



## Back in the sunshine

Bay State scientists have high expectations—and high positions—in the Obama administration **BY SHAWN ZELLER**

**DURING HIS EIGHT** years in office, President Bush alienated few groups more than scientists, who complained that he ignored them and impeded their work. So when President Barack Obama took office in January, researchers had high hopes for big changes, perhaps impossibly high hopes. But so far, they like what they see.

“It is just really a breath of fresh air,” says Marc Kastner, the dean of science at MIT. After Obama sought and won \$15 billion in new science funding in February’s stimulus legislation, Kastner said his colleagues were feeling “excited” and “enormously pleased.”

That may have been the first concrete signal that Obama values science more than Bush did, but just as important, science advocates say, were the morale boosts Obama has given the scientific community, from the nod he gave during his inaugural address—“We will restore science to its rightful place”—to his campaign promise to double funding for basic research over the next decade.

“There’s a widespread perception that he really cares about science and that he and his administration are going to listen to scientists,” says Kastner.

Indeed, beyond funding, scientists say they want a voice in policymaking, or at least a sense that Obama is weighing scientific research on issues such as health care and the environment.

Obama has made it clear he plans to give it to them, announcing within weeks of taking office that he would review the role that the White House Office of Management and Budget plays in the regulatory process. Civil service scientists complained repeatedly during the Bush years that OMB officials buried their findings because they were more concerned about the economic impact of regulations than their benefit in protecting the environment or human health.

Another reason to take heart, science advocates say, are Obama’s chosen science advisors, who are all well-known in their fields. Two of the most prominent—John Holdren, from Harvard University, and Eric Lander, director of MIT’s Broad Institute—are from Massachusetts.

Holdren, named by Obama to head the Office of Science and Technology Policy, is an outspoken proponent of combating global warming. A physicist and professor of environmental policy at Harvard’s John F. Kennedy School of Government, he advised the Obama presidential campaign on energy policy and is a former chairman of the American Association for the Advancement of Science, a Washington-based group that represents 10 million scientists and science enthusiasts. He is known for being outspoken, having once said that he was aggressive in pushing for a reduction in greenhouse gases because any less vociferous advocacy “could be interpreted as satisfaction with the status quo.”

Lander is a major figure in the study of the human genome, which scientists believe is the key to unlocking the mysteries of disease. He has been named co-chair of the President’s Council of Advisors on Science and Technology, along with Harold Varmus, a former director of the National Institutes of Health. Lander makes it plain that he will push Obama to use science to bolster his policymaking. “I can’t think of a time when the problems and challenges facing the country—environment and energy, health care, education—had more to do with science and technology than they do today,” he says.

Other top appointees, such as Energy Secretary Steven Chu, a Nobel Prize-winning physicist, figure to be equally hard-headed, says Alan Leshner, the American Association for the Advancement of



MIT's Eric Lander and Harvard's John Holdren are among President Obama's science advisors.



Science's current president. "It's not very likely they will compromise their scientific values easily," he says.

**OF COURSE, BY** all indications, Obama doesn't plan to give his scientific advisors much cause to compromise. After all, scientists, like most in the academic world, share Obama's worldview and voted for him in overwhelming numbers. And on core issues of environmental protection and health care, Obama sees things their way.

That's a stark change, of course, from the Bush years, when political considerations regularly trumped scientific evidence.

On stem cell research, for example, Bush determined that whatever the benefit of such research in potentially curing disease, it did not outweigh the ethical problems spawned by the destruction of embryos.

And while it's impossible to know if important scientific findings were delayed because of the policy, says David Scadden, co-director of the Harvard Stem Cell Institute, Scadden believes that Bush's policy dissuaded talented researchers from entering the field, as well as many institutions from embarking on research programs.

Harvard sought philanthropic funding for its research—no small imposition, Scadden says, given the fundraising efforts and paperwork involved. So Obama's election, he says, was "a real lift to those involved in the field because we think this administration will be much more attentive to allowing research to move forward without the very unprecedented imposition of religious perspectives on the conduct of science" that marked the Bush years.

Scientists are equally enthused about a shift in global warming policy. Bush, to their frustration, acknowledged the existence of the phenomena but refused to pursue serious policy solutions because of the threat he felt they posed to the economy.

By contrast, environmental researchers can't see Obama doing anything but the opposite. His "team is very much aware of climate change, which is our biggest challenge, and the need for a clean energy transformation," says Paul Epstein, associate director of the Center for Health and the Global Environment at Harvard Medical School.

Bush's longtime science advisor, John Marburger—director of the Brookhaven National Laboratory on Long Island before joining Bush's White House in 2001—tried to minimize such disputes in an article for *Physics World* last year. He said that while they were substantive, the disputed matters comprised "a small fraction of the total US science activity," and that overall spending on scientific research increased during the Bush years.

But Kastner, MIT's dean of science, insists that Bush's decisions had not only a "financial cost" but also "an intellectual cost" on the research community. He says the decisions had a chilling effect on civil service scientists,

## The approach is a stark change from the Bush years.

who saw their work ignored or papered over and sometimes feared for their jobs as a result. "Distinguished scientists couldn't talk about their research," he says. Kastner says that scientists "don't expect [Obama] will always do what we say, but we know we will be respected."

Bush did increase scientific funding, to the tune of 56 percent over his eight-year tenure, but much of that increase went toward homeland security and defense research, key priorities for Bush in the wake of the September 11 terrorist attacks. Inflation ate up most of the increases for the life sciences and basic research.

The last president's ability to do more for scientific research was also limited by two costly wars in Afghanistan and Iraq. Obama will face those same hurdles, plus a massive deficit as the federal government spends heavily

to revive the economy.

Robert Boege, executive director of the Alliance for Science & Technology Research in America, a lobbying group representing universities and corporations, says the federal stimulus law contains new money for scientific research. “But the reality is, we need much more significant increases,” he says. “I think all of us in the community have a real task ahead of us.”

Part of the challenge—and the reason the Senate tried unsuccessfully to strip science funding from the stimulus law—is that the gains from research often take years to realize. But Holdren, at his confirmation hearing in February, said he believes economic growth is directly tied to basic research. “In today’s time of economic crisis, we have to resist the temptation to reduce our investments in these foundations of our prosperity,” he said.

The other big challenge for science advocates, they say, will be to ensure that Obama follows through on his pledge to allow government scientists to conduct their work without political interference.

In December, the Cambridge-based Union of Concerned Scientists sent Obama a list of steps to take to ensure scientific integrity in his administration. Most important, the group said, Obama should pursue legislation protect-


ing civil service scientists who blow the whistle on political appointees who interfere with their work.

The House passed a bill with whistleblower protections for scientists in 2007, but the Senate failed to act on it. The result, says Jeff Ruch, executive director of the Washington-based Public Employees for Environmental Responsibility, is that “when key conclusions of a study are removed or rewritten, when the methodology is changed, or a scientist is taken off of an investigation in mid-course, scientists have little recourse.”

Obama supported the whistleblower measure and, Ruch hopes, will sign it if it reaches his desk. Still, given the administration’s desire to put forth a disciplined message, Ruch says he’s taking nothing for granted. “It’s one of the central tensions I expect to find in the Obama administration,” Ruch says. “In the world of science, disagreements are aired. But presidents want their administrations to speak with one voice.”

Holdren, for his part, acknowledges that he can’t promise that science will always win out. “Scientific facts are never everything in decision making and policymaking,” he says. But he added that he would insist that, if scientific findings were overruled, the public should know. “We’re going to get it right,” he says. **CW**


t o o t h w i s d o m



## Dental plans should be as individualized as the people they protect.

No two employee groups are exactly alike. So how can an off-the-shelf dental plan provide your employees with the best coverage? Altus Dental offers you the flexibility to tailor a dental plan to meet your company’s unique needs. Choose from our affordable, customizable plan options, plus access to the largest PPO network of dentists in the state. Enjoy our new maximum carry over provision, and coverage for the latest treatment options, including single tooth implants as a standard benefit.

Find out why switching to Altus Dental is a smart business decision. To learn more, call us at 1-877-223-0577 or visit [www.altusdental.com](http://www.altusdental.com).



Altus Dental Insurance Company, Inc.

# At Partners HealthCare, the journey never ends.

*Massachusetts General Hospital and Brigham and Women's Hospital have been the sites of many important medical breakthroughs. Essential work in the journey to fight disease and improve the quality of medicine continues to this day, as recent discoveries demonstrate.*

## 2008 Breakthroughs in the news

"Using a test they pioneered, scientists from Brigham and Women's Hospital [led by Dr. Paul Ridker] screened patients...missed by conventional cholesterol tests and then gave them preventive doses of a type of drug known as a statin. The result: heart attacks and strokes were cut by roughly 50 percent among patients who received the pill as part of a sprawling medical study that spanned 26 countries and included nearly 18,000 people."

— *The Boston Globe*, November 10, 2008

"Brigham and Women's Hospital, in a first-of-its-kind medical trial has performed...a safer, less traumatic operation to help address the nation's obesity epidemic."

— *The Boston Globe*, June 28, 2008

"The technology, invented at Massachusetts General Hospital uses a microchip scanner no bigger than a business card to...identify minute amounts of tumor cells floating in the blood of cancer patients..."

— *The Boston Globe*, July 3, 2008

"Researchers have pinpointed 32 genes linked to Crohn's disease...That is the biggest reported catch for any disease...said Mark Daly of Massachusetts General Hospital...the study's senior author"

— *The Boston Globe*, July 7, 2008

**1846** First public demonstration of ether use during surgery

— *Massachusetts General Hospital*

**1883** First use in North America of antiseptic during childbirth to protect mothers and newborns from deadly infections

— *Brigham and Women's Hospital*

**1896** First use of X-ray image for diagnosis in U.S.

— *Massachusetts General Hospital*

**1929** First use of iron lung to save polio victim

— *Brigham and Women's Hospital*

**1954** First successful human organ transplant

— *Brigham and Women's Hospital*



**1962** First successful surgical reattachment of severed limb

— *Massachusetts General Hospital*

**1984** First heart transplant performed in New England

— *Brigham and Women's Hospital*

**1993** Discovery of genes responsible for Huntington's disease and inherited ALS

— *Massachusetts General Hospital*

**2003** Development of CRP test to predict risk of heart attack and stroke

— *Brigham and Women's Hospital*

**2005** First use of new type of laser surgery to treat vocal injuries

— *Massachusetts General Hospital*



FOUNDED BY BRIGHAM AND WOMEN'S HOSPITAL  
AND MASSACHUSETTS GENERAL HOSPITAL