SCIENCESCOPE

edited by DAVID P. HAMILTON

Senate Subcommittee Stalls SSC Vote

Backers of the Superconducting Super Collider (SSC) appear to be stalling for time to build a supportive coalition for the endangered project, which could face a life-or-death vote in the Senate within weeks. A key Senate subcommittee has decided not to vote on SSC funding until at least 20 July, after an upcoming recess. The move is unusual in several respects, not least because the energy and water appropriation bill, which includes the SSC, is traditionally the first spending bill cleared by both chambers.

An aide to Senator Bennett Johnston (D–LA), chairman of the energy and water appropriations subcommittee, says the primary motivation for the delay was Johnston's desire to hold a hearing "to get people more educated on the subject." Johnston, in fact, hastily scheduled a hearing last Tuesday with an all-star lineup of scientific witnesses, including Nobel laureate Leon Lederman; University of California astrophysicist George Smoot, who has ridden a recent wave of publicity as a result of his team's findings on the cosmic background radiation; Robert Galvin, former CEO of Motorola; and SSC lab director Roy Schwitters.

Because the Senate will recess on 2 July for the holiday and then the Democratic convention, "it wouldn't have made a lot of sense" to hold the vote the same week as the hearing, Johnston's aide says. Thus the delay.

House Panel Freezes NSF, Slashes NASA

Without question, science funding is going to face its worst year on Capitol Hill in a long time. The latest sign: A no-growth budget for the National Science Foundation (NSF) proposed in a House appropriations bill that cleared a key subcommittee last week. The same bill would fund NASA's space station at a lower level while cutting the agency's overall budget by $300 million compared to last year.

The NSF funding freeze would be especially painful, given that the Bush Administration had proposed an 18% increase over last year's appropriation of $2.6 billion. Such a budget might jeopardize the agency's $213 million Laser Interferometer Gravitational Wave Observatory, which the House panel asked NSF to reconsider. The bill will go to the full committee later this month; the Senate has not yet considered the NSF and NASA bills.

OMB Officials Ride Revolving Door

Over the past month, the revolving door has been spinning at the Office of Management and Budget (OMB), where two key science policy officials have recently left for the private sector. As a result, OMB must scramble to fill these important positions, with potentially serious consequences for White House science policy—especially the Administration's attempt to save this year's faltering "big science" prize, the SSC.

Joseph Hezir, formerly deputy associate director for energy and science at OMB, resigned last month to found a consulting firm called the EOP Group. While at OMB, Hezir held responsibility for the budgets of several major science agencies, including NASA, the National Science Foundation, and the Department of Energy. Last year, much of Hezir's effort went into building a congressional coalition that restored space station funding after the House Appropriations Committee voted to cancel the project last summer. Whoever succeeds him will likely play a crucial role in reviving Congress' interest in the SSC, which the House voted to kill last month.

Hezir is taking with him two former OMB budget examiners and David Gibbons, until recently OMB's deputy associate director for natural resources. Gibbons oversaw the budgets for several agencies with environmental responsibilities, including the Environmental Protection Agency, the Department of Agriculture, and the Department of the Interior.

Joseph Hezir

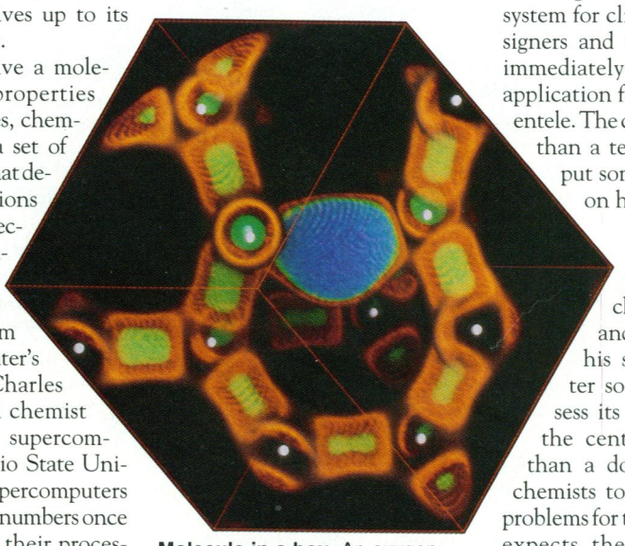
Just what are these former budget-crunchers going to be doing in the private sector? EOP plans to advise clients on regulatory issues and on business opportunities "created by government actions," says Hezir, an 18-year veteran at OMB. If that sounds to you like lobbying—or at least like cashing in on inside knowledge and connections—Hezir wants you to know that his firm will pick its projects "carefully" to avoid a "conflict of interest situation."

Creating Cost-Effective Chemistry Calculation

Computational chemists, who study the molecular structure of drugs and new materials with complex numerical simulations, could soon experience a dramatic improvement in their ability to model large molecules, if a new computer system lives up to its theoretical promise.

In order to derive a molecule's chemical properties from basic principles, chemists have to solve a set of difficult equations that describe the interactions of the molecule's electrons. Such calculations entail frequent movements of huge amounts of data from storage to the computer's processors, says Charles Bender, a quantum chemist who now heads a supercomputer center at Ohio State University. Today's supercomputers are fine at crunching numbers once they have them in their processors, Bender says, but their input/output bottleneck often limits their usefulness to chemists.

Last fall, however, Bender saw an advertisement for what may be an answer to chemists' prayers: IBM's Power Visualization System (PVS), an image generating tool designed to convert rafts of numbers into visual forms. At the heart of this function is the system's ability to shunt data rapidly between storage disks and programs running on the system's multiple processors—55 million characters per second, versus 9 million for the Cray Y-MP, according to an IBM spokesman. Although IBM had intended the system for clients such as car designers and filmmakers, Bender immediately saw the potential application for his chemistry clientele. The cost of the system, less than a tenth that of a Cray, put some marketing polish on his proposal.



IBM RESEARCH DIVISION

Molecule in a box. An oxygen molecule within a silicon lattice.

Bender convinced IBM to modify a PVS system for the chemistry community and to deliver a unit to his supercomputer center so chemists could assess its promise. Last week the center convened more than a dozen computational chemists to come up with test problems for the machine. Bender expects the verdict in a few months.