

Investing in science



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Kristi Wharton, left, a professor of developmental biology, and David Laidlaw, professor of computer science, tour the small intestine of a fruit fly in the virtual reality "cave" at a Brown University laboratory yesterday.

Brown urged to go for the green

BY PAUL GRIMALDI
JOURNAL STAFF WRITER

PROVIDENCE — A U.S. Department of Energy official yesterday encouraged Brown University scientists to seek some of the money President Bush wants the federal government to spend on basic research over the next decade.

Raymond L. Orbach, director of the Office of Science in the Department of Energy, toured a pair of university laboratories before addressing faculty and students. Joined by Governor Carcieri, Orbach took a "drive" through biological cells in a virtual-reality "cave" and learned how another device can produce snapshots of atoms in motion.

After the hourlong tour, Carcieri and Orbach addressed about 50 faculty and students in a campus auditorium.

Orbach, a physicist and former chancellor at the University of California-Riverside, offered his audience some details about how the President's American Competitiveness Initiative will guide scientific research in this country

over the next decade.

Mr. Bush introduced the initiative in his State of the Union address last month. In the speech, he called for doubling the government's annual spending on physical science research over the next decade. The plan commits \$5.9 billion to research spending in fiscal 2007 and more than \$136 billion over 10 years.

But \$4.6 billion of next year's spending will go to revive the tax credit that businesses use to write off research and development costs. The credit expired Dec. 31.

That leaves \$1.3 billion in new spending to begin training teachers and support research through the Office of Science, the National Science Foundation and the National Institute of Standards and Technology.

"Everyone is aware of what the National Academy [of Science] called the gathering storm," Orbach said, referring to the debate over the role education

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Samuel G. Fulcomer, left, director of the Technology Center for Advanced Scientific Computing and Visualization at Brown, Prof. David Laidlaw and Prof. Kristi Wharton, right, don special eyewear while visiting the "cave."



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From left, Andries Van Dam, vice president for development at Brown University, joins Governor Carcieri and Raymond L. Orbach, director of the U.S. Energy Department's Office of Science, yesterday in a Brown laboratory.

you want to do," he said.

But the funding mechanisms are competitive and the money won't come without oversight, he noted.

He said his office, the foundation and the

institute will compete for the money Mr. Bush is throwing into science research. "The president is a very clever manager," Orbach said. "He's got a little competition going on. Our responsibility is that these

dollars are used in the most effective fashion."

The president's initiative also called for finding 70,000 more high school teachers to lead advanced science and math courses over the next five years.

For his part, Carcieri noted his own plans to improve science and math education for the state's children, including his support for the Physics First program. The governor's budget includes \$525,000 for Physics First, a pilot program in five high schools that alters the traditional sequence of science courses and teachers ninth graders physics, followed by chemistry and then biology in subsequent grades.

Last month, Carcieri unveiled his education agenda for the coming year. Yesterday, he reiterated his push to "move forward boldly, rapidly" in the areas of math and science education, so that Rhode Island can compete in the global marketplace.

To better train math and science teachers, the governor is seeking a \$15-million bond issue in the fall to build high-tech classrooms and laboratories at the Community College of Rhode Island, the University of Rhode Island and Rhode Island College.

pgrimald@projo.com / (401) 277-7356