Brookhaven Lab: Fueling the Local Economy

Brookhaven Facts:
Established in 1947

Home to six Nobel Prizes

Managed for the U.S. Department of Energy by Brookhaven Science Associates, a partnership formed by Stony Brook University and Battelle

Annual budget of about $445 million

2,900 employees

3,500 visiting scientists from around the world

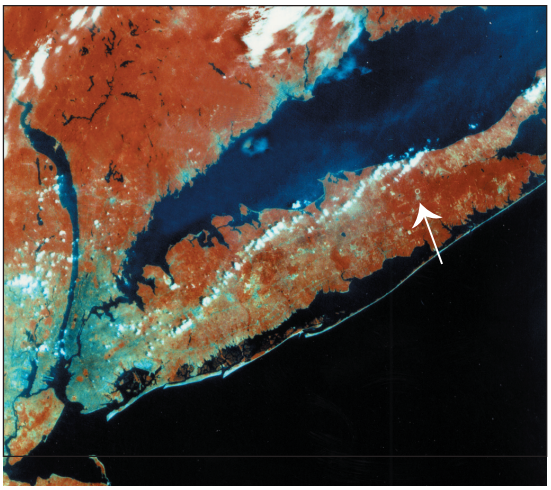
Open for public tours on summer Sundays

Educational programs year-round for grade-school through graduate-school students and teachers

www.bnl.gov

About Brookhaven

The U.S. Department of Energy's Brookhaven National Laboratory is one of the five largest high-tech employers on Long Island. Brookhaven Lab conducts world-class research in the physical, biomedical and environmental sciences, as well as in energy technologies and national security. Home to six Nobel Prizes, the Laboratory also builds and operates major facilities that are used by a worldwide community of scientists to conduct forefront scientific research.



Satellite view of Long Island (arrow points to Brookhaven Lab)

Economic Engine

With 2,900 employees and an annual budget of approximately $445 million, Brookhaven Lab has a major, positive economic impact on Long Island and New York State. Brookhaven Lab brings new funds into the region, with about 80 percent of its budget coming from the U.S. Department of Energy.

Since most Brookhaven Lab employees live on Long Island, they spend most of their income locally, on the island and in N.Y. State. This has a multiplier effect in helping to support local businesses and create secondary jobs. In fiscal year 2003, employee salaries, wages and fringe benefits accounted for about $274 million, or 62 percent, of the Laboratory's total annual budget. In addition, Brookhaven purchased over $22 million worth of supplies and services from Long Island businesses in 2003, and strives to do business locally whenever possible.

A 1995 Suffolk County Planning Commission report concluded that initial expenditures by Brookhaven Lab during the period 1984-1995 triggered a $2.2 billion increase in Long Island earnings and generated 86,000 secondary jobs on Long Island.

World-Class Facilities

Since its birth more than 55 years ago, Brookhaven has been a multidisciplinary research institution built around large and unique scientific facilities that are available for use by industry, universities, and other laboratories. Brookhaven currently operates the premiere nuclear physics facility in the world, the Relativistic Heavy Ion Collider, which contains over 1,700 superconducting magnets built on Long Island by Northrop Grumman. Exciting discoveries continue to be made at this facility by more than 1,000 scientists exploring the origins of the universe.

The collider, however, represents only one facet of the wide-ranging science that is conducted daily at Brookhaven. About 3,500 visiting researchers travel to New York from across the country and around the world to use Brookhaven's unique facilities each year. These visiting researchers and their families often stay for weeks or months, spending their dollars locally. New York State is particularly well

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Brookhaven Lab: Fueling the Local Economy (continued)

represented; more than 1,000 of the Lab's users come from within the state, from institutions including the Albert Einstein College of Medicine, Cold Spring Harbor Laboratory, Columbia University, the Howard Hughes Medical Institute, IBM, New York University, Nevis Laboratories, the University of Rochester, the Sloan-Kettering Institute for Cancer Research, and Stony Brook University.

About 2,400 visiting researchers conduct experiments at the National Synchrotron Light Source (NSLS) each year, using the facility's powerful beams of x-rays, ultraviolet light and infrared light to study all types of materials, from computer chips to biological molecules. Thirty-six percent of these visiting researchers come from New York State institutions including Cornell University, Rensselaer Polytechnic Institute, and the State University campuses, making New York scientists the largest single user group of the facility. Another 27 percent come from nearby Northeastern states for whom New York is a logical and desired destination.

The great majority of these NSLS users -- 76 percent-- conduct research in the fields of materials and life sciences. These fields are expected to fuel economic growth in New York State and the region in the years ahead. Advances are expected in high-temperature superconductors, magnetic materials for digital information storage, understanding and manipulating materials at the nanoscale, pharmaceutical development based on specific protein structures, and understanding at the atomic level how genes cause disease, with unprecedented potential for designing cures.

On the energy front, Brookhaven's research to improve fuel-oil efficiency has saved approximately $6 billion in the past decade for the 10 million American households and businesses, primarily in the Northeast, that are heated by oil. This research has also resulted in two patented technologies.

Looking to the future, several large-scale construction projects will enhance Brookhaven's research portfolio and attract more users from New York State and beyond. Scheduled for construction beginning next year, Brookhaven's Center for Functional Nanomaterials will create 80 new jobs at the Laboratory and provide researchers with state-of-the-art capabilities to fabricate and study nanoscale materials. These materials — typically on the scale of billionths of a meter — offer different chemical and physical properties than bulk materials, and could form the basis of new technologies. Brookhaven is an integral partner of the university community in New York State and the Northeast, where nanoscience has emerged as a major research focus.

Future plans also include an upgrade for the NSLS, known as NSLS-II. Ten thousand times brighter than the NSLS, the intense beams of light at the new facility will allow scientists to see atomic-level structures and processes in greater detail and on shorter timescales than ever before. More than 200 new positions would be associated with this project. With the NSLS-II, the Center for Functional Nanomaterials, and RPI's Nanoscience Research Center, New York State has an opportunity to build on its Centers of Excellence program, and to position itself as a leader in the design and fabrication of new materials for nanoscience by providing cutting-edge facilities in these important, emerging fields.

Business Leader

Brookhaven's quest for basic knowledge can lead to practical applications as well. Through the Laboratory's technology transfer program, the Laboratory invites industry to develop and market Brookhaven's patented inventions. Such partnerships with industry benefit the New York State and U.S. economy. Brookhaven currently has 100 technologies available for licensing, in diverse areas that include molecular biology, medical devices, pharmaceuticals, optics, instrumentation, and energy production.

Brookhaven Lab also maintains outreach programs to help small and minority-owned businesses. The Laboratory encourages partnerships with businesses to help keep Long Island, New York State, and the nation at the cutting edge of science and technology.

BROOKHAVEN
NATIONAL LABORATORY

a passion for discovery