Cold Spring Harbor Laboratory (CSHL) is a private, not-for-profit research and educational institution located on the north shore of Long Island that specializes in molecular biology and genetics. The Laboratory traces its history to 1890, when it was founded by the Brooklyn Institute of Arts and Sciences as a biological laboratory for training high school and college teachers. A few years later, the Institute added a second mission – genetics research. In the early years of the twentieth century, research conducted at Cold Spring Harbor on the cross-breeding of varieties of corn revolutionized the science of agricultural genetics, laying the groundwork for a century of progress in agriculture in the U.S. and around the world.

For 125 years, CSHL breakthrough discoveries and innovative education programs have contributed to advances in health care, agriculture, energy development and environmental sustainability.
During the past sixty years, the Laboratory has played a leading role in the emergence and continuing development of molecular genetics. CSHL has been home to eight Nobel Prize winners. In 1951, for example, Barbara McClintock first discovered the mobility of certain genetic elements; the identification of these “jumping genes” proved to be a major breakthrough in understanding how genes function. She won the 1983 Nobel Prize.

Lecturing at Cold Spring Harbor in 1953, James D. Watson gave the first public presentation on his and Francis Crick’s Nobel prize-winning discovery of the double-helical structure of DNA. Watson later served for 36 years as the Laboratory’s director and then its president.

Since the 1950’s, CSHL scientists have continued to advance the field of biology. Notable achievements have included:

- Developing techniques for separating and visualizing DNA fragments that have made possible a wide range of advances in molecular biology
- Discovery of the phenomenon of RNA splicing, leading to the development of new treatments for a variety of diseases (1993 Nobel Prize)
- Pioneering research on the role of genes in causing cancer
- Understanding the protective role of telomeres at the ends of chromosomes (2009 Nobel Prize)
- Developing technologies for studying the structure and functioning of individual neurons within the brain
- Deciphering animal and plant genomes, including the entire genome of rice, the world’s most important food crop

With revenues of $164 million in 2013, the contemporary Cold Spring Harbor Laboratory is a world-renowned center for life sciences research, focusing on cancer research, neuroscience, genomics and bioinformatics, plant genetics and quantitative biology. CSHL’s Meetings and Courses Program, which each year draws thousands of researchers from around the world, has also made it one of the world’s leading venues for exchanging ideas and for presentation of the latest research in the life sciences.

True to its origins in education and training, CSHL continues to educate both scientists and the public. In 1998, the Laboratory established the Watson School of Biological Sciences, a Ph.D.-granting program in molecular biology. Through the DNA Learning Center, founded in 1988, CSHL has provided hands-on educational programs in genetics to elementary and high school students on Long Island and New York City.

Cold Spring Harbor Laboratory’s facilities include:

- A 116-acre main campus located in the Village of Laurel Hollow
- A 65,000 square-foot Genome Research Center, located on an 11-acre site in Woodbury
- The 12-acre Uplands Farm Field Research Center in Cold Spring Harbor – the site of fields, greenhouses and labs that support CSHL’s research in plant biology
- The Banbury Center – a 55-acre site in Lloyd Harbor used for conferences and courses
- The Dolan DNA Learning Center – a renovated former elementary school in Cold Spring Harbor that is the principal site for CSHL’s educational outreach programs, offered in partnership with local school districts throughout the metropolitan area
- Two additional DNALC teaching laboratories – the DNA Learning Center West, in Lake Success, and the DNA Learning Center in Harlem
- Administrative offices and a warehouse in Syosset
Figure 1: Location of Cold Spring Harbor Laboratory Facilities
About this report

In the scope of its engagement with the scientific community, its reputation and the impact of its work, Cold Spring Harbor Laboratory is a global institution. And as one of New York’s leading research institutions, it is an asset of particular value to New York State. In order to promote a clearer understanding of the multiple ways in which the Laboratory contributes to the life of New York State and its people, CSHL President & CEO Bruce Stillman, Ph.D., asked Appleseed – a New York City-based economic development consulting firm – to assess the Lab’s impact on the state’s economy – and in particular, on the economy of Long Island.

This report presents the results of Appleseed’s analysis. Part Two highlights the impact of CSHL as an enterprise – as an employer, a buyer of goods and services from New York companies and a sponsor of construction projects. Part Three explores several ways in which research conducted at CSHL contributes to the growth of the state’s and the region’s economy.

Part Four of the report describes CSHL’s Meetings and Courses Program, which each year brings thousands of the world’s leading scientists to Long Island to discuss their work. Part Five describes the Lab’s public education programs, which offer a wide range of opportunities for elementary and high school students, and for undergraduates and graduate students as well – covering everything from basic scientific concepts and techniques to the latest advances in the life sciences.

Finally, Part Six highlights several reasons why CSHL’s impact on New York’s and Long Island’s economy could be even greater during the next five to ten years than it is today.