

ENTREPRENEURIAL INVESTMENT

IU Adds Philanthropic Venture Fund



By Jason Whitney

Launched in March 2018, the Indiana University Philanthropic Venture Fund (IU PhV) is one of the ways IU supports innovation in Indiana. The Fund makes equity investments into venture quality, early-stage companies that license intellectual property discovered at IU, are founded by an IU alumnus or faculty member, or have an IU alumnus in a key C-suite position.

The experience of the diverse management team at the IU PhV provides critical resources to develop faculty-founded ventures including relationships from decades of start-up, licensing, pharma and venture experience.

Over the course of the past 18 months, the team has reviewed over 180 opportunities for investment and has transacted on investments into 12 start-ups. The investments provide for potential returns for future funding, unique alumni engagement opportunities and the ability to create new strategic partnerships for the university throughout Indiana – as well as the rest of the country.

In addition to IU intellectual property-based spin-outs NERx, Vascugen, Care Revolution and MBX, the ever-growing portfolio also includes high-profile IU alumnus-led, Indiana-based companies like Encamp, Doxly, Diagnotes and OpenMartech. There are also national companies like NuCurrent and Mentor Collective.

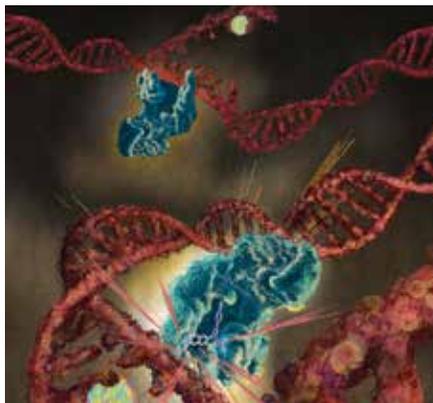
Strategic alliances throughout the Midwest have assisted the IU team in supporting the development of entrepreneurial ecosystems around the state. The IU team has engaged with leaders at 16 Tech in Indianapolis, Electric Works in Fort Wayne, Launch Fishers in Fishers, ZWorks in Zionsville, Union 525 in Indianapolis, Dimension Mill in Bloomington and The Root in New Albany.

An example of the full-scale involvement of the IU Ventures team is Indianapolis-based NERx BioSciences. NERx is based on a portfolio of patents licensed from the IU Innovation and Commercialization Office (ICO) and funded initially by SBIR awards (non-dilutive federal funding). The NERx team, with a desire to advance the commercialization of its research and take a product to market to address unmet needs in cancer treatment, reached out to IU for assistance.

The NERx and IU teams worked together to develop an investment case, achieve approval from the IU Ventures investment committee, engage additional investors and recruit a CEO for the company. Another example is Bloomington-based Ziptility, a new software company supporting water utility infrastructure management. Again, the IU team worked together with the company to develop an investment case and raise the first round of investment.

The IU PhV measures success in a variety of ways:

- Our portfolio companies as measured by equity realizations that provide financial returns to IU (via the IU PhV) for reinvestment as well as returns to our co-investors
- Successful company teams that engage again in new ventures
- Engagement of alumni in our efforts
- Diversity of management teams in portfolio companies
- Dollars raised by portfolio companies in addition to our investment
- Donations to the IU PhV



NERx Biosciences focuses on new therapeutics for cancer. Shown is an artist's rendering of the company's drug (molecule) that is "docked" in a targeted protein.

Purdue Provides Variety of Resources

By Cynthia Sequin

Purdue, like many universities across the United States, took advantage of the Bayh-Dole Act of 1980 (see more on Page 14) and has become a national leader in start-up creation. Purdue innovations are used in all 50 states and in more than 100 countries.

Since 2014, Purdue has generated a total of 223 start-ups, more than \$350 million in funding and investments, and 300-plus new jobs. More than 80% of these start-ups are still active. Of those, 130 have licensed Purdue intellectual property. National and international companies acquired nine of the start-ups for a total of \$2.3 billion.

The success of these start-ups is attributed to a number of factors that include strong entrepreneurial leadership, company creation assistance, business plan development, networking events, funding and investments, grants, marketing assistance and industry relationships.

Akanocure Chemicals is one Purdue-affiliated start-up that received assistance through the university's commercialization programs. Akanocure was co-founded by Sherine Abdelmawla, Mohammad Noshi and Philip Fuchs.

"We are trained scientists and entering the entrepreneurial world was daunting, but something we very much wanted to do," Abdelmawla says. "The support we received from the Purdue Foundry and Office of Technology Commercialization has been invaluable. We would not be where we are today without their support and guidance."

Akanocure, a pharmaceutical

182	26	15	\$3.85M	\$28.08M
Opportunities Reviewed	Investment Committee Proposals	Investment Committees	Invested in 12 Companies	Amount of funding our portfolio companies raised in syndicated rounds with our funds

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company, is developing chemical tools and platforms to produce valuable chemical building blocks. It received funding from NSF Small Business Innovation Research, Elevate Ventures, Purdue Ventures and private angel investors that totals about \$750,000.

Another of the many start-up stories is Heliponix, co-founded by Purdue Polytechnic Institute alumni Scott Massey and Ivan Ball while they were undergraduates at Purdue. Their technology uses a fully automated aeroponic appliance that can grow clean produce using an in-home greenhouse that creates perfect climate conditions for a variety of crops – including spinach, cilantro and arugula.

“We’ve traveled to Africa to help establish programs to grow garden vegetables year-round and to lead a hands-on workshop to help residents of Togo, a small West African country, create sustainable agriculture methods,” Massey shares. “We wouldn’t have done any of this without Purdue and its assistance and resources.”

The company just received \$50,000 through the Purdue Ag-celerator program that provides funding for plant sciences start-ups.

Entrepreneurial events and space provided to entrepreneurs by Purdue include showcases to highlight new innovations, business competitions, start-up weekend programs, visiting motivational speakers, after-hours networking opportunities and low-cost co-working space.

Innovation and commercialization

Core to any start-ups’ success is research, intellectual property protection and licensing deals. As Indiana’s land-grant university, Purdue’s Office of Technology Commercialization (OTC) oversees one of the most comprehensive technology transfer programs among leading research universities in the U.S. OTC protects, markets and licenses Purdue’s intellectual property.

The professionals in the department work hand in hand with Purdue faculty, staff and student entrepreneurs to provide the resources to move an innovation to an actual product or service. OTC also works with non-Purdue start-ups and major companies to license available technologies. In fiscal year 2019, it licensed 231 technologies.

Making an impact

The Purdue Foundry, established in



Adranos (left) is focused on developing the next generation of propellants, explosives and other energetic materials. Heliponix has received widespread recognition for its in-home greenhouse produce solution.

2013, is a full-scale entrepreneurial accelerator that takes a start-up from idea to impact. The Foundry, located in Discovery Park’s Burton D. Morgan Center for Entrepreneurship, provides assistance for entrepreneurs with business plans, product ideation, market analysis, funding, grant writing, networking opportunities, start-up competitions and more.

One of the first steps for Foundry clients is the Firestarter program, which helps inventors/founders find the value proposition of their idea. The program gives clients the opportunity to explore potential markets, customers and financial models.

The Foundry’s entrepreneurs in residence advise client companies through the development of a commercialization plan. These experienced entrepreneurs bring both industry and management experience. They have led start-up companies and understand the steps needed to develop a sustainable business model.

Funding opportunities

Securing funding and investments is one of the most challenging aspects of entrepreneurship. A number of funding sources provided for Purdue start-ups include:

- Trask Innovation Fund supports short-term projects that will enhance commercial value of Purdue’s intellectual property assets

- Ag-celerator, an innovation fund designed to provide critical start-up support for Purdue innovators who wish to commercialize patented intellectual property technologies in plant sciences
- Elevate Purdue Foundry Fund is operated jointly by the Purdue Foundry and Elevate Ventures to further expedite the translation of life-changing intellectual property to commercial sectors
- Foundry Investment Fund, a \$12 million not-for-profit fund, seeks to join with other investors to fund companies that are based on Purdue technology or expertise in the areas of human and animal health as well as plant sciences. This fund provides a match to outside investors’ funds
- The Purdue Startup Fund is a \$5 million matching program to provide a 1:1 match for gifts to this fund, resulting in more than \$10 million to expedite and generate even more commercialization and start-up creation

“It’s not a single entity, but a movement across campus built upon Purdue’s very rich pipeline of cutting-edge technologies and the commitment that the people at Purdue have to serving its land-grant mission,” relays Greg Deason, senior vice president of entrepreneurship and placemaking. “It is amazing to be part of such a dynamic movement of turning ideas into true global impact.”