

BU and Johnson & Johnson Innovation Team Up to Fight Lung Cancer

New Medical Campus center hopes to speed development of interventions and cures

IN WHAT BOSTON UNIVERSITY President Robert A. Brown envisions as a model for industry and academia collaborating to improve human health, BU has launched a five-year translational research alliance with Johnson & Johnson Innovation LLC (JJI) aimed at preventing, intercepting, and curing lung cancer, the leading cause of cancer deaths worldwide.

As part of the new alliance, Johnson & Johnson Innovation will fund a Johnson & Johnson Innovation Lung Cancer Center at Boston University on the Medical Campus, where BU researchers will work closely with members of the Lung Cancer Initiative within Johnson & Johnson to develop biomarker-based early-screening tests for lung cancer, as well as therapeutics to arrest or eradicate the disease in its earliest stages. The goal is to combine the resources of healthcare giant J&J with expertise at Boston University to speed the development of interventions and cures.

Avrum Spira (ENG'02), a School of Medicine professor of medicine, pathology, and bioinformatics, and a pioneering researcher in the genomics and early detection of lung cancer, will direct the new center. Spira, who for several years has been consulting on lung cancer and chronic obstructive pulmonary disease (COPD) research with Janssen Research & Development, the pharmaceuticals arm of Johnson & Johnson, has joined JJI as global head of the Lung Cancer Initiative within J&J, which will be based at the new center at BU.



MED's Avrum Spira (ENG'02), will direct the new Johnson & Johnson Innovation Lung Cancer Center at Boston University.

“Building solutions that prevent and intercept disease requires very close collaboration between academic researchers and industry,” says Spira. “We need better and more rapid alignment of discovery with clinical application and development experience to bring forward important new diagnostic and therapeutic approaches.” The new alliance between BU and JJI, he says, “will help identify novel technologies and approaches that support this new vision.”

The alliance between BU and JJI—and additional research funding from JJI—seeks to build upon collaborative programs related to two extensive lung cancer

research studies. These projects involve teams of cancer researchers from multiple universities and medical institutions across the United States and Europe, with BU as the lead site and Spira as the lead investigator.

The first project, Detection of Early Cancer Among Military Personnel, involves a translational research consortium that was established by the US Department of Defense seven years ago and is now cofunded by the National Cancer Institute and Janssen. The consortium of four military hospitals, seven VA hospitals, and several academic medical centers is building a cohort of more than 1,000

military personnel, veterans, and civilians at high risk for lung cancer, and discovering how different types of biomarkers can improve lung cancer screening and early detection.

In the second project, which originated four years ago with funding from Janssen, Spira and his collaborators are developing a precancer genome atlas (PCGA) to characterize the earliest cellular and molecular changes in the airway and lung that lead to invasive lung cancer, in order to identify which precancerous lesions are at highest risk of progressing to lung cancer and uncover novel therapeutic approaches that will block the development of these abnormal tissues into lung cancer. The PCGA project received additional funding when Spira was named to lead the nonprofit Stand Up To Cancer multidisciplinary lung cancer interception dream team last year.

The alliance also envisions that pilot programs developed by teams from across Boston University will be selected and advanced with close collaboration from Johnson & Johnson Innovation.

Because it is extremely difficult to diagnose before it has metastasized, lung cancer is the leading cancer killer of men and women in the United States.

“We are very pleased to have the opportunity, working with a great partner, to develop new therapies and screening methods and to reduce the time between invention and bedside application,” Brown says. “I am confident that the alliance between J&J and BU will produce life-saving, life-changing breakthroughs and will become a model for how a research university can collaborate with a great corporate partner.”

In his new role, Spira has stepped down as director of the Boston University–Boston Medical Center Cancer Center. He has also divested his financial interests from two compa-

nies he helped start, AllegroDx (acquired by Veracyte Inc.) and Metera Pharmaceuticals. A pulmonary physician-scientist who earned an MS in bioinformatics at the College of Engineering, Spira will retain his academic appointments—Spira is also Alexander Graham Bell Professor of Health Care Entrepreneurship—and will continue to serve as principal investigator on several grants within his lab and direct the section of computational biomedicine and to care for patients in the Medical Intensive Care Unit at Boston Medical Center.

JJI plans to renovate space on the Medical Campus—close to Spira’s lab—for the new center, which will include a team of J&J scientists and businesspeople. The alliance is intended to bypass a discouraging pattern familiar to Spira and other academic researchers: the maze of scientific, clinical testing, regulatory, and other obstacles that academic scientists must navigate to bring their basic science and discoveries to commercialization. This pattern is encountered so often that the researchers have a name for it: the valley of death.

Without preexisting industry ties, it took Spira and colleague Jerome Brody, a MED professor of medicine emeritus, nearly 10 years to get their discovery—a genomic biomarker for a relatively noninvasive early-detection test for lung cancer—to patients. Struggling to raise venture capital funding, in 2007 they started their own small company, AllegroDx. AllegroDx was eventually acquired by a larger company, Veracyte, which made the diagnostic test Percepta available to the first patients in 2015 and received a Medicare coverage decision in 2017.

“That’s the one scientific discovery from my lab that’s made it all the way into patients and is impacting care,” says Spira. “I want to do that again.” **SARA RIMER AND ART JAHNKE**

ROBERT A. BROWN EXTENDS CONTRACT

**President accepts trustees’
unanimous request to sign on
until 2025**

President Robert A. Brown, whose 13 years of leadership have transformed the campus and elevated the profile, ranking, and endowment of Boston University, has agreed with the Board of Trustees to extend his contract for five additional years. Brown’s contract, previously scheduled to conclude on July 31, 2020, now runs through July 31, 2025.

Kenneth Feld (Questrom’70), chair of the Board of Trustees, says the board’s decision was unanimous and enthusiastic. “We all thought if Bob Brown were interested in staying on it would be the best thing for the University,” says Feld. “Bob has been president for 13 years, and when you look at how far Boston University has come in that time, it’s amazing. The Moody’s ranking is higher than it’s ever been; there are 64,000 applicants for the freshman class; *U.S. News & World Report* has ranked BU 37; the success of the campaign is well ahead of what anyone projected; and just look at the major research that’s being done. The executive team and the academic team that he put together are all part of this success.

“The list is too long to mention,” Feld adds. “The board sees all this, and they want Bob to continue to lead the way. We’re fortunate that he said yes, because there is still a lot of work to do.”

“I am honored that the Board of Trustees supports the direction and momentum of Boston University and that they have the confidence in me to continue to lead this great institution,” says Brown. “I can think of no better way to conclude my academic career than to help this University continue to grow in quality, impact, and recognition. Beverly and I feel very good about the enormous progress of the University, driven by our faculty and staff, and we are excited about being part of the future of Boston University.” AJ

