

# MITI's research arm changes tack

**Tokyo.** Japan's Agency of Industrial Science and Technology (AIST), the main research arm of the powerful Ministry of International Trade and Industry (MITI), has introduced a new policy that gives greater freedom to its 15 institutes in selecting individual research projects.



**AIST's Tsukuba institutes: major centres favour MITI's change of emphasis.**

The move is unprecedented for Japan, where a web of government bureaucracy runs throughout the government research system, and government officials cling jealously to their decision-making powers.

In general, AIST's larger institutes have welcomed the greater autonomy they are being offered. But some of the smaller ones

are hesitating to accept the greater responsibility involved, fearing that they could lose out to more powerful colleagues.

The new policy was agreed last September, and described to the heads of the agency's institutes on 16 July by Hiroshi Kashiwagi, the recently appointed director-general of AIST. (Kashiwagi was previously head of the agency's Electrotechnical Laboratory in Tsukuba.)

From the beginning of the current fiscal year, which started in April, special research funds known as *tokubetsu kenkyuhi* are being set aside by AIST for the institutes to spend as they choose, rather than having to seek prior approval by the agency.

So far, the amount of money involved is not very large, amounting to about ¥2.8 billion (\$27 million) for all 15 institutes. Once personnel costs have been excluded, this represents on average about 10 per cent of their research funds. But

Kashiwagi hopes eventually to double this figure to 20 per cent, a move that would both give greater autonomy to the institutes, and introduce an element of competition between them.

Under the new system, all the institutes put forward proposals for the use of the special funds. The proposals are subse-

quently evaluated by a committee made up of the heads of the 15 institutes' planning sections, which decides how the funds will be allocated.

The chairman of this committee is the head of the research administration division of AIST. But whereas in the past all decisions about which proposals received funding were taken by AIST officials, the chairman's role in the new regime now is simply

## Trying to be more international

**Tokyo.** The new policy to revitalize the institutes of the Agency of Industrial Science and Technology (AIST) also demands greater internationalization. Calls to open up government research are nothing new, but the agency has for the first time committed itself to an ambitious increase in the proportion of foreign researchers. The proposed increase, from 5 to 20 per cent, would add some 300 foreign researchers to the roughly 2,000 now working in the agency's 15 institutes.

The aim is not only to create more fellowships for foreign scientists but also to provide more permanent positions, says Tadatsuna Koda, director-general of the general coordination division of AIST. Most foreign researchers in AIST laboratories are employed on one to two year postdoctoral fellowships. AIST will find it difficult to achieve this, however: visa regulations are restrictive, international schools for children are few, spouses have poor prospects of finding jobs, and language barriers are formidable.

AIST also wants its institutes to publish more in international science journals. Even its best institutes perform poorly compared with equivalents in other countries. For example, the government this week chose as a 'centre of excellence' (see *Nature* **364**, 471; 1993) the National Institute of Bioscience and Human Technology which was formed earlier this year from the Fermentation Research Institute (FRI) and two other AIST institutes. But FRI's 70 researchers published only about 60 papers in international journals in 1992, fewer than one paper per researcher. This compares with around two per researcher per year at Korea's leading research universities, the Pohang Institute of Science and Technology and the Korea Institute of Science and Technology (see *Nature* **364**, 379; 1993).

**D. S.**

## Japan's low-profile 'centres of excellence'

**Tokyo.** Japan's Science and Technology Agency (STA) unveiled on Monday three 'centres of excellence', to which it will give roughly an extra \$20 million over the next five years. The purpose is to raise the status of the institutions to that of Britain's Medical Research Council Laboratory of Molecular Biology at Cambridge or France's Institut Pasteur. But the world's scientists could be forgiven for never having heard of the three institutes selected.

The three lucky winners are:

- STA's National Institute for Research in Inorganic Materials in Tsukuba science city, which will study new materials made at 1–10 million atmospheres pressure in the world's most powerful diamond press;

- The newly established National Institute of Bioscience and Human Technology of the Ministry of Trade and Industry, also in Tsukuba, which will carry out a broad range of research on signal transduction in humans (see *Nature* **364**, 471; 1993);

- The National Cardiovascular Center Research Institute in Osaka, which will investigate the molecular mechanisms controlling the human circulatory system.

About 20 government institutes from science-related ministries and agencies vied for the first of the new awards introduced this fiscal year. Few details have been given of the procedure used to select the three winners. According to an STA official, each ministry and agency put forward several candidates that were then screened by the "policy committee" (*seisaku iinkai*) of the Council of Science and Technology. The council, nominally Japan's principal science policy-making body, is chaired by the prime minister and draws on the advice of academics, industrialists and civil servants in its various committees.

One criterion was how many papers an institute had published in international journals. STA also considers it important that the centres of excellence should attract scientists worldwide. But none of the institutes chosen has an outstanding publication record, nor are they as renowned outside Japan as some of the other institutes that were not chosen; no foreign scientists were consulted in the selection process.

**David Swinbanks**

to coordinate the committee's deliberations.

Some institutes welcome the new policy. A leading researcher at the new National Institute of Bioscience and Human Technology in Tsukuba, for example, says that the institute's scientists are "generally happy" with the new system, under which about ¥152 million (\$1.5 million) — 11 per cent of the institute's funds — are now allocated by its director.

But some of the smaller regional institutes outside Tsukuba are less enthusiastic. So far, only a few per cent of their research funds are being allocated under the new system. But these institutes fear that as the system is expanded, they will lose out to their more powerful colleagues in Tsukuba.

In return for the new policy, AIST is asking the institutes to be more open to outside scrutiny in assessing the quality of their research. But there is a general reluctance among the agency's institutes to move in this direction. For more than a year, AIST

has been talking to them about setting up a system of external review, perhaps involving non-Japanese researchers, much as has already been done this year at the Institute of Physical and Chemical Research (RIKEN) and Tokyo University (see *Nature* 363, 570; 1993).

AIST researchers are, however, resisting such moves. Many claim that external reviewers cannot make good judgements about topics in which they are not experts, and that there will inevitably be disagreement between experts in the same field, with the implication that one reviewer's assessment and recommendations could be wrong.

AIST researchers insist that there is no link between the agency's policy of offering greater autonomy to the institutes in funding decisions and its proposal that they should accept external review. But it seems to be AIST's intention that in the long run the two should go hand in hand.

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## Environment institute on the agenda

**Washington.** The US House of Representatives will consider a bill in the autumn that would create a National Institute for the Environment (NIE) to coordinate better the \$3.1 billion the government spends annually on 'green' research.

Plenty of obstacles litter the bill's path, however: "There are two real questions: turf and money," says David Blockstein of the the Committee for the National Institute for the Environment (CNIE) — a lobby group claiming the support of some 6,000 scientists and other individuals.

But a broad alliance supports the bill. Environmentalists believe NIE would confirm the status of their field. Others see NIE as an opportunity to scrutinize properly the enormous spending on environmental research. "This is about getting extramural research done competently, and properly peer-reviewed", says one Congressional aide. "It's about getting the process out of government."

"Conservative members of Congress recognize environmental decisions will be made, and made either on the basis of political whim or sound science", says Peter Saundry, CNIE's acting executive director. They view the NIE, he says, as "way more science-driven, and less politically-driven" than existing channels.

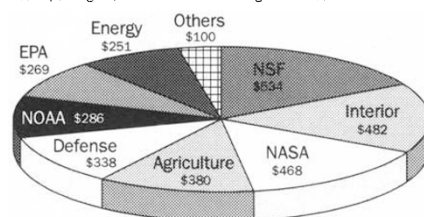
The bill calls for an independent agency free from departmental control. As such it would resemble the National Science Foundation (NSF) rather than the National Institutes of Health (NIH) which are part of the health department. But unlike NSF, NIE's governing board would include not only scientists but also representatives from industry and environmental groups — "multi-stakeholders" as Saundry calls them. The president would select board members on a

rolling basis.

NIE would do extramural research, assess issues for government, provide information and sponsor education and training. Although it would take an interest in all environmental research, NIE supporters say it would not try to grab all of the \$3 billion. Instead it would fill the yawning gap between research and policy. This would en-

### US federal spending on environmental research

Total spending \$3,108 million. Individual figures in US\$ million.



EPA: Environmental Protection Agency; NASA: National Aeronautics and Space Administration; NOAA: National Oceanic and Atmospheric Administration; NSF: National Science Foundation  
Source: Federal Funding for Environmental R & D, AAAS, 1992

sure that the US body politic got the answers it needs to make informed decisions on everything from laws on vehicle emissions to nuclear dumping.

As it stands, the bill does not mention money. CNIE is reluctant to speculate about what budget NIE would need. "We don't want to raise the red flag of finance too early", says Saundry. He reckons though that just \$30 million could get NIE off the ground, doing "useful assessment work" for government. To start an extramural research programme would need something closer to \$100 million. It would also involve transferring resources from existing agencies.

The difficulties in funding a new agency

were one reason the National Academy of Sciences did not recommend NIE as the best way forward in a report it released in June. "We don't oppose the NIE proposal," says Al Lazen of the academy staff. "We just don't think it goes far enough to solve the problem."

The proposal to create NIE is only one part of a complex debate over about what should be done about the environmental research programme. This is highly fragmented (see pie-chart) and its results satisfy neither side of the increasingly-heated environmental debate. But opinions differ as to whether a new co-ordinating agency is necessary, and if it is, whether it should sit independently or in a government department.

Organization of environmental research is a mess, despite the amounts of money spent, the academy report acknowledges. It recommends at the very least that existing agencies undergo 'cultural change'. It would prefer that a new research-led Department of the Environment incorporate the work of several agencies. A bill going through Congress would elevate the Environmental Protection Agency (EPA) to a department of state.

The academy report failed to bite the bullet, say some NIE supporters. "It didn't go to the heart of the issue," says one congressional aide, repeating a common lament: "They didn't want to trample on people's toes." Saundry says the much-criticized EPA — founded by former President Richard Nixon in 1970 — testifies to the risk of cobbling together new bodies from old ones: the parts, he says, never coalesced into a recognizable whole.

The administration has not commented on the question of how to reorganize environmental research. But its predecessors have created brand-new agencies only where the political imperative was clear-cut: for example, the perceived success of government-funded science during the Second World War propelled NIH and NSF into life, while NASA was created in 1958 in reaction to the Sputnik programme. On the face of it the chances of creating a heavyweight government agency for the environment do not look good. "Right now, economic issues dominate politics", concedes Saundry. "That will pass. This is a good proposal, but it may take time."

The bill is, however, co-sponsored by George Brown (Democrat, California), chairman of the House of Representatives' Science, Space and Technology committee, James Saxton (Republican, New Jersey) and 40 other House members. Brown's support assures the bill hearings, and means it has a realistic chance of being passed in the House — unlike most of the thousands introduced to Congress every year. That would be the first step to establish a NIE: support in the Senate, and funding from somewhere, would still be required to make the project fly.

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