

Economic Impact of Jefferson Lab

The Commonwealth of Virginia has become a hotbed of nuclear science in the last twenty years and that science is the engine for a new, vibrant economy in the 21st century. Jefferson Laboratory (JLab) in Newport News is our newest national laboratory and is focused on exploring the fundamental nature of matter. It is a collaboration of federal, state, and local organizations with much of the funding coming from the United States' Department of Energy's (DOE) Office of Science. It has a large impact on the Commonwealth through its operating and development budgets, but also on training the high-tech workforce of the future.

The mission of JLab is to perform ground-breaking research to expand our understanding of the sub-atomic world and to be a world leader in related technologies. These new technologies are being built at JLab for medical imaging, national security, developing new materials, and manipulating chemical processes. The Laboratory has about **700 employees** who work and live in the Commonwealth. It has an annual budget of more than \$200M. It is currently in the final stages of a \$310M project (the 12 GeV Upgrade) to expand its scientific reach and create new scientific opportunities. The 12 GeV Upgrade is the highest priority for the U.S. Nuclear Physics program. Construction is on schedule and within cost.

JLab has a disproportionate economic impact. An independent study in 2011 estimated the Laboratory generates \$270M in economic output annually and is responsible for over **2000 jobs** in Virginia alone. This output is a product of direct spending by the Laboratory and people from all over the world who come to JLab to do science (and spent nearly 11,000 person-nights in local hotels in 2010). This influence extends directly to colleges and universities in the Newport News area where federal grants (DOE and the National Science Foundation) provide funding for faculty and students, scientific computing, hardware development and other activities that contribute directly to the JLab science programs. The long-term impacts will likely be greater. Economists argue a lot, but they agree that half or more of the rise in our standard of living over the last century (from smartphones to no-till farming) came from new technologies. Science is the engine of that growth. Right now more than 200 graduate students are working at JLab on their thesis projects. They will form the technically-trained cadre of scientists who will go out into the workforce with the skills to succeed in the 21st century. Locally, graduate students and undergraduates who are involved in research at JLab go on to use their skills in everything from information technology to health care.

The importance of scientific research has been recognized by both the current and previous Presidents. Those Administrations developed the policy to preserve the essential pieces of the US nuclear science program. It is worth noting that even modest budget increases have a large impact on the productivity of the nuclear physics program. New, world-class science and the education of skilled scientists, engineers, and technicians will enhance the economy in Virginia and beyond for all Americans.