

Temple University

Research Development Report

Reporting Period:

July 1, 2013 – June 30, 2014

Commercial Development of Research

The Temple University Office of Technology Commercialization and Business Development (OTCBD) actively seeks partnerships with companies to commercialize Temple-owned inventions. Rights to commercialize an invention are negotiated and granted through royalty-bearing licensing agreements managed by OTCBD. Companies interested in exploring Temple's licensing opportunities can contact OTCBD to identify relevant opportunities.

Temple inventions generated \$326,628 in gross royalty revenue during the University's fiscal year ending June 30, 2014, totaling \$14,289,329 in the past three years. Pursuant to the Invention and Patent Policy, 40% of licensing revenue is distributed to the inventors, 20% is retained by OTCBD to support the cost of operation, and the remaining 40% is shared between the department, college, and Sr. Vice Provost for Research to stimulate further research and innovation. During FY2014, this resulted in cash payments of \$130,651 to inventors, \$65,326 to OTCBD, \$130,651 to the Senior Vice Provost for Research to stimulate further research, and \$65,325 to Temple departments and colleges. Since 1991, Temple has generated over 753 inventions, 257 awarded patents, 24 new companies, and \$26.3 million in licensing revenue.

Un-reimbursed patent costs (\$841,143) and other operating costs (\$438,932) brought the total cost of OTCBD to 1,280,075 in FY2014.

As a key component of the Temple Research Administration, OTCBD is the commercialization partner for the wider Temple University community including faculty, staff, and students. Temple faculty members drive the creation of new intellectual property through research funded by federal, state, and private organizations. OTCBD is responsible for managing these intellectual assets by evaluating, protecting, and enabling their commercialization through academic as well as corporate partnerships.

As new intellectual property is developed, OTCBD is the intake point to establish a formal record of disclosure using the Temple Invention Disclosure Process. The invention is evaluated according to a three-step review process designed to identify intellectual property with the highest probability for commercial success.

An appropriate intellectual property protection strategy is determined by OTCBD and Temple's patent counsel. Intellectual property protection enables individual marketing campaigns to identify potential commercial partners including large, small, and startup companies.

OTCBD Mission

The mission of OTCBD is to assist faculty, staff, and students to effectively evaluate, protect, and realize the transfer of commercially viable intellectual property to the marketplace and contribute to knowledge based economic development of the community and beyond.

Core Goals to Support Mission "CREATE"

Communicate technology development and commercialization benefits/opportunities internally within the Temple community

Recognize innovators for their valuable contributions to society

Educate Temple faculty, staff and students regarding the technology development and commercialization process

Attract funding to enable commercialization

Transfer technology through unique industry partnerships and programs

Energize the local, state, and national economy by introducing new products into the marketplace

Process

Temple OTCBD staff are members of the Association of University Technology Managers (AUTM) and Licensing Executive Society (LES) and actively participate in AUTM and LES conferences and events. OTCBD activity is measured in comparison with AUTM recommended practices, and benchmarked relative to leading academic research centers nationally. The commercialization activities and the speed of commercialization at Temple match, and in several respects surpass national best practice standards, including licensing revenue, which positioned Temple as one of the Top 30 universities in the nation in FY2013. While this assessment is obviously subjective, the performance described above provides useful supporting evidence. Thus, the proposed plan is, in essence, to continue and to refine current activities, especially those relating to technology development and new company incubation. To this end, OTCBD has launched a new business development and new ventures arm, incubation space, and a contracting team to streamline industry partnerships. In addition, OTCBD now benefits from an entrepreneur-in-residence that works with the Office of the Sr. Vice Provost for Research.

Within 60 days of disclosure of an invention, OTCBD must accept the rights and begin the patenting and commercialization process, or release the rights to the inventor. Within this time period, OTCBD conducts a patentability search and evaluation and, in parallel, preliminary marketing research. If the invention is accepted, OTCBD works with the inventors and outside patent counsel to prepare a U.S. patent application.

While the patent application is being prepared, OTCBD conducts a second, much more extensive, marketing research and search for potential licensees, and prepares (with the inventor's assistance) a non-confidential invention summary. Under normal circumstances, within days of the filing of the patent application, potential licensees are sent an offer to negotiate a license, which is accompanied by the non-confidential summary. Shortly thereafter, the non-confidential summary is put on the OTCBD web site (<http://www.temple.edu/research/otdc/index.html>) and presented at several events to attract entrepreneurs, investors, and potential corporate partners. Finally, the invention is discussed on the phone with OTCBD contacts at the most likely potential licensees, so as to ascertain their

level of interest. Because, the licensing process often is a long one, Temple (unlike many other universities) aggressively secures foreign rights by filing applications under the international Patent Cooperation Treaty (PCT) without licensee support, if necessary.

Forms of Agreements for Licensure

Temple has one single standard license agreement form that can be customized in a variety of ways to fit each particular licensing arrangement to accommodate the nature of the licensed patent (e.g., product or process) or of the financial arrangement (e.g., cash only, equity only, or a combination). OTCBD agreement forms are available at: http://www.temple.edu/research/otdc/otdc_industry.html.

Training Students and Health Professionals

Temple University has entered a number of agreements with other institutions to facilitate those students' transfer into and academic success at Temple. Along with other students, these agreements help students in the health sciences who are anticipating careers in the health professions.

Temple has established Institution-to-Institution agreements and Program-to-Program agreements with other institutions.

The Institution-to-Institution agreements include Dual Admissions agreements and GenEd-to-GenEd; Core-to-GenEd; and Core-to-Core agreements. The Dual Admissions agreements conditionally admit students to Temple at the same time they are admitted to a community college, and provide the opportunity for merit scholarships to Temple for eligible students. GenEd-to-GenEd, Core-to-GenEd and Core-to-Core Transfer agreements accept, upon Temple evaluation and approval, the general education requirements of Associate Degrees in lieu of most of Temple's Core or GenEd requirements.

The Program-to-Program agreements between Temple and other two-year institutions provide accurate curricular information for prospective transfer students and their academic advisors by aligning associate degree requirements with baccalaureate requirements.

Temple has entered into both Dual/Guaranteed Admissions and Core-to-Core or GenEd-to-GenEd Transfer agreements with nine community colleges (Community College of Philadelphia; Bucks, Delaware, Harrisburg Area, Lehigh Carbon, Luzerne County, Montgomery County, and Northampton Community Colleges; Burlington County College). Temple has entered into Core-to-Core or GenEd-to-GenEd Transfer agreements with five other community colleges (Camden County College; Gloucester County College; Mercer County Community College; Valencia Community College), and a Dual Admissions agreement with Reading Area Community College. In addition, Temple has established both a Dual Admissions and GenEd-to-GenEd agreement with Valley Forge Military College.

Temple has several program-to-program agreements specific to Nursing and Allied Health programs that define the articulation between community college degree programs and Temple

baccalaureate programs.

Commercial Research Development Training

Outreach to research faculty, staff and students is an important integral part of OTCBD's activities. OTCBD makes numerous presentations at department and college meetings on a rotating basis, and annually at new faculty and graduate student orientation sessions.

Much of the OTCBD web site (<http://www.temple.edu/research/otdc/index.html>) is devoted to acquainting Temple's research community with benefits of the Temple Technology transfer program. Researchers are able to view the Invention and Patent Policy, invention disclosure guidelines, links to patent search engines and other patent-related resource web sites, detailed outlines of the patenting and commercialization processes, start-up information.

In addition, OTCBD works with the Fox School of Business to increase education and awareness of startup resources for Temple researchers and business students.

This includes the new Blackstone LaunchPad program, which establishes a partnership between Temple, Philadelphia University and the University City Science Center to promote entrepreneurship as a viable career option and to provide students and alumni with the skills, knowledge and guidance to transform ideas into viable companies. This will be achieved by multiplying the connections between campuses, business communities and local entrepreneurs. It is open to all 41,000 students — regardless of major — at the two partner universities, Temple and Philadelphia University. Participants in the LaunchPad process establish a personal profile, complete a venture-assessment form, and receive individualized consultation and venture coaching.

Outreach to Business Regarding Recent Research Developments

Within days of the filing of the patent application, potential licensees are sent an offer to negotiate a license, which is accompanied by the non-confidential summary. Shortly thereafter, the non-confidential summary is put on the OTCBD web site and discussed at on-campus and off-campus sites and events. Finally, the invention is discussed with the most likely potential licensees.

Research Development Collaboration

Along with other area academic institutions, Temple works with the University City Science Center's QED program, BioStrategy Partners, Ben Franklin Technology Partners of Southeastern Pennsylvania, and BioAdvance to further develop technology. Through this activity, Temple collaborates with other institutions to minimize the risk associated with further technology development by business entities in promoting the development of health-related research in Southeastern Pennsylvania.

Temple also participates in other health-related initiatives involving health-related research in the communities of Philadelphia, including Philadelphia Safe and Sound. Temple's affiliation with

the Fox Chase Cancer Center will also provide opportunities for collaborative efforts to promote area biomedical research.

In addition, through research funded through the Commonwealth Universal Research Enhancement (CURE) program Temple is working directly with investigators from a number of Commonwealth academic and health care institutions, including, but not limited to:

Drexel University
Fox Chase Cancer Center
Lancaster General Hospital
Philadelphia College of Osteopathic Medicine
University of Pennsylvania
University of Pittsburgh
Western Pennsylvania Hospital

KIZ Participation

Temple University continues to be involved in the Keystone Innovation Zone (KIZ) program through its affiliation with BioStrategy Partners (BioSP). KIZs are geographically designated areas around college and university campuses that leverage resources made available through a KIZ Partnership and the Commonwealth of Pennsylvania. KIZs work with entrepreneurs, young companies, KIZ Partnership members and other partnering organizations to foster company growth through technology transfer; access to facilities, resources, and expertise; partnerships; and creative thinking. In FY2014, Temple University, Thomas Jefferson University, Penn State University, and the Lankenau Institute for Medical Research worked to transition BioSP into an academic commercialization consortium. BioSP is now governed by its member institutions and continues to operate a successful pharmaceutical partnering program that received its initial funding from the Commonwealth of Pennsylvania.