MAKING AN IMPACT

Promoting Technological Opportunities and Mentoring Tomorrow's Scientists and Engineers

Jefferson Lab

Jefferson Lab carries out superconducting radiofrequency R&D work for other research institutions.

Jefferson Lab seeks opportunites to bring the lab's innovations to the marketplace.

A WORLD OF IMPACT

Jefferson Lab provides far-reaching benefits for our community, the Commonwealth and our nation, all while providing a unique research capability for the more than 1,500 researchers who use lab facilities to conduct experiments.

While Jefferson Lab's mission is to probe the most basic building blocks of matter in order to advance our fundamental understanding of the world around us, it also works to make the laboratory's scientific and technological advances available to benefit society.

Work conducted at Jefferson Lab makes a tangible mark in many ways beyond pure science. The lab:

- is among the region's largest high-tech employers;
- has a significant economic impact at the local, regional and national levels;
- promotes its technological advancements to the commercial sector; and
- mentors tomorrow's scientists and engineers.

The lab is also at the forefront in designing a future Department of Energy nuclear physics research machine, called an Electron-Ion Collider.

ECONOMIC IMPACT

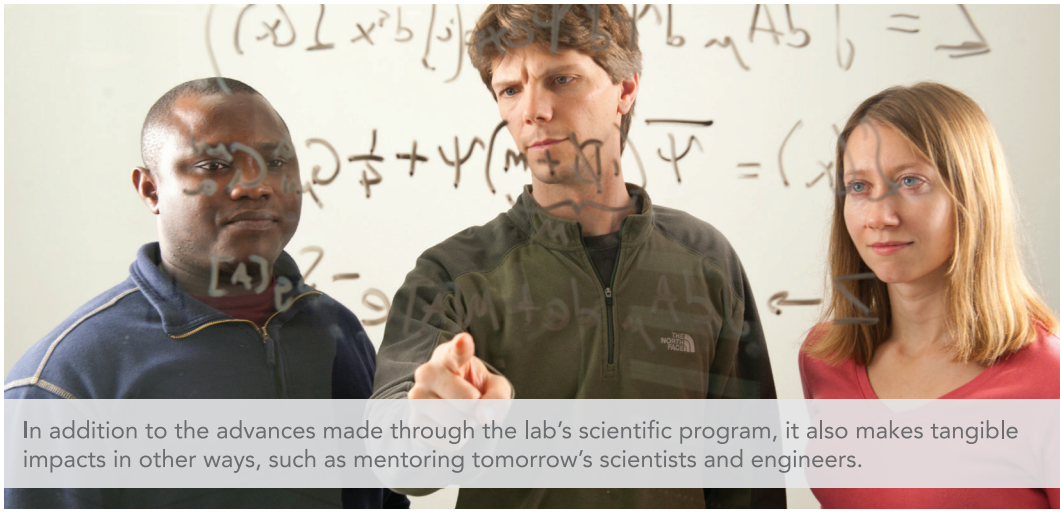
While a scientific gem, the laboratory also is a significant economic engine for the local community, the Commonwealth and the nation. Based on a recent study, the money spent at Jefferson Lab is responsible for 4,422 jobs and generates an economic output of $679.1M across the U.S. For the Commonwealth of Virginia, the cumulative impact totals $271.1M in output and 2,200 jobs, and for Hampton Roads, Jefferson Lab creates an economic benefit of $217.6M and 1,968 jobs.

PACKING A PUNCH

In its first three decades, nearly 200 experiments were carried out at the lab. These experiments sharpened our understanding of the smallest bits of matter that make up our universe, brought to light new areas for research, and identified puzzling results that have prompted new ideas and experiments. These cutting-edge experiments also laid the groundwork for the advancements fueling the next generation of experiments at Jefferson Lab's Continuous Electron Beam Accelerator Facility (CEBAF).

Upgrades to CEBAF have ushered in a new era of research – allowing the scientists who use the lab's facilities to probe even deeper into the building blocks of matter to look at the forces that bind these particles. While practical uses for the results from basic research could be years or even decades away, the technological and scientific advancements being made to run experiments are bringing tangible benefits to society.

Lab scientists and engineers have been awarded more than 150 patents, with many more patents pending and invention disclosures under review. The patents include advancements ranging from superconducting radiofrequency, the technology used to accelerate our electron beam; to cryogenics and particle detectors. These could be used in isotope production, life sciences, materials sciences for commercial or industrial purposes, as well as medical imaging and developing specialized nanomaterials. These advancements are necessary for the next generation of leading-edge research facilities, and they are poised for entrepreneurial development. Many innovations have been licensed, and two start-up companies have grown directly out of Jefferson Lab's research and expertise: Dilon Technologies and BNNT, LLC. In addition to the long-term intellectual and scientific benefits provided by the lab's research, these community and economic impacts are a substantial benefit now and into the future.



In addition to the advances made through the lab's scientific program, it also makes tangible impacts in other ways, such as mentoring tomorrow's scientists and engineers.

Jefferson Lab helps prepare the next generation of scientists and engineers.

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NATIONAL ACCELERATOR FACILITY

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Jefferson Lab is managed and operated by Jefferson Science Associates, LLC, a joint venture between Southeastern Universities Research Association, Inc., and PAE.

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