terrestrial microbes once on Earth. To avoid contamination, NASA may use a single, ultraclean national laboratory for Mars rock analysis.

A task force headed by Michael Carr, a planetary scientist at the US Geological Survey in Flagstaff, Arizona, has begun looking into overall requirements for receiving, distributing and studying samples from Mars. A separate panel of the National Research Council's Space Studies Board is considering contamination issues related to small bodies such as comets and asteroids.

Drake says a full LIFARS programme is unlikely to appear in next year's NASA budget — to be unveiled in the Clinton administration's budget request next month — but might be included in 2000. **Tony Reichardt**

Germany's institute for scientific film could face final curtain

[MUNICH] Germany's only institute for scientific film, the Institut für den Wissenschaftlichen Film (IWF) in Göttingen, is threatened with closure following the termination of its government contract, depriving it of half its budget.

The move by the government last month symbolizes the tough approach being taken by the research minister, Jürgen Rüttgers, to establishments judged by the Wissenschaftsrat, Germany's science council, to be performing poorly (see *Nature* 387, 643; 1997).

As a 'blue-list' institute, the IWF is funded jointly by federal and regional governments. In the past, political pressure from the host region has meant that poorly performing institutes have proved difficult to close. But new institutes can be added to the blue list only if others are removed, and several institutes are keen to become members. At the top of the list are the Berlin-based Electron Storage Ring, a synchrotron radiation source, and the Institute for New Materials in Saarbrücken. Both should be added to the blue list as soon as possible, according to recent

recommendations by the Wissenschaftsrat.

The IWF acts as an audiovisual service institution for Germany, and its films and videos cover the full range of science from human ethnology to cell biology. Its archive of 6,600 films includes pioneering cinematographic works from the nineteenth century, such as the earliest studies of human movement disorders and film of the flight of cannon-balls. The IWF's most valuable documents are irreplaceable film of now-extinct species and tribes.

But in 1996 the Wissenschaftsrat concluded that the IWF had neglected developments in digital recording, and said that its lack of competence in, for example, electronic transmission of visual material suggested that it was unprepared for the global market. Despite several attempts, encouraged by the research ministry, to develop a new strategy, the institute was unable to convince the ministry to reverse its decision to withdraw its funding.

Ethnology and anthropology will suffer most if the institute closes, as "we are more dependent on films than natural sciences are", says Paul Henley, director of the

Granada Centre for Visual Anthropology at the University of Manchester. Similar institutions in Japan, the Netherlands, Hungary and Austria have been closed over the past ten years, he says. "With only a very few scattered institutes remaining it would be a great pity for anthropology worldwide if the IWF closed."

The IWF has one final chance to return to the blue list. The research ministry has promised to consider a new strategy, based on halving the institute's staff. The staff distrust the offer, however, believing there is no longer the political will to keep the institute open.

It remains unclear what will happen to the archived films if the IWF closes. Lower Saxony, where the institute is located, has its own state archive which could possibly serve as a depository. But scientists do not consider this a good option as it would mean leaving the recordings in the hands of non-experts, without production, distribution and marketing skills.

Lower Saxony has not indicated whether it will take over the full running costs of the institute or let it close. **Quirin Schiermeier**