

The Business of Innovation and Local Biomedical Research Initiatives

A device to measure respiratory function in infants. Tools to make surgeries quicker and recoveries easier. Biological and targeted therapies to prevent and treat cancer, heart disease and stroke. Developed within a few miles of one another along the 315 Research and Technology Corridor, these kinds of breakthrough medical treatments and technologies are improving the quality of health care for thousands around the globe.

The process of technology transfer in the life sciences, advancing medical discoveries, therapies, procedures and research tools from lab-scale to commercial-scale, requires the collaboration of research scientists, physician investigators, clinicians and business development professionals across many disciplines and many locales. Doing it successfully requires business acumen, legal and regulatory know how and a systematic administrative approach to commercialization. With federal funding for bioscience and medical research initiatives on the rise at major local institutions and millions of dollars in state and local support committed to the region through the Entrepreneurial Signature Program (ESP), one might say Central Ohio has it down to a science.

The recently-incorporated OhioHealth Research Institute (OHRI) is one example of how hospital administrators are working to capture and to disseminate medical innovations and bioscience discoveries. The creation of the research institute provides a systematic way to accelerate the development and commercialization of the considerable research efforts going on in the operating rooms, clinical settings and laboratories all across the OhioHealth system.

"The research institute is the funnel through which the many discoveries and innovations developed at OhioHealth facilities can flow," said OHRI Director John Niles. "We provide the organizational framework and administrative services our physicians and clinicians need to develop their creative ideas more fully so improvements in patient care, diagnostics and treatments can be realized more quickly."

With close to 600 clinical trials currently underway, OhioHealth has a broad research portfolio supported



by a strong commitment to community stewardship. OHRI ensures healthcare professionals have access to the most current studies with potential impact on their patients and facilitates participation by those who can most clearly benefit from and who are most interested in participating in clinical trials.

"We are dedicated to providing the best healthcare possible for our communities," Niles explained. "OHRI will help ensure that care continues to move to unprecedented levels of quality across the board."

The Columbus Children's Research Institute (CCRI) at Columbus Children's Hospital was created in 1964 to support biomedical and behavioral research activities on the hospital campus. Today CCRI is considered among the top pediatric medical research organizations in the United States and ranks ninth in National Institutes of Health funding for freestanding pediatric research institutes.

"Research is an integral component of Children's mission," says John Barnard, MD, president of CCRI. "In order to provide the absolute best care to children of central Ohio and beyond, it is important that we aggressively pursue new ways to prevent, treat and cure disease."

While research institutions receive hundreds of new invention disclosures each year, *Higher Education* reports that only about 12% of technology licensed out

of universities or biomedical research facilities is ready for commercialization. The majority requires ongoing development work. Sometimes this is accomplished through sponsored research or pre-licensing agreements with major pharmaceutical or medical device companies, but this "gap" funding has been increasingly difficult to find, especially in the Midwest. Central Ohio, however, is seeing an encouraging response from the state, local investors and organizations like TechColumbus and Omeris, which are helping match innovators with available pre-seed funds to advance their ideas toward commercialization.

Historically licensing to commercial partners has been the most common method to move university or publicly-funded research into the commercial arena. In recent years, however, more and more universities and research institutes are using entrepreneurial spin-offs or technology-based start-up companies as a mechanism of commercialization.

"Children's is dedicated to finding the most effective way to transfer our discoveries to the benefit of children," says Julie Amling, MHA, director of business development. "Often, this is done by teaching and publishing. When a commercial partner is needed, we typically pursue license agreements or sponsored research agreements with an option to license. The new ESP now provides us with an opportunity to pursue start-ups as a strategy."

The Ohio State University is the behemoth of local medical and bioscience research initiatives in terms of federal research dollars. The Technology Licensing and Commercialization (TLC) Team is responsible for accelerating commercialization for all university campuses, colleges and departments.

"Our office works with investigators from the very early stage to guide, to facilitate and to enable the advancement of research which may have significance in the non-academic world," explained Dr. Jean Schelhorn, associate vice president for commercialization. "Working hand-in-hand with the faculty, staff and student innovators, we take a proactive role, identifying the possible commercial outlets and potential for inventions, and determining how best

**Central Ohio Region
receives additional
\$2 million ESP Award.
For more information:
www.columbusweek.org**

to proceed in the interest of both the technology and the investigator. It is our objective to contribute to the economic development of the State of Ohio, the region and the world by moving appropriate technologies out of the university setting and into the private sector."

Using the generally accepted standard that roughly \$100 million in research dollars should net one start-up company per year, Schelhorn anticipates OSU will continue to spin-off five to six start-ups annually, as it has on average since Ohio Senate Bill 286 took effect in 2000.

The technology transfer and commercialization activities at leading local healthcare institutions provide strong incentives for practitioners to pursue innovations. Innovation attracts talent and talent brings opportunity. Accelerating the discovery process and shortening time to market are two key ways Central Ohio is building a name for itself as a center of medical and bioscience excellence.

CALENDAR *of events*

TechColumbus Events

January 18, 5:30 p.m.

TopCAT Awards Ceremony
Columbus Convention Center

R.S.V.P. at www.techcolumbus.org

GET *Connected*

Ted Ford
President & CEO
tford@techcolumbus.org
614-340-3353

Tim Haynes
Vice President, Member Services and Marketing
thaynes@techcolumbus.org
614-340-1698

Steven Clark
Vice President, Business Incubation Services
sclark@techcolumbus.org
614-675-3714

Will Indest
Vice President, Capital Access and Formation
windest@techcolumbus.org
614-487-3700

Cindy Groeniger
Director, Member Services
cgroeniger@techcolumbus.org
614-340-1697

1275 Kinnear Rd. Columbus, Ohio 43212
614.487.3700 • www.techcolumbus.org

Featured Companies at the TechColumbus Incubator

The TechColumbus Incubator is home to ten early-stage bioscience or medical technology start-ups. Four are spin-offs from hospital, university or medical research institutes.

Clevex

Clevex is developing a specialized suite of surgical devices for the removal of moles and skin lesions for cosmetic, prophylactic or diagnostic purposes. Clevex is a promising new client of the Business Incubation Services program. With FDA approval pending on a fully-engineered prototype, Clevex has been approved for its first round of angel funding with the Ohio Tech Angels Fund, is in due diligence with the newly-formed Northcoast Angels Fund, and has verbal commitments close to \$1.5 million from private equity sources. Clevex is a clinically-based spin-off of the Cleveland Clinic Foundation.

Minimally Invasive Devices (MID)

MID is developing a suite of surgical devices to improve the quality of both patient outcomes and physician performance in minimally invasive surgery. The first product from MID, ClearVu, is a

disposable lens cleaner and defogger for laparoscopic surgical tools. MID developed an engineered prototype in its simulation lab at the incubator and has just completed a first round of angel funding which should net around \$800,000 in private investment. Leading investors include the Ohio Tech Angels Fund, Queen City Angels and NCT Ventures. The CEO and lead product developer, Dr. Wayne Poll, a surgeon and the holder of several other medical device patents, is the Director of Robotic Surgery at OhioHealth.

InVasc Therapeutics

InVasc Therapeutics, an Atlanta-based medical research company, is establishing a laboratory research facility at the TechColumbus incubator. InVasc specializes in target-specific drug discovery and has several potential drug therapies at the pre-clinical stage in its pipeline of molecular research toward the prevention and treatment of vascular disease. InVasc has developed a proprietary approach to drug discovery that uses molecular structures and an application-based platform that dramatically

decreases the time and expense of current large scale "mining" discovery techniques. The InVasc process is the result of university-based research at Emory University and The Ohio State University. The company was referred to the incubator by OSU's Technology Licensing and Commercialization office.

OncoImmune

OncoImmune develops therapeutic technologies for multiple sclerosis, tuberous sclerosis, and cancer through research in functional genomics, immunology and oncology. Focusing on completely novel therapies and working from strong portfolio of proprietary technologies discovered by the company's physician-founders, prominent scientists from The Ohio State University, Washington University at St. Louis, and the University of Michigan. OncoImmune has signed option and license agreements from OSU and the University of Michigan and operates a specialized research laboratory in the incubator.

PROUDLY SPONSORED BY:

