FACTS

a passion for discovery

BROOKHAVEN NATIONAL LABORATORY

Purpose

Produce excellent science in a safe, environmentally sound manner with the cooperation, support, and appropriate involvement of the Laboratory's many communities.

Location

Upton, New York (Long Island)

Funding

- $665 million for fiscal year 2010 from the U.S. Department of Energy (DOE)
- $88 million from other agencies

Research Programs

- Nuclear and high-energy physics
- Physics and chemistry of materials
- Nanoscience
- Energy and environmental research
- National security and nonproliferation
- Neurosciences and medical imaging
- Structural biology
- Computational sciences

Management

Brookhaven Lab is operated and managed for DOE's Office of Science by Brookhaven Science Associates, a limited-liability company founded by the Research Foundation of the State University of New York on behalf of Stony Brook University, the largest academic user of the Lab's facilities, and Battelle, a nonprofit, applied science and technology organization.

Each year, some 4,000 scientists from around the world visit Brookhaven to use the Lab's unique research facilities.

About Brookhaven National Laboratory

Brookhaven National Laboratory is a multi-disciplinary research institution operated by Brookhaven Science Associates for the U.S. Department of Energy (DOE). Home to seven Nobel Prize-winning discoveries, Brookhaven supports DOE's strategic missions in carrying out basic and applied research at the frontiers of science — and conceives, constructs, and operates unique research facilities for scientists from around the world.

Brookhaven Lab's major facilities include the Relativistic Heavy Ion Collider (top) and future National Synchrotron Light Source II (bottom).

Key Facilities

- Relativistic Heavy Ion Collider (RHIC), a particle accelerator dedicated to studying the fundamental forces and properties of matter and the early universe
- National Synchrotron Light Source (NSLS), a source of intense x-ray, infrared, and ultraviolet light for studying materials, biological samples, and more
- NSLS-II, under construction, will provide beams 10,000 times brighter than NSLS
- Center for Functional Nanomaterials, a hub for cutting-edge studies of materials on the order of billionths of a meter, aimed at addressing challenges in energy
- New York Blue Supercomputer, one of the fastest in the world for general users and crucial for computations in biology, climate science, materials research, renewable energy, and many other fields
- Alternating Gradient Synchrotron, home to many pivotal discoveries in high-energy and nuclear physics
- NASA Space Radiation Laboratory, for studying the effects of simulated cosmic rays to protect future astronauts
- Accelerator Test Facility, the nation's proving ground for future accelerators
- Radiotracer Chemistry, Instrumentation and Biological Imaging for monitoring biochemistry in people, animals, and plants

Significant Discoveries

- Seven Nobel Prizes, including 2002 (physics) and 2003, 2009 (chemistry)
- Evidence that matter existed as a "perfect" liquid in the early universe
- L-dopa for Parkinson's disease
- First synthesis of human insulin
- Advances in understanding high-temperature superconductors
- Technetium-99m, used to diagnose heart disease and other ailments in 11 million people annually
- Magnetically levitated trains (Maglev)

Economic Engine

Brookhaven Lab strengthens Long Island's position as a center of innovation in energy, the life sciences, and other fields crucial to the growth of New York State's economy. With more than 3,000 employees, 4,000 guest researchers annually, and a budget of over $650 million, the Lab has a significant economic impact on New York State.

In fiscal year 2010, employee salaries, wages and fringe benefits accounted for over $357 million of the Laboratory's total annual budget. In addition, a report for fiscal year 2009 showed that the economic output generated by Brookhaven Lab and its visitors during that period amounted to $704 million and created 5,400 jobs throughout New York State — 5,190 of them on Long Island. Supporting local and state businesses whenever possible, Brookhaven Lab also spent $212 million on goods and services in FY2009 ($75.2 million in New York State).

It is estimated that between 2010 and 2014, Brookhaven Lab will generate, on an average annual basis, $947 million in economic output and 7,092 jobs throughout New York State.

(04/11)