

2014-15 Executive Budget Testimony
Economic Development
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Good afternoon. My name is Marnie LaVigne and I am Associate Vice President for Economic Development at the University at Buffalo. I appear today on behalf of UB's Vice President for Research and Economic Development, Alexander Cartwright, who testified before you last year, but is unable to be here. I appreciate this opportunity to speak to you about UB's involvement in economic development and the vital connection with New York State programming that supports this work among higher education institutions like ours.

I want to thank committee Chairs Senator DeFrancisco, Assemblyman Farrell, Senator Valesky, and, of course, the dean of the Western New York delegation, Assemblyman Robin Schimminger; and their Senate and Assembly colleagues and legislative staff for the opportunity to speak today.

It is exciting to be at UB as we experience first-hand the ever-growing role of higher education in the innovation economy and the resulting direct- and positive – economic impacts.

Over the past few years we have seen what UB – as a premier, public, research-intensive university –does for our Western New York community:

- Public research institutions educate students for the knowledge economy of today and tomorrow;
- Public research institutions innovate;
- Public research institutions provide a launchpad for innovators and entrepreneurs who want to make a difference in the world;
- And most importantly in today's economy, public research institutions create jobs in the public and private sector.

The University at Buffalo is a premier, public, research-intensive university, which is responsible for a third of the SUNY patent portfolio. As the largest of the SUNY campuses, we take our job seriously when it comes to educating over 28,000 students every year, because that's the workforce who will fuel our new knowledge-based economy. We have embraced our research assets to create talent, drive innovation, and especially in the new millennium, catalyze industry growth. Our cutting-edge research enables UB to play a key role in developing technologies, launching startup companies, and supporting the region's economic diversification and high-wage job growth.

In many ways we are just beginning to hit our stride when it comes to our economic development efforts. While New York State was one of the first to introduce technology commercialization programs back in the 1980s through our Centers for Advanced Technology, then later the Centers of Excellence program, and today we have Start-Up NY and Innovation Hotspots among the latest additions to our toolkit. Today I would like to speak about two of the most pivotal programs that set the stage for higher education to become an economic development powerhouse: the Centers for Advanced Technology launched in the 1983 and its more recent sister program, the Centers of Excellence launched early in the new millennium.

We are proud of the progress we have made in orienting our activities to positively impact the Western New York economy. Our contributions have been made possible, in large part, through our partnership with New York State and the support that you and your colleagues have provided to date.

Specifically, I want to thank you for your continued support for our Center for Advanced Technology in Biomedical and Bioengineering Technology (known as the UB CAT) and two New York State Centers of Excellence. The first of the Center of Excellence, in Bioinformatics & Life Sciences (known as the COE), was among the original Centers named in 2001 when the program was introduced. The other is in Materials Informatics (known as CMI), and was designated in 2012. Buffalo has these Centers – these engines for our region's economy that partner with critical industry clusters – thanks in large part to the leadership and advocacy of many in this room today. We are honored to have been entrusted with all of these Center program designations that speak directly to our region's economic future.

Given NYS' early recognition that the UB CAT and other CAT programs offering R&D support resources were the hallmark of the new economy, it was a natural progression that the Centers of Excellence program was introduced with more of a significant facility focus to anchor technology-based economic development as the vehicle we need to harness our research capabilities and ideas and translate them into economic impact. We have the expertise to innovate as the foundation of our research-intensive institution. The CAT program in combination with the COE and CMI ensures that we are focused outward, working with companies to meet their R&D challenges, enabling private-sector growth by leveraging our R&D resources, and – ultimately – creating new products and services in our high-tech firms that lead to job growth. We are proud to have hosted as many as a dozen firms co-located with us at the COE, and now Start-Up NY promises to boost our company presence even more. Co-location of innovators and those who can bring the innovations to market is creating an incredibly powerful environment that is embodied in the energy and momentum that so many have said is palpable throughout Buffalo Niagara today.

The Centers have also given us a unique opportunity to expose students to the ways in which university-based research benefits private-sector interests. We are essentially training the next generation of entrepreneurs, and technical, business, and operations leaders, and we want to increase this capacity to produce ever larger numbers of entrepreneurs and innovators – creative thinkers who can add significant value to our region's economic future. With our success in growing firms, we are constantly being asked for talent at intern and employee level. To support this request we have partnered with human resources providers in the region, as well as our career services office at UB and at other local institutions. Additionally, we just introduced a work experience program that allows local high-tech firms to have an intern resource this spring, while giving students the hands-on experience of being in a real workplace with both technical and non-technical roles. Programs around the country show that hiring rates for interns can top 60%, and so not surprisingly, we already have a new software firm who was hired through our recently launched talent development programs.

At UB, we are fortunate to have a long term, consistently high performing resource in the UB CAT, which allows us to connect with companies annually in supporting key R&D projects to help them get new products and services to the marketplace, whether it involved engaging faculty, students, facilities, equipment, and funding in prototype development, clinical trials, or other product testing. Pairing such funding with our industry outreach via the CoE, and the CMI to a more limited extent where it applies to life sciences, has been invaluable in the being the go to provider of this product pipeline support. We have built long term relationships with companies that have gone from development and licensing of new technologies to market introduction.

Our latest success in 2013 of delivering 64:1 return on investment in our UB CAT program was fueled by this long term relationship. IMMCO Diagnostics, founded in 1971 by UB faculty members as a medical diagnostics company, grew over the decades to accelerate in the new millennium through introducing new business talent and product development. Immco, a member of our Industrial Advisory Board, became fully immersed in the Buffalo Niagara Medical Campus, setting up lab facilities on the campus to augment their off-campus operations and licensing a UB technology for a diagnostic test for early detection of Sjogren's disease, a debilitating auto-immune condition suffered by primarily by women, including female tennis champion, Venus Williams. UB CAT supported the commercialization of this new medical test, which added to the product portfolio of the company.

With its growing success, IMMCO was acquired for \$34M by an Ireland-based biotech firm, Trinity Biotech in 2013 and is now looking at further expansion in the region aligned with its close relationship with community's life sciences cluster, led by the UB CAT and Center of Excellence. Note that the UB CAT is only one of two among the 15 CATs aligned with a co-located COE – with the other being at the Albany College of Nanoscale Science and Engineering. And we are only one of three among the 15 CATs focused on life sciences. At a time when our baby boomer population is rapidly maturing, our society's need for innovation in health and life sciences is unprecedented.

My colleagues and I who have been part of the Center for Advanced Technology and Centers of Excellence are proud of the track record that we have documented. The UB CAT and COE, working synergistically to grow the life sciences economy in Buffalo with less than \$2M per year have:

- Played a key role in the community-wide effort to create and retain thousands of life sciences jobs in WNY
- Supported the launch of 5-to-10 new life sciences company a year

- Secured over \$130M in follow-on research funding from non-NYS sources
- Yielded more than 30:1 in economic impact consistently with a personal best of 64:1 this past year
- Taken a lead on introducing the Start-Up NY program to nearly one hundred companies while adding more than a half dozen new company attraction projects to the several wins we have to date, such as Cleveland BioLabs, OncoMed, and Applied Health Resource Management.
- Reaching thousands of individuals each year through education, programming, and networking activities, including the first of its kind life sciences career pathways program, ISciWNY program, the Bright Buffalo Niagara Venture Forum, Launch NY, and numerous other flagship initiatives aimed at growing the critical mass of high-tech activity in this traditional industry environment
- Recognized our opportunity to garner support at the national level by obtaining nearly \$1.5M in the first economic development administration awards in 10 years in WNY – and the first ever from the EDA in our region for innovation vs. the traditional bricks and mortar.
- And most recently, led the planning process that ultimately led to the new \$105M genomic medicine initiative involving UB, New York Genome Center and industry partners, announced by Governor Cuomo as this year's state of the state address, which already has yielded industry expansion plans with both existing firms in Buffalo Niagara and two new firms locating on the Buffalo Niagara Medical Campus, one from Salt Lake City and one from Germany.

Having held leadership positions with both the CoE and the CAT, I can attest to the critical role of having the combined resources and unique capabilities of both the CoE and the CAT when establishing a new segment of our innovation economy. In a region like Buffalo Niagara, we have been able to align programs like the CoE and CAT, and now our new Genomic Medicine initiative, to support our Western New York Regional Economic Development Council (WNYREDC) strategy to grow the life sciences.

Similarly, our new Center of Excellence in Materials Informatics – CMI – which helps new and existing businesses become more competitive through technological innovation with an emphasis on materials, informatics and advanced manufacturing, supports the advanced manufacturing focus of our WNYREDC strategy. More specifically, CMI is tightly linked with the new Buffalo Niagara Institute for Advanced Manufacturing Competitiveness proposed in the Buffalo Billion Investment Development Plan. CMI has been working with EWI from Columbus, Ohio –the organization selected by the state to operate the advanced manufacturing institute–for over a year. In fact, we are in the process of negotiating an MOU with them outlining CMI's relationship with EWI and role within the Institute, which very much mirrors how Ohio State University has worked with EWI in Columbus, Ohio, for two decades.

It was UB's expertise in materials science and informatics as well as our ability to foster public-private partnerships across a range of related industries that helped us get the Center of Excellence of designation, and also made us an attractive partner for EWI. Admittedly, not having a sister CAT related to advanced manufacturing and materials informatics has hampered our progress in spawning specific projects with industry, beyond those in the life sciences that could utilize our current UB CAT support, so we are eager to secure such a resource as the CAT program allows.

There is no question that these are exciting times full of opportunity for Western New York's economy. However, our ability to positively – *and sustainably* – impact economic development is hindered should we not continue to receive critical operating funds from New York State. I cannot understate the value of multi-year funding commitments to programs like the Centers of Excellence and the Centers for Advanced Technology, which allows us to provide a consistent, high quality service that our industry partners can count on. As companies make plans for new product development and expansion, we want them to include our resources in this process. Our impact is greatest when our customers and partners know that we are definitely open for business today and tomorrow.

Many of you have heard it said of Buffalo Niagara, 'there's a new energy here.' And it's true, you *can* feel it. This same kind of spirit of optimism about the growth of our innovation economy in Buffalo Niagara can be grown around the state. Through a strong connection to a region's economic development strategy and target growth sectors, the Centers of Excellence and CATs can provide the nexus in communities across New York. To facilitate this role, I implore you to consider restoring and enhancing the funding for the Centers of Excellence and CATs as an investment in the future of the innovation economy throughout the state.

While you will hear from my colleagues at all the Centers of Excellence when we will be in town again on February 25 and 26 to advocate for these critical funds, I would like to submit today our collaborative request for \$1M in operating funds for each of Centers in this year's budget. As many of you know, the CAT's gathered here last week to advance the CAT agenda of restoring its program funding to \$1M per Center from our current cut of approximately 8% that has been in place for several years.

As programs such as the Centers of Excellence and CATs are being reviewed for possible changes, please consider the current request of \$1M per Center for COEs or CATs to be the minimum resource required. Given that COEs and CATs use funds in ways that are complimentary and non-duplicative, any combination of Centers, such as we have in Buffalo, must continue to have full funding for each program at \$1M annually vs. considering a simple consolidation of a COE and a CAT as a means to cut costs.

At the same, we appreciate that there are efficiencies to be had through leveraging the best of our administrative structure and greater alignment to improve our impact. Through our years of experience working with NYSTAR and ESDC, we have refined exactly what program components are critical and how they should be administered for greatest return-on-investment, so I and my colleagues urge you to engage us and the experienced program staff, particularly at NYSTAR, in any review of the Centers that will impact the future of these vital programs.

Thank you for your time this afternoon and for giving me this opportunity to speak with you about the New York State Center of Excellence in Bioinformatics and Life Sciences, its sister Center for Advanced Biomedical and Bioengineering Technology and the New York State Center of Excellence in Materials Informatics. I am happy to answer any questions you may have.