

Impact of Jefferson Lab Science and the Department of Energy Office of Science¹

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 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 in 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 **600 employees** who work and live in the Commonwealth. It has an annual budget of \$130M. It is currently in the latter stages of a \$300M project (the 12 GeV Upgrade) that will expand its scientific reach and create new scientific opportunities. The 12 GeV Upgrade is the highest priority for the U.S. Nuclear Physics program.² Up to now, 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 the Richmond area where federal grants (DOE and the National Science Foundation) provide funding for faculty and students (more than \$1.5M over the last 20 years) and scientific computing (\$162k in 2010-2013). The long-term impacts will likely be greater. Economists argue a lot, but they agree that half or more of the rise in our standards 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, undergraduates who are involved in research at JLab go on to use their skills in everything from information technology to health care.

As Congress continues work on the Energy and Water Development Appropriations legislation now and in the future, I ask you to support the Department of Energy (DOE) Office of Science and full funding for its nuclear physics program. The importance of scientific research has been recognized by both the current and previous administrations. The Administration's budget request of \$594 million is frugal, but would continue the policy of the last two administrations and preserve the essential pieces of the US nuclear science program. It is worth noting that even modest increases would 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 citizens.

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² Nuclear Science Advisory Committee, *Long Range Plan*, 2007.