

new Advanced Measurement Laboratory in Maryland. With that anticipated drop taken into account, NIST programs did well, with the institute's intramural laboratory research programs increasing by 9% to \$257 mil-

lion. The institute's Advanced Technology Program, which some House Republicans view as corporate welfare and have tried repeatedly to kill, was saved in the Senate and increased by 7% to \$123 million. **JIM DAWSON**

Entrepreneur Finds Theory Institute in Canada

Canadian physics is unwrapping a thoughtful gift: Mike Lazaridis, a 39-year-old former engineering major, is using a chunk of the fortune he's amassed as a high-tech entrepreneur to found the Perimeter Institute for Theoretical Physics in Waterloo, Canada.

With his gift of Can\$100 million (about \$78 million), Lazaridis hopes to make the Perimeter Institute a focal point for theoretical physics in Canada. The money, along with Can\$10 million apiece from two of Lazaridis's colleagues, will be used for startup costs and toward setting up an endowment for the institute. Waterloo is donating the site of a defunct ice hockey arena in the city center, and there is talk of contributions from the Canadian provincial and national governments. Scientists are expected to start coming to the Perimeter Institute next fall.

"Just being able to welcome and host the kind of intellectual capital that will be visiting and staying in the region will really benefit [Canadian physics and the local community]," says Lazaridis. "The real ongoing investment is in the people that dedicate themselves to unlocking secrets."

Elementary particles and fields, quantum gravity, quantum computing, cosmology, and astrophysics are among the likely areas of research, although the topics will be up to the physicists who come to the Perimeter Institute—so named because of the mathematical allusion of the

▶ Putting his money where his mouth is, a successful businessman hopes he's setting a trend in funding physics.

acronym, PI, and to suggest pushing boundaries.

Flexible, bold, innovative

In shaping plans for the institute, the executive director, Howard Burton, visited more than a dozen research centers in North America and Europe. He cites as models the Institute for Advanced Study in Princeton, the Institute for Theoretical Physics at the University of California, Santa Barbara, and the Santa Fe Institute in New Mexico. These institutes vary in terms of their ties to universities, and in the extent to which research is driven by programs versus by individual scientists, says Burton. "We wanted to benefit from their experiences and get a sense of what would work best for us."

The plan is to host, at any given time, about 40 scientists from around the world. Junior and senior scientists will be invited to come for stays ranging from a few months to renewable five-year terms. The Perimeter Institute will not offer permanent positions but is arranging with nearby universities to offer joint tenured and tenure-track appointments. Says University of Waterloo President David Johnston, "We look at this as a very attractive magnet for talent."

"The amazing thing is that someone decided to go not for a big ticket item, but for fundamental physics. It's going to have a huge impact on theoretical physics in Canada," says Dick Bond, who heads up the Canadian Institute for Theoretical Astrophysics at the University of Toronto. "There is desire for a strong interaction—but how it will materialize is still unclear," Bond says. In addition to forging ties with universities and CITA, the Perimeter Institute plans to collaborate with the Canadian Institute for Advanced Research, which supports networks of scientists in selected research areas. Those collaborations and other aspects of the Perimeter Institute are still being worked out.

"We are trying to pursue a mandate that allows us to be flexible, bold, and innovative, so as to be able to concentrate on both established areas of inquiry and on as yet unestablished areas," says Burton, who holds a PhD in physics from the University of Waterloo. "We want to have a warm, convivial atmosphere where junior and senior people can interact and it's not particularly hierarchical—we are trying not to be star-driven." But, says Bond, "there is tremendous competition for the best people in theoretical physics," and who they hire will be critical to the Perimeter Institute's success.

Trees for the future

For Lazaridis, founder and co-CEO of Research in Motion, whose signature product is BlackBerry™, a handheld wireless e-mail device (used by, among others, US Vice President Al Gore), putting his money to work for theoretical physics was a no-brainer: "It's exciting stuff—cosmology, quantum mechanics, gravity, time dilation. If you go back in science history, you realize that the discoveries and breakthroughs of today rely on the pure thought from the beginning of this century. Semiconductors would have passed us by if we didn't know quantum mechanics," he says. "We need to start planting trees today so the generation to come will have enough understanding to find what it needs for new technologies."

"It's ironic that my choice of engineering is allowing me to invest in fundamental physics," says Lazaridis. "We are hoping to become a catalyst for more support of theoretical physics."

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BRUCE HAWKINS/CITY OF WATERLOO

THE PERIMETER INSTITUTE'S logo was unveiled on 23 October by founding entrepreneur Mike Lazaridis (center); the institute's executive director, Howard Burton (left); and Waterloo mayor Joan McKinnon.