

# Physics fights back

The physical sciences are strongly favoured in President Bush's 2007 budget request — but researchers can't count their chickens yet.

President George W. Bush's State of the Union address on 31 January has been widely reviewed as an uninspiring compendium of small things. But for those directly involved, some of these small things are highly meaningful. For US physicists, the president's public embrace of their work, and his pledge to double funding for it over the next decade, is arguably the best news in the 13 years since the discipline reeled from the cancellation of the Superconducting Supercollider in Texas in 1993.

Bush's unexpected embrace of physics was confirmed in the budget request that he sent to Congress earlier this week. The Department of Energy's Office of Science, which supports the bulk of physics research in the United States, will receive an overall budget increase of 14%, should Congress accept Bush's proposal. Its high-energy physics programme will grow by 8% and its nuclear-physics programme (which funds basic research into atomic nuclei) expands by a spectacular 24%. The National Science Foundation, which supports most non-biomedical research at US universities, also obtains a healthy 8% increase.

These increases are part of Bush's 'American Competitiveness Initiative', which will support more spending on research and education programmes that are deemed relevant to industrial competitiveness. Prompted by public crises at Ford and General Motors, as well as by a general sense of foreboding about China's growing industrial prowess, Congress has been stirring on this issue lately (see *Nature* 439, 517; 2006). It may therefore be generally inclined to support the competitiveness initiative.

Even so, it is by no means certain that physicists will receive even the proposed increases for 2007, never mind the longer-term expansion promised in Bush's speech. This year's proposed cuts in science budgets at NASA demonstrate the danger of relying on bold new initiatives within a general context of fiscal restraint. In NASA's case, the president's plan to send astronauts to the Moon and eventually to Mars is beginning to resemble an albatross around the agency's neck.

It is conceivable that a similar scenario could yet play out at the Department of Energy. In Bush's budget proposal, the increases in science spending are offset by cuts in other programmes at the department, such as the clean-up of former nuclear-weapons plants. These cuts will be fiercely contested by the programmes' respective champions in the Congress.

In this context, advocates for the physical sciences will have their work cut out securing the 2007 spending levels that the president recommends. That said, the competitiveness case for more investment in this arena is a powerful one. As has been noted repeatedly in these pages, inadequate funding at the Office of Science has weakened US physics. It has also distorted the balance of US science spending, driving young people away from scientific work that would be intellectually rewarding, as well as being valuable to industrial competitiveness.

If the budget is approved by Congress, it will give the energy department a long-overdue opportunity to properly use facilities that it has built but can't afford to run. It will also provide more grant opportunities for physical scientists.

But only the long-term investment promised in the president's speech will enable the department to build a new generation of world-class facilities and restore the battered pride of its laboratories. The outlook for this is highly uncertain: the United States must contend with massive financial commitments for the US presence in Iraq and the repair of the hurricane-ravaged Gulf coast. Given the country's financial outlook, US physicists certainly can't bank on their budgets being doubled as the president suggests. Nevertheless, they should be grateful that, after a rocky period, their contribution to the nation is once again being recognized. ■

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## Network of concern

Only biologists can effectively police the misuse of biological agents.

The array of techniques and compounds that have the potential to be used in bioterror attacks is growing apace, and reaches far beyond a small number of obviously dangerous agents, such as anthrax spores.

At present, the threat is policed mainly by a handful of people in the military and at spy agencies. Interest in the issue has, since the attacks of 11 September 2001, been most acute in the United States.

But bioterrorism is a global threat and, ultimately, it is only vigilance by a much larger network of working biologists that can provide some reassurance in the face of it.

That is the central message of a report released on 31 January by the US Institute of Medicine (IOM). The document, *Globalization, Biosecurity, and the Future of the Life Sciences*, makes a convincing argument that much greater cooperation between scientists around the world will be needed to counter bioterrorism. To this end, it calls on scientists to create a global, grassroots network to discuss and monitor research that might be misused to kill and maim.

Scientists tend instinctively to favour independence and creativity — and to oppose monitoring and regulation. But there are circumstances in which it falls on the community to support