

Buffalo Niagara Life Sciences Opportunities and Advantages

Buffalo Niagara is a world-class commercial and clinical leader in cancer, neurology and stroke, drug discovery, dental medicine, and medical devices.



"My life works in Buffalo Niagara as a parent and a scientist. Buffalo Public Schools, Canisius College and the University at Buffalo provided me with an outstanding education. This led me to play a key role in the ground-breaking Human Genome Project with a rewarding career in cancer research at Roswell Park Cancer Institute. I raised two wonderful sons who benefited from the strong sense of family and community in Buffalo, and from the rich variety of regional outdoor activities."



- Norma J. Nowak, PhD,
Director, DNA Microarray and Genomics
Facility, Roswell Park Cancer Institute,
Director of Science & Technology, NYS
Center of Excellence in Bioinformatics
& Life Sciences, Associate Professor,
Biochemistry, University at Buffalo


BUFFALO NIAGARA
ENTERPRISE

Buffalo Niagara::Where Life Works.



Buffalo Niagara Life Science Industry & Markets

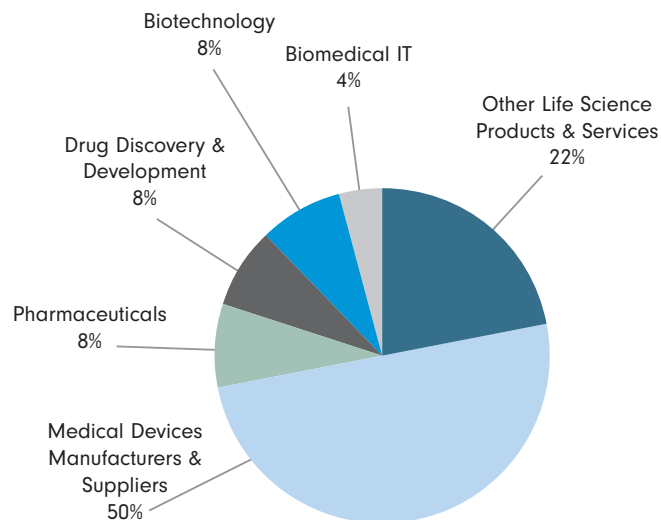
Buffalo Niagara is home to more than 130 life sciences companies, including pharmaceutical manufacturers, biotechnology companies, medical device manufacturers, biomedical software and service companies, and many businesses that directly support the life science sector such as CROs and equipment suppliers.

- 59% of the Canadian and 41% of the U.S. population reside within 500 miles of the Buffalo Niagara region.
- Over 51 million people live within 300 miles of Western New York.
- The region's prime location on the Canadian-American border provides immediate access to two major North American healthcare and biomedical markets.
- Nearly 650 biomedical companies and institutions reside within an hour and a half drive of Buffalo Niagara.

Cutting Edge Research

- \$300 million in total basic research expenditures in 2006, an increase of 41% since 2001.
- Nearly \$300 million in public and private funds invested in critical life sciences buildings, programs, and infrastructure since 2002.
- Overall invention disclosures and patent applications increased by 45% at the region's major research institutions.
- Home to one of the top ten fastest academic super computer clusters in the U.S.
- Dr. Herbert Hauptman, co-founder of Hauptman Woodward Institute, won the Nobel Prize in Chemistry in 1985 for his development of high-throughput methods for automated crystal screening for proteomics and structural genomics, which allows up to 15,000 crystallization experiments to be performed per day.
- First internal cardiac pacemaker was invented by Wilson Greatbatch and others in Buffalo, and stimulated the creation of Greatbatch, Inc., a leading manufacturer of pacemaker and cardiac defibrillator batteries and components.
- Beta-interferon (Avonex) therapy for Multiple Sclerosis was pioneered by the late Dr. Larry Jacobs, and is now produced by Biogen.
- Prostate-Specific Antigen (PSA) Test was developed by Roswell Park Cancer Institute researchers and is now the standard diagnostic blood test to predict prostate cancer.
- More than 500 clinical trials are performed at regional healthcare and university institutions each year.
- The first cancer research institution in the U.S., Roswell Park Cancer Institute, was established in 1898 in Buffalo and is one of only forty such centers in the U.S. to hold the National Cancer Institute designation of "comprehensive cancer center."

Buffalo Niagara Life Sciences Industry Sectors



Business Climate

Economic development and governmental programs offer customized financial incentives and other support to assist companies in locating and growing in Buffalo Niagara. Some positive business climate changes include:

- New York State ranked as the #1 bioscience business location by Site Selection Magazine in August, 2006.
- Since 2001, the region has seen the announcement of more than 4,800 new and retained private sector and university research jobs from expanding companies and research centers.
- The Empire Zone program has been expanded to provide a nearly "10-year tax-free" location anywhere in the state for large life sciences and pharmaceutical projects.
- The Qualified Emerging Industries Tax Credit (QETC) provides early-stage companies in New York State with large research and development budgets up to \$250,000 cash refund for four years to help offset losses from operations.
- A number of venture capital firms, private equity groups, financial institutions and organized angel investors, provide capital to support everything from new business creation to new product development and business growth strategies.

Buffalo Niagara Medical Campus

The Buffalo Niagara Medical Campus (BNMC) is a consortium of the region's premier health care, life sciences research, and medical education institutions, all co-located on 100 acres in downtown Buffalo, N.Y. The BNMC is dedicated to the cultivation of a world-class medical campus for clinical care, research, education, and entrepreneurship. This is accomplished by coordinating planning and development activities, and facilitating collaboration among the eight member institutions.

Since its inception in 2001, the BNMC has become a hub of public and private investment. It has emerged as the "address" for the region's life sciences initiative.

BNMC member institutions include: Buffalo Hearing & Speech Center, Buffalo Medical Group, Hauptman-Woodward Medical Research Institute (HWI), Kaleida Health, Olmsted Center for the Visually Impaired, Roswell Park Cancer Institute (RPCI), University at Buffalo (UB), and the Upstate New York Transplant Service. In addition, 15 private life sciences companies are currently located on the BNMC.

Completed in 2006, the Buffalo Life Sciences Complex (BLSC) consists of three new buildings – approximately 400,000 square feet – at the heart of the medical campus. The BLSC is a collaborative effort of UB, RPCI, and HWI. It builds on long-standing academic and research collaborations among the partners by physically linking the facilities and featuring core research laboratories. While each structure houses different research functions, the work is synergistic and represents a continuum in the development of new therapeutics and diagnostics for a wide range of diseases.

- Esther Takeuchi, Ph.D.,
Greatbatch Professor in Power
Sources Research in the University
at Buffalo School of Engineering
and Applied Sciences and SUNY
Distinguished Professor



The NYS Center of Excellence in Life Sciences and Bioinformatics and Roswell Park's Center for Genetics and Pharmacology merge high-end technology, including supercomputing and visualization, with expertise in genomics, proteomics, and bioimaging to make major contributions in science and health care.



BNMC at a Glance:

- Total economic impact of \$1.5 billion within region
- 8,500 + employees
- 200 PhDs
- 500 MDs
- 1,000,000 annual patient visits
- 4.5 million square feet of research, clinical, and support space



Buffalo Niagara Medical Campus
Creating Knowledge. Transforming Lives.

Esther Takeuchi, Ph.D. was awarded the **National Medal of Technology and Innovation** in 2009 by President Barak Obama. It is the nation's highest honor awarded for technical achievements.

Workforce & Education

- The region has a labor force of 795,500 for 2005.
- Regional life sciences companies employ nearly 6,500 workers.
- A 2006 workforce study showed that 33,200 workers are currently employed and have indicated an interest in changing jobs. In total, the Western New York area has 89,400 available workers for new or expanding businesses.
- The region is home to more than 30 higher education institutions with more than 100,000 enrolled students. Western New York will produce more than 1,000 graduates in the life sciences alone each year.
- Buffalo Niagara ranked 4th in the nation in terms of the number of science and engineering degrees granted each year on a per capita basis.
- New undergraduate and graduate programs in biotechnology, bioinformatics, combinatorial chemistry, biotech management and others have been added to regional university programs.
- Certificate and associates degree programs in biomanufacturing and laboratory practices have been developed at Erie Community College and University at Buffalo.

A Snapshot of Life Sciences Companies in Buffalo Niagara:

Accellent Inc., www.accelent.com

AndroBioSystems, www.androbiosys.com

Buffalo BioSciences, www.buffalobiosciences.com

Cleveland Biolabs Inc., www.cbiolabs.com

Contract Pharmaceuticals Limited, www.cpltd.com

Empire Genomics, LLC, www.empiregenomics.com

Gaymar Industries, Inc., www.gaymar.com

Greatbatch, www.greatbatch.com

Hospira, www.hospira.com

Immco Diagnostics, www.immco.com

Invitrogen, www.invitrogen.com

Ivoclar Vivadent, www.ivoclarvivadent.com

Kinex Pharmaceuticals, www.kinexpharma.com

PersonaDx, www.personadx.com

PharmIdeas, www.pharmideas.com

ZeptoMetrix Corp., www.zeptometrix.com

For a complete directory of life sciences organizations in Buffalo Niagara by industry, visit www.bnlsdirectory.org.

Let's work together

Buffalo Niagara Enterprise (BNE) is a non-profit economic development agency. Our mission is to help businesses successfully expand to the Buffalo Niagara region. Whether you're interested in obtaining market and demographic data, need assistance acquiring a potential site, or are looking for special programs that can give you a jump-start – BNE is at your service. Contact us today to get started.

www.buffaloniagara.org/lifesciences



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Buffalo Niagara :: **Where Life Works.**