ply breed their own oncomice, effectively boycotting the company.

Underlying the overall problem, researchers at the conference complained, is the fact that eager university technology-transfer offices seek to patent mice and collect royalties on them. Even though the market for genetically altered research mice is often just a few hundred animals and few of the animals make money today, universities aren't willing to forego full patent protections on what may turn out to be the breakthrough mouse of tomorrow. But Jackson Laboratory's Kenneth Paigen disagrees with this policy. "I think the concept that we have to always protect intellectual property rights is mistaken," he said at the meeting.

Some of the other meeting participants agreed, suggesting that there should be a special clause in NIH grants requiring NIH-funded scientists to share the fruits of their research labors freely with other federally funded labs. Others proposed that Congress should pass a "research exemption" to the U.S. patent law, much like the exemption that exists in European patent law. But by far the most popular suggestion was for the creation of a federally funded transgenic mouse repository, preferably at a nonprofit institution such as Jackson Lab, which has strong ties with the research community. Such a facility could both maintain strains that are only occasionally used, and sell mice at cost without burdensome licensing requirements. One of the reasons such a facility doesn't exist now is that Jackson Lab is reluctant to accept mice with restrictions on commercial use and will not accept mice at all if they have any restrictions on research use. That rules out many transgenics.

Varmus and others suggested a possible way around this problem, however: NIH could award a special federal contract for a repository, so that mice sent to it would be essentially donated to the government, to be distributed freely. And, indeed, that appears to be just what will happen. As *Science* went to press, NIH was preparing to release a request for proposals for a transgenic rodent and rabbit facility that would distribute frozen embryos to researchers at far less than cost. Start-up grants for the facility will total $1 million and will be awarded by 30 September.

NIH deputy director Lance Liotta warned that there is one hitch to such a facility: It hinges on the mouse patent holders' willingness to relinquish control of their mice, at least within the research community. With the transgenic research market as small as it is, that may not be a problem for most patent holders today. But when the next breakthrough research tool is developed, depending on the good will of the patent holder to share the resource with other researchers may not be enough.

–Christopher Anderson

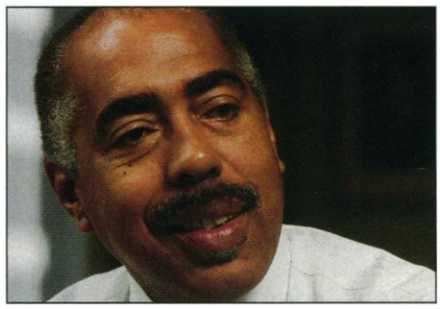
SCIENCE FUNDING

NSF Wins, NIH Loses in Clinton's 1994 Budget

Next week President Clinton will ask Congress to give the National Science Foundation (NSF) one of the biggest 1-year increases in its history—a $446 million, 16% increase over this year's congressional appropriation. If Congress goes along—a big "if" in a year in which legislators are obsessed with the deficit—NSF's budget would climb to $3.18 billion in fiscal year 1994. But, while NSF officials are jubilant, you won't see many smiles at the National Institutes of Health (NIH). Documents obtained by *Science* indicate that Clinton will ask for only a 3.3% cost-of-living increase for the agency. And most of the additional money is earmarked for AIDS, breast cancer, and research on the health problems of women and minorities. Most of NIH's other programs, including nine of 16 institutes, would be cut—even before inflation is taken into account.

The Clinton Administration's complete budget request will not be released until next week, but NSF went public with its figures on 29 March to allow director Walter Massey to appear at appropriations hearings before he leaves to become provost of the University of California late this week. Massey faced few hard questions, but it may be a little early to start celebrating. In February, Clinton asked for a $207 million supplement to NSF's 1993 funding, and that surprise request may work against the agency in Congress. Representative Louis Stokes (D–OH), the new chairman of the appropriations committee that sets NSF's funding, told Massey last week that those agencies that did the best in 1993 supplemental funding would be the first to face cuts in 1994. "That suggests we're going to have a tough time," in the upcoming appropriations process, says Ray Bye, NSF's legislative affairs director.

NIH can expect rough going, too. Officials estimate that the 1994 request, if enacted unchanged, would mean that NIH would fund about 500 fewer grants in 1994 than this year. And this year's total—5634 new and competing grants—was some 1100 grants fewer than 1992. "It's clear that the Administration has left biomedical research out of the equation of reinvesting in America," says Richard Fuller of the Am-



STEVE TURNER

Swan song. Walter Massey is departing after requesting a 16% increase for NSF.

NATIONAL INSTITUTES OF HEALTH

Institute	1993 Appropriated	1994 Request	Percent Change
Cancer	1961	2142	8.1
Heart, Lung, and Blood	1215	1198	-1.3
Dental	161	163	1.1
Diabetes, Digestive & Kidney Disease	681	677	-0.6
Alcohol Abuse and Alcoholism	177	174	-1.7
Drug Abuse	404	407	0.8
Mental Health	584	576	-1.3
Neurological Disorders and Stroke	600	590	-1.7
Allergy and Infectious Diseases	979	1066	8.8
General Medical Science	833	833	0.0
Child Health and Development	528	542	2.8
Eye	276	272	-1.4
Environmental Health Science	251	261	4.0
Aging	400	394	-1.4
Arthritis, Musculoskeletal & Skin Diseases	212	210	-1.0
Deafness & Other Communications Disorders	155	153	-1.1
Center for Research Resources	312	328	4.9
Center for Nursing Research	48	49	1.8
Center for Human Genome Research	106	135	26.6
Fogarty International Center	20	20	0.0
Library of Medicine	104	133	26.7
Office of the Director	190	235	23.4
Buildings and Facilities	109	109	0.0
Total NIH	**10,327**	**10,668**	**3.3**

erican Federation for Clinical Research (AFCR). Congress has traditionally upped the president's request, but this year, in view of the deficit-cutting frenzy, that can't be taken for granted.

Although Congress may change many of the numbers, and the figures for the Department of Energy and the National Aeronautics and Space Administration have not yet been released or leaked, the NSF and NIH requests provide a clear indication of some of the new administration's basic research priorities.

At NSF, some of the highlights include:

■ **Research grants.** NSF intends to increase the number of grants it awards next year by 1200 to a total of 22,300. But Massey told Congress last week that NSF intended to place first priority on increasing the size of the grants now awarded—$50,000, on average—rather than putting all the increase into new grants.

■ **Computing and networks.** A $44 million increase would boost NSF's High-Performance Computing and Communications program to $305 million, to continue work on what is intended to lead to Vice President Al Gore's pet plan to create a national data superhighway.

■ **Ecological data analysis.** NSF's budget request includes $6.5 million for new environmental research, including $1 million to start the National Center for Ecological Synthesis and Analysis. NSF planned to start the center this year, but Congress failed to appropriate the funds.

At NIH officials will not comment on most specifics until the request is publicly released. But some broad outlines are already clear:

■ **Strategic plan.** Outgoing NIH Director Bernadine Healy's strategic plan is still not out, but some of its impact is already being felt. The 1994 NIH request is divided into three areas—Critical Technologies, Intellectual Capital, and Critical Health Needs—that are directly taken from the plan. Although Healy's fundamental message—NIH needs more money, and the plan is supposed to explain why—was apparently missed, the rhetoric, at least, seems to have caught on. Of the three areas, Critical Technologies does best, with a 3.7% proposed increase.

■ **Women's and minority health.** Most of the 23% ($45 million) increase for the NIH Director's Office is earmarked for special congressionally mandated programs in these two areas, including a massive series of clinical trials and studies that will look at diseases and disease prevention in some 160,000 women over the next 15 years.

■ **Breast cancer.** The National Cancer Institute appears to get a relatively healthy 8.1% ($181 million) increase, but all of that and more can be accounted for by the proposed transfer of a $200 million breast cancer program from the Army to NIH.

■ **Human Genome Project.** Most of the requested 23% ($29 million) increase for NIH's Center for Human Genome Research would go to setting up an intramural genome research program to be headed by Francis Collins, the center's new director.

Both these budget requests could use some championing from on high in the months to come, but acting directors will be running both NSF and NIH during the budget dealing this fall. Massey will be gone next week and Healy has said she will return to the Cleveland Clinic by the end of June. NSF is at least favored by the White House for its role in Clinton's technology policy, but NIH will need all the friends it can get.

–Christopher Anderson

NATIONAL SCIENCE FOUNDATION

Selected Categories	1993 Appropriated	1993 Rev. (including supplemental)	1994 Request	Percent Change (93 rev.-94)
Research and Related Activities				
Biological Science	271	292	312	7
Computer and Info. Science	215	263	296	12.6
Engineering	261	317	323	8.8
Geosciences	402	421	448	6.5
Mathematical and Physical Sci.	620	660	718	8.8
Social, Behavioral, Economic Sci.	90	99	107	8.0
Education and Human Resources	482	488	556	14.1
U.S. Polar Research	49	51	55	7.8
Academic Research Facilities	50	55	55	0
Total NSF *	**2734**	**2940**	**3180**	**8.2**

* Totals include selected categories and other, nonresearch programs not listed

DEFENSE R&D

The Greening of the National Labs

The big three weapons laboratories—Los Alamos, Livermore, and Sandia—could face dramatic changes in the way they do business if a proposal made by Representative George Brown (D–CA) is enacted. Brown, chairman of the House Science Committee, introduced a bill last week that would "consolidate" nuclear weapons R&D from several labs (without saying at which sites or how). Brown also wants to shift the focus of the labs' work more toward civilian projects, and the bill would involve the White House more directly in managing their research agenda.

The Brown bill (HR 1432), which has won the backing of Representatives Marilyn Lloyd (D–TN), Tim Valentine (D–NC), Rick Boucher (D–VA), and Ron Wyden (R–OR), asks the secretary of energy to make a comprehensive study of current lab activities and submit a plan to "redirect one or more of these labs to civilian missions" by 31 March 1994. Brown and other members of Congress had considered turning one of the nuclear weapons centers into a "green lab," that is, dedicating it to R&D on environmental technology. That idea seems to have been set aside in favor of a more general formula that would be administered by a new Federal Laboratory Mission Evaluation and Coordination Committee, reporting to the president's science adviser. This watchdog panel, according to the bill, would seek to improve "the efficiency and effectiveness" of all the federal laboratories and ensure that "between 10% and 20%" of their budgets "are devoted to collaborative efforts with industry and state and local governments."

Administratively, the bill would also create some new positions at the Department of Energy (DOE), including an undersecretary for science and technology who would manage the labs.

A counterpart to this legislation (S473) has already been introduced on the other side of the Capitol by Senators Bennett Johnston (D–LA), Jeff Bingaman (D–NM), and Pete Domenici (R–NM). Staffers who helped draft both bills say the Senate version is more "expansive," giving the labs a vague mandate to develop new projects with industry, but it doesn't call for consolidation of nuclear weapons work. Both bills seek to encourage sharing of government research with private industry, but, as one House staffer notes, the House version also aims to install a system to evaluate the success or failure of these efforts by setting up the coordinating committee.

Authors of both the House and Senate bills claim that their version has the support of the Clinton Administration. Although DOE Secretary Hazel O'Leary has not endorsed either bill, she testified this week that she "strongly supports the goals" of both. Staffers for both Brown and Johnston expect to have final bills ready for a floor vote in each chamber in a matter of weeks.

–Eliot Marshall