ence that Bremen wants to "educate the international manager of tomorrow" and that a private university is the most promising way to go about it. "I'm not blaming the German university system. But we intend to do things in a completely new way," he says. "*Vive la différence*!" Part of that difference is that the new university's teaching language will be English, students will have to pass an entrance exam, and they will have to pay up to $8500 a year in tuition fees.

Other private institutions will charge similar or even higher rates, not just to cover their costs, says SIMT's Brodel, but also to introduce a financial incentive for students to complete their studies more quickly. "Many students in Germany are enrolled formally, but they don't really push their studies," he says. "Once they have to pay, their motivation is raised."

GERMANY'S PLANNED PRIVATE UNIVERSITIES

Name	Location	Programs	Opening	# of students
International University in Germany	Bruchsal	Business and Information Technology (IT)	1998	400
German-Chinese MBA Program	Berlin	Management and Economics	1998	24
Stuttgart Institute of Mgmt. and Technology	Stuttgart	Management, Finance, and IT	1999	300
Private Hochschule	Kassel	Management and Marketing	1999	50–80
International Center for Graduate Studies	Hamburg	Science, Law, and Economics	1999	60
Northern Institute of Technology	Hamburg	Engineering	1999	60
International Dept., University of Karlsruhe	Karlsruhe	Mechanical Engineering and Electronics	1999	160–180
Bremen International Univ.	Bremen	Science and Engineering	2000	1200
Gerd Bucerius International Law School	Hamburg	German and International Law	Uncertain	400–450

The fees make the new universities something of a gamble, however. It's not yet clear how many students will be willing to pay to enroll in a new institution that hasn't established a reputation and issues international diplomas that few future employers will be familiar with. "We're fully aware that for most students it will be a departure from what they consider to be a traditional career path," says Hochstettler. When he recently met a group of German students in Houston, their feelings were mixed: "Half of them said 'It sounds like an exciting thing.' ... The others said 'Oh, I'd never give up the opportunity to attend a university for free.' "

The federal government applauds the new initiatives, says a spokesperson for science and education minister Jürgen Rüttgers, because they will help bring about a "more varied and colorful higher education landscape." But reactions from the academic community have been mixed. Some universities, like the state-run University of Bremen, welcome the possibility of cooperating with the new institutions because of the opportunities they bring: business and academic contacts, students from abroad, and money. But many academics say some of the new institutions do not deserve to be called universities at all, because they only cover a few disciplines and intend to do little research. "Research and education belong together," says the University of Karlsruhe's rector, Sigmar Wittig, a critic of the new institutions, which he says "are lacking depth in research."

One particularly sensitive issue is that, while calling themselves private, almost all the new institutions rely partly on government support to close the gaps in their budgets, at a time when many of the public universities face cutbacks. "These are tiny little schools for the education of princes and princesses," says Klaus Landfried, president of Germany's Association of Higher Education Institutions. "If they don't have any added value above existing programs, it's unacceptable that they are subsidized by taxpayers' money." Landfried adds that even if they attain their projected enrollments, all the new private institutions together will enroll less than 0.5% of Germany's 1.85-million student population: "They claim that they will make a major contribution to the higher education system in Germany. Quantitatively speaking, that's ridiculous." But Hochstettler believes the new university in Bremen "will shake up the system." If freeing an institution from the state's bureaucratic stranglehold actually works, it might eventually lead to more freedom for the state-run universities as well.

From a science point of view, such a shake-up would be most welcome, says historian Winfried Schulze, president of Germany's Science Council, which plans to issue a formal viewpoint on the matter later this year. Salaries based on scientific merit, Schulze says, would be a good incentive to promote the quality of research, as would increased specialization and competition among universities. But with or without the new wave of private institutions, "there will be reforms in German universities anyway," he predicts. "It's impossible to go on as we did in the last 30 or 40 years."

–Martin Enserink

Martin Enserink is a writer in Amsterdam.

U.S. AGENCY FUNDING

Lawmakers Back R&D Boosts for 1999

The first pieces of a 1999 science budget began to emerge last week in Congress, and the results are encouraging for R&D advocates. Basic research at the Department of Energy (DOE) fared well, with spending committees in both the House and Senate giving a green light to a $1.3 billion neutron facility. A Senate panel granted the National Science Foundation (NSF) and NASA more generous funding levels than most observers anticipated, while basic research spending by the military would jump more than 6%. The numbers so far are surprisingly close to the request made in February by President Bill Clinton, who sought substantial increases in most R&D efforts (*Science*, 6 February, p. 794).

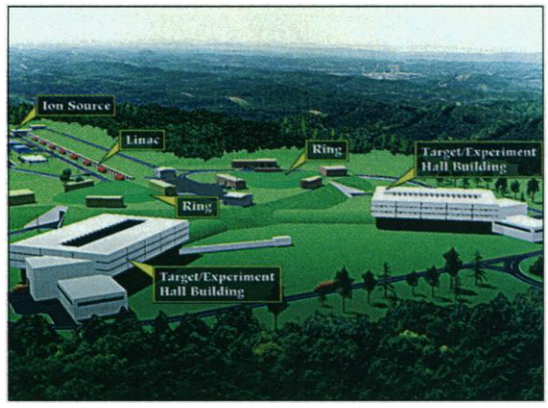
"I'm thrilled," House Speaker Newt Gingrich (R–GA) told *Science* in response to the first raft of R&D spending bills approved by House committees. "I want to see as high an increase as possible—and I support doubling the science budget every 8 to 10 years." Administration officials, meanwhile, say they are relieved at the proposed congressional funding levels, given competing pressures under tight spending limits to fund everything from highways to veterans' medical care.

The spending levels approved so far have a long way to go before they become law. Among the highlights of these preliminary actions are:

■ *DOE*: The new big-ticket item in DOE's 1999 request, the Spallation Neutron Source, won a qualified victory. Thanks in part to lobbying by Vice President Al Gore—whose home state of Tennessee

would host the accelerator—the Senate Appropriations Committee provided the full $157 million to start construction. The House spending subcommittee provided $100 million. DOE officials say they need about $130 million to avoid delays, a figure that could emerge as a compromise between the House and Senate levels.

One potential roadblock, however, is a tentative plan by a group of senators to cut funding for the facility to pay for increases in renewable energy work requested by the Administration but ignored by the committee. Both House and Senate committees funded renewables at this year's level of $346 million, some $90 million below the president's request. A move to shift the funding on the Senate floor could put the White House in an awkward position, since both are Administration priorities.



DOE MULTI LABORATORY PROJECT

Power source. Oak Ridge's Spallation Neutron Source gets legislative nod.

House and Senate panels each approved $232 million for magnetic fusion, a $4 million boost over the request but essentially the same funding as this year. Other civilian research programs received the full request. Stockpile stewardship, the biggest science-related defense program, aimed at maintaining nuclear weapons without testing, was kept at its current $4.15 billion level by the House but given $4.45 billion by the Senate. That mark was just shy of the Administration's $4.5 billion request.

■ *NSF*: The Senate Appropriations Committee approved a 6.3% overall increase for NSF, including a 7% boost for research. Although that is well below the president's request for a 10% boost, the $3.64 billion figure was a relief to Administration officials, who had feared much worse. "It's much better than it could have been," said NSF director Neal Lane, who is awaiting Senate confirmation as chief of the White House Office of Science and Technology Policy.

Although the committee embraced the agency's initiatives on knowledge systems and integrating teaching and research, it added $10 million to NSF's $40 million request for plant genome research, a pet project of panel chair Senator Kit Bond (R–MO). Thanks to Appropriations Committee Chair Senator Ted Stevens (R–AK), the panel also inserted $24 million for Arctic logistics support, asking NSF to prepare a report listing its priorities for the extra money. At the same time, Stevens crafted language to block any spending on a proposed Polar Cap Observatory (*Science*, 8 May, p. 820), a $25 million geophysical facility that NSF wants to build in northwestern Canada. The prohibition reflects Stevens's unhappiness with a non–U.S. site and Canada's reluctance to share in the cost of the facility, as well as a running feud between the countries over fishing rights.

■ *NASA*: Clinton's request would have slashed more than $150 million from NASA's budget, but the Senate panel voted to keep it level at $13.6 billion. Most of the additional funds above the request would go to science projects, while $30 million would be spent to bump up the space station budget. NASA officials say, however, that the increase would go largely to a host of pork-barrel projects not requested by the agency.

■ *Defense*: Basic research funded by the military would jump more than 6% under the plan approved by the Senate Appropriations Committee last week, to $1.1 billion. That's only $6 million shy of the president's request. Applied research would increase by 3.2%, to $3.1 billion. In the House, the defense spending subcommittee provided $1.05 billion for basic research and $3.2 billion for applied work.

■ *Environmental Protection Agency*: EPA's science and technology account received $643 million, 1.6% above the president's request, including $10 million more for research on the health effects of fine soot particles.

■ *Next Generation Internet*: This $110-million-a-year effort is considered piecemeal by each panel with jurisdiction over the participating agencies. And for the second year in a row it's encountering rough waters. The biggest player, the Defense Advanced Research Projects Agency, had its $40 million request cut by $10 million by the Senate defense panel, although its counterpart in the House added $13 million. The House energy panel zeroed out DOE's $22 million request, while Senate appropriators left in $12 million. Last week a presidential advisory panel called for increased public investment in information technology, and Clinton trumpeted the initiative during a commencement address at the Massachusetts Institute of Technology.

In the coming weeks, these and other spending bills will be debated on the House and Senate floors. Lobbyists and staffers say they expect negotiations, including the threat of a presidential veto over some provisions, to drag on well into the fall. The 1999 fiscal year begins on 1 October.

–Andrew Lawler

With reporting by Jeffrey Mervis and Jocelyn Kaiser.

JAPAN

Imura Gets Job on Top-Level Council

TOKYO—A leading academic has been named to help run the country's highest scientific advisory body. Endocrinologist Hiroo Imura, former president of Kyoto University, was appointed last week to one of two full-time positions at the prime minister's Council for Science and Technology, which will be given broader authority under a government-wide reorganization scheduled to go into effect in 2001. Coincidentally, that reorganization, which will merge the country's two major pillars of research funding, the Science and Technology Agency (STA) and the Ministry of Education, Science, Sports, and Culture (Monbusho), was also approved last week by the Japanese Diet.

The council, chaired by the prime minister, has played a leading role in shaping national science policy. In 1992 its recommendation that the government double spending on science led to the 1995 Science and Technology Basic Law and a subsequent 5-year plan spelling out how to achieve the spending goal by 2000. Much of the council's business is carried out by appointed panels of scientists; its current studies include an examination of government policy on cloning research and


EIJI MIYAZAWA / BLACKSTAR

Change agent. Hiroo Imura sees pending reforms as major challenge for council.