



he joined three other professors to found the school's Bio-X program, which supports biological research directed at health, energy, and environmental needs. A major challenge for the next energy secretary will be demonstrating to industry that large-scale carbon sequestration facilities can work. Earlier this year, DOE canceled plans to build a \$1.8 billion demonstration facility called FutureGen, opting for an approach that involves smaller test facilities. Obama's team has so far signaled that it likes the more modest approach. Although Chu has not made his preferences clear, he wrote in a report last year by the world's science academies that demonstration projects often get "insufficient attention from those who are or have been engaged in funding the R&D phase."

Obama transition team member Elgie Holstein has said that Obama wants to focus "more activities in the basic sciences on the energy problem." Chu has a track record at LBNL of inspiring scientists to do that; Lewis and chemist Paul Alivisatos are among several top scientists who have followed Chu's lead and shifted their research into areas directly applicable to renewable energy. Chu is also the intellectual father of an idea to make DOE science more innovative and nimble through a miniagency called the Advanced Research Projects Agency–Energy (ARPA-E). Congress authorized spending \$300 million last year on ARPA-E and "such sums as necessary in 2009 and 2010" in legislation championed by Representative Bart Gordon (D–TN), chair of the House science committee. But so far Congress has not appropriated any money for it, and the Bush Administration views the new agency as needless bureaucracy, an issue on which Chu clashed with DOE headquarters behind the scenes. (Indeed, presidential science adviser John Marburger may have had such encounters in mind when he told *Science* that Chu will need to hire assistants with "strong personalities to interact productively with a highly self-confident Nobel laureate.")

Meanwhile, physical scientists are hoping Chu's impeccable scientific pedigree will heal a wounded U.S. physics enterprise, which has fallen behind European colleagues in particle physics and could face thousands of layoffs across DOE's 21 national laboratories unless the budget picture brightens. "Having been a basic researcher for most of his life," says Lewis, Chu knows "you never know where

## Obama's Choice to Direct EPA Is Applauded

President-elect Barack Obama's pick to head the Environmental Protection Agency (EPA), Lisa Jackson, has spent 20 years as an environmental officer at the state and national levels. She'll need every bit of that experience to revive an agency demoralized by the actions of Bush Administration appointees, say scientists and environmental activists who welcomed this week's announcement.

A 16-year veteran of EPA's Superfund site remediation program before taking the top environmental job for the state of New Jersey, Jackson holds a master's degree in chemical engineering. "She will be an outstanding administrator, committed to defending the integrity of the science on which EPA regulations must be based," says David Michaels, a research professor of environmental and occupational health at George Washington University (GWU) in Washington, D.C.

That combination of skills and ethics is badly needed at EPA, say Michaels and other scientists. Kathryn Mahaffey, who left EPA this summer for GWU after 15 years of studying the risk to humans from exposure to pollutants, says that she was instructed in 2005 by a political appointee to "go back and recalculate" her results on blood mercury levels among U.S. women. Political interference has grown so serious, she says, that outside scientists "aren't sure what scientific publications coming out of EPA they really should have confidence in."

One issue awaiting the next EPA administrator is whether the agency will regulate carbon emissions under the Clean Air Act. Although the U.S. Supreme Court told EPA in 2007 to reexamine its opposition to doing so, agency Administrator Stephen Johnson said this summer that "the Clean Air Act is the wrong tool for the job" (*Science*, 18 July, p. 324). An aide to Obama said during the campaign that Obama would instruct EPA to regulate carbon under the act if Congress didn't adopt a cap-and-trade system in the next 18 months. Another Bush Administration policy opposed by many environmentalists—to deny California and other states a waiver to tighten auto emission standards—could be reversed by the new EPA administrator.

As head of New Jersey's EPA, Jackson developed a plan to slash the state's carbon emissions and worked with other Northeast states on a regional program to do the same. Dena Mottola Jaborska, executive director of Environment New Jersey, an advocacy group, credits Jackson with making the state "a leader on global warming." At the same time, some groups have criticized Jackson for making inadequate progress on cleaning up toxic waste sites. This month, she became chief of staff to Governor Jon Corzine. If confirmed by the Senate, Jackson, 46, would become the first African-American to lead EPA.

—LILA GUTERMAN

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**Familiar environment.** Lisa Jackson has been nominated to lead EPA, an agency where she spent 16 years as a regulator.

the big discoveries are going to come from."

But with money tight in Washington, Chu will need to show considerable political prowess to revitalize DOE. Although a regular visitor to Washington over the past 4 years, he lacks the vast network and insider knowledge possessed by Carol Browner, a former head of the Environmental Protection

Agency under President Clinton, whom Obama has named as his White House czar for energy, climate, and the environment. Her relationship with Chu and influence over DOE research has yet to be explained.

This time, it seems, it's going to take guile as well as sweat for Chu to walk off the court a champion.

—ELI KINTISCH