MASSACHUSETTS LIFE SCIENCES CENTER

Investing in the State of Innovation

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MASSACHUSETTS LIFE SCIENCES CENTER, LOCAL AND SCHOOL OFFICIALS ANNOUNCE MORE THAN $17 MILLION IN GRANTS FOR CAPITAL PROJECTS, EQUIPMENT AND SUPPLIES IN GREATER BOSTON

Grants to fund capital projects and new equipment for STEM education at public middle schools and high schools

Roxbury, MA – March 18, 2015 – The Massachusetts Life Sciences Center (MLSC) today joined elected officials and local school leaders at Roxbury Community College to announce more than $17 million in funding for life sciences-related capital projects and nearly $800,000 in grants to purchase equipment and supplies for high schools and middle schools in the Greater Boston area.

“Massachusetts’ flourishing life sciences community has created opportunities and spurred economic growth in every region of the state,” said Governor Charlie Baker. “These grants from the Massachusetts Life Sciences Center will further strengthen our workforce in order to meet the needs of this growing industry through enhanced training facilities and programs at our middle schools and high schools.”

The capital grants were awarded to educational institutions and medical centers in Boston and Cambridge, including $3 million in funding for Roxbury Community College (RCC) to upgrade and equip its currently outdated lab training facilities. Other institutions and programs that are receiving grants include the Boston University Business Innovation Center, Boston University Medical School and Boston Medical Center, Boston Children’s Hospital, the Forsyth Institute jointly with Brigham & Women’s Hospital, Just-A-Start (JAS) Corporation and the Massachusetts Institute of Technology (MIT).

Roxbury Community College will use its $3 million in grant funding to build additional science labs and renovate existing lab space for its new Life Sciences Institute (LSI). RCC plans to upgrade its outdated facilities for approximately 1,100 students enrolled in Anatomy and

Physiology, Biology, Microbiology and Chemistry to better prepare them for their Biotechnology courses. The renovations will play a significant role in promoting an environment that fosters innovation and undergraduate student research at RCC, which is critical to maintaining student's interest in the life sciences. RCC's student body is predominately made up of students of color and immigrant communities, uniquely positioning the College to fill the need for a diverse, well-trained and local life sciences workforce. The RCC believes the LSI will be a great asset to the Roxbury community by helping people of all ages in urban communities recognize the value of the life sciences sectors and the wealth of opportunities they present.

"Thanks to the generosity of the Massachusetts Life Sciences Center, RCC now will be able to upgrade and expand classrooms and laboratories for the benefit of our students as they pursue opportunities in the Life Sciences fields," said Dr. Valerie Roberson, President of RCC. "The grant will help to prepare them to join the skilled life sciences workforce across the Commonwealth."

The Boston University Business Innovation Center was awarded $363,750 to convert current office space to laboratory space dedicated to fulfilling the needs of start-ups in the biophotonic field. The new laboratory will provide facilities and space for up to four companies. The Boston University Photonics Center (BUPC) is a national leader in biophotonics research, a life sciences specialty that uses light to understand cellular behavior and to diagnose and treat diseases.

"We are grateful for the award from the Massachusetts Life Sciences Center for improvements to the Business Innovation Center, and for their support of innovation and economic development in the State," said Thomas Bifano, Director of the Boston University Photonics Center which houses the Business Innovation Center. "The Innovation Center has a track record of success in technology transfer and job creation that has helped retain the pipeline of talented engineering and science graduates in the state. This award will further enhance our reputation as a leader in commercialization of biophotonics technologies."

Boston University's Biomedical Laboratory and Clinical Sciences (BLCS) Program, offered by Metropolitan College in collaboration with the School of Medicine, received $180,000 in funding to enhance the quality of the training and add to the competencies of the students. The funding from MLSC will enable the BLCS program to obtain essential equipment: a small bioreactor, an HPLC protein chromatography unit and a small bench top fluorescence activated cell analyzer, as well as to implement an electronic laboratory information and management system to train students for the changing environment for record keeping in the biotech industry.

Boston University and Boston Medical Center were awarded $1,740,000 to launch an expansive Lung Regeneration Initiative (LRI) as part of their Center for Regenerative Medicine. The goal of the LRI is the clinical application of recent BU-led discoveries in stem cell research, such as the treatment of lung diseases with personalized therapeutics, as well as the ultimate reconstitution of diseased lung epithelia in patients with emphysema. The LRI also aims to define and launch treatments for pulmonary fibrosis, pulmonary hypertension, cystic fibrosis, and acute lung injury from inhaled pathogens.

"We are delighted that both the Center for Regenerative Medicine (CReM) at Boston Medical Center (BMC) and Boston University School of Medicine as well as the Biomedical Laboratory and Clinical Sciences (BLCS) Program have received this honor from the Massachusetts Life Science Center," said Karen Antman, MD, dean of Boston University School of Medicine and provost of Boston University Medical Campus. "Their investments in these programs will help patients with pulmonary hypertension, cystic fibrosis, and acute lung injury as well as provide

students with the necessary equipment as they train for careers in the biotechnology field," she added.

Boston Children's Hospital received nearly $2.2 million to enable an existing human neuron differentiation service to merge with an existing cellular assay development and screening core in a newly renovated core facility called the Human Neuron Core. The 1,500 square foot facility will be used to house personnel and newly purchased equipment that supports standardized phenotypic characterization of neurons and drug screening. The facility will be large enough to support requests from the basic and clinical research community within and outside of Harvard Medical School. The creation of this new resource at BCH will accelerate research into new treatments that will specifically benefit children with neurodevelopmental, psychiatric and neurological disorders to broadly facilitate new avenues of research for clinical investigators who lack direct experience in stem cell biology.

"Boston Children's is thrilled to continue our strong partnership with the state of Massachusetts and their ongoing support of life sciences," said Gus Cervini, Vice President, Research Administration, Boston Children's Hospital. "It's exciting for us to accelerate research into new treatments that will benefit children with neurodevelopmental, psychiatric and neurological disorders."

The Forsyth Institute and Brigham & Women's Hospital were awarded over $4.8 million to fund the creation of the Massachusetts Host-Microbiome Center, which will accelerate practical understanding of how personal microbial communities interact to promote health or cause disease. The funding will be used for critically needed equipment and facilities that will help the Center create construction, equipment manufacturing and research jobs, training opportunities, and also generate intellectual property for licensing or development into spin-off companies that commercialize microbial and anti-inflammatory-based therapies and products. The project draws upon unique expertise among state institutions that have pioneered functional systems to identify causative effects of microbial communities *in vivo*, namely the Forsyth Institute, Brigham & Women's Hospital, Boston Children's Hospital and the Harvard Digestive Diseases Center.

"MLSC's funding of the Massachusetts Host-Microbiome Center will further the use of functional models and new clinical trials to define the microbiome's role in heath and disease, while fostering new academic and industry collaborations, and ensuring Massachusetts' leadership role in functional microbiome applications," said Lynn Bry, MD, PhD, Associate Pathologist, Brigham and Women's Hospital.

Just-A-Start Corporation (JAS) received $54,991 to improve classroom technology and equipment for its Biomedical Career Program (BCP). The BCP provides opportunities for low and moderate income adults to obtain entry level positions and increase their earning potential. The biomedical industry is able to hire from a diverse group of prepared graduates of this free nine-month program. Participants receive academic training in science and technology and laboratory skills and a certification in collaboration with Bunker Hill Community College. "The equipment funding from MLSC has been critical to assuring students in our Biomedical Career Training Program have the laboratory and computer skills needed in a competitive and demanding job market," said Deborah Ruhe, Executive Director of Just-A-Start Corporation.

MIT received $1,838,000 in funding for a project aimed at establishing new genetic models for brain disorders research. The project will take advantage of the recently developed CRISPR technology, a powerful method for making precise genetic changes in living cells and organisms. The focus of the project is on psychiatric disorders, which are among the most

disabling yet poorly understood human diseases, but the technology platform will be widely applicable to many questions in basic and translational neuroscience.

“We are very grateful to the Massachusetts Life Sciences Center for this award, which will help us to establish a major new program for genetic modeling of human psychiatric disorders such as autism, schizophrenia and depression,” said Guoping Feng, Ph.D., Poitras Professor of Neuroscience at MIT. “Brain disorders represent a huge societal burden and cause untold suffering, yet they are among the least understood of all diseases. Fortunately, this is now starting to change, as advances in human genome research are revealing the genetic risk factors that contribute to these conditions, With this new program at MIT we hope to understand how these genes affect brain function, and ultimately to contribute to the development of new and better treatments.”

“Roxbury Community College plans to use our grant to add state-of-the art training facilities to the campus and enhance life sciences training opportunities for the diverse student population that RCC serves,” said Dr. Susan Windham-Bannister, Ph.D., President & CEO of the MLSC. “Similarly, our grants to the high schools and middle schools will help provide students with access to cutting edge equipment and state-of-the-art training facilities. The Life Sciences Center also uses our capital dollars to enable the creation of unique resources that are available to the Massachusetts life sciences community, and the cutting edge projects that we are funding at Boston and Cambridge research institutions are great examples of that.”

The equipment and supply grant recipients that were also announced today include vocational technical schools, public high schools and middle schools, and workforce training organizations that support such schools. Awardees provide an array of training ranging from general STEM education curricula to biotechnology. The student population that will benefit from these equipment grants represents a diverse workforce.

The STEM Equipment and Supplies Grant Program, launched in 2011, has previously awarded more than $8.4 million to 61 different high schools and organizations throughout Massachusetts and leveraged more than $1 million in matching funds from the life sciences industry.

The schools and programs in the Greater Boston region that are receiving awards, the city or town in which they are located, and the amount of their grant are as follows:

Brooke Charter Schools (East Boston; Mattapan; Roslindale)	Boston	**$48,000.00**
Codman Academy Charter School	Boston	**$8,830.00**
East Boston High School	Boston	**$88,230.00**
Massachusetts Biotechnology Education Foundation (MassBioEd)	Cambridge	**$139,999.00**
Cambridge Rindge and Latin School	Cambridge	**$50,000.00**
Everett High School	Everett	**$99,949.22**
Breed Middle School	Lynn	**$50,000.00**
Lynn Vocational Technical Institute	Lynn	**$99,908.00**
Thurgood Marshall Middle School	Lynn	**$50,000.00**

Medford Vocational Technical High School	Medford	**$99,979.00**
Quincy Public Schools (Atlantic; Broad Meadows; Central; Point Webster; Sterling)	Quincy	**$49,688.95**

“Thanks to the Massachusetts Life Sciences Center, Quincy Public Schools will be able to make significant enhancements to our STEM offerings at the middle school level through investing in state-of-the-art technology and curriculum materials for our Engineering Technology program,” said Richard DeCristofaro, Superintendent of Quincy Public Schools. “The impact of this grant will affect all Grade 8 students at our five middle schools.”

About the Massachusetts Life Sciences Center

The Massachusetts Life Sciences Center (MLSC) is an investment agency that supports life sciences innovation, research, development and commercialization. The MLSC is charged with implementing a 10-year, $1-billion, state-funded investment initiative. These investments create jobs and support advances that improve health and well-being. The MLSC offers the nation’s most comprehensive set of incentives and collaborative programs targeted to the life sciences ecosystem. These programs propel the growth that has made Massachusetts the global leader in life sciences. The MLSC creates new models for collaboration and partners with organizations, both public and private, around the world to promote innovation in the life sciences. For more information, visit www.masslifesciences.com.

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