

Investing in Academic Research

IP is a key component in the innovation cycle, especially for university technology transfer programs.

Universities are hotbeds for research and new ideas. From 1996 to 2019, the world saw approximately 16,000 new startups based on academic research, with more and more entrepreneurial endeavors joining that number each year. Enabling, supporting, and funding this continuous and critical cycle of innovation requires a system that utilizes technology transfer programs and public-private partnerships, and a vital part of that system is intellectual property (IP) protections.

Jeff Depp is a PhD candidate at the University of Pittsburgh Graduate School of Public and International Affairs and a registered patent attorney whose background includes university technology transfer, trade organizations, and the pharmaceutical industry. His work connects him with inventors, physicians, and patients, offering a unique perspective of the innovation cycle.

At its core, the innovation cycle is a continuous circle involving funding, research and development, scaling up, manufacturing, distribution, and profit. Once profit is reached, money is funneled back into funding additional research and development. Thus, the cycle continues.

The innovation cycle is not unique to universities, but some have certainly mastered the process. First, labs, departments, and projects obtain initial funding from a variety

of public and private sources to research and develop multiple projects over a specified number of years. Given the use of shared resources and the fungibility of money, it is often difficult to trace the exact amounts utilized for specific projects within each lab or department, so allocations are used to determine project costs which are then disclosed to donors. Once an inventor discloses a raw, early-stage technology to the university's technology transfer office, the office, alongside the inventor, determines whether the project needs more development, additional funding for further refining, or to begin the patenting process.

In a first to file system like the U.S., it can be difficult to determine the best time to file a patent application for these early-stage technologies. Therefore, Jeff encourages utilizing provisional patent applications to ensure inventors have another year or so to further development before the non-provisional application is filed. Both applications are equally important, though. As Jeff said, "You want to have the most robust and broadest and strong application from your provisional, so that your priority application really supports you throughout the life of that technology. So that first application is really important. The foundation for the technology for its entire lifespan is built on that first application."



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But IP and technology transfer offices aren't just important for protecting innovations. Technology transfer offices exist to support the university's faculty and researchers and to move the technology forward. Furthermore, IP is vital for generating capital to further development, scale-up, manufacture, and ultimately distribute the invention. Universities will usually look for private sector partners once the non-provisional patent



application is filed. These potential partners take a hard look at the patent application, determining risks such as potential eligibility issues, threat of inter partes review filings, return on investment, existence of substitute products, or likelihood of copycat products, before deciding whether to invest in a spinout, license the technology, or pass altogether. Indeed, Jeff pointed out that, “IP is the first question the partner wants to know once they understand what the technology is. It’s the oxygen that the ecosystem lives on. The conversation ends if you don’t have it.”

Simply put, without IP, thousands of startups that started as ideas in universities would not exist.

Patients miss out on life-saving medicines. Frontline workers lack innovative solutions. The technology connecting our society and driving us forward would be only a dream.

Yet, despite IP’s critical role in the innovation ecosystem, it is repeatedly under attack from global policymakers. Now, more than ever, the world needs the innovative solutions these researchers and entrepreneurs can provide, and they can only offer these solutions so long as policy decisions support the IP environment that enables them. Jeff said it best, “Bad policy can devour even the very best science.” Policy like the Bayh-Dole Act exists to provide innovations the

opportunity to leave the lab and enter the marketplace to reach those who need them. But that can not happen without the support of IP protections.

Every aspect of the innovation cycle relies on IP protections. This is especially true for university technology transfer programs and spinoffs. The U.S. needs to protect America’s innovation ecosystem, and these public-private partnerships are a key component.

IP is paramount to enabling, supporting, and funding American research, innovation, and leadership in a wide variety of sectors. Therefore, strong IP policy strengthens America’s innovative entrepreneurs.



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