



TECHNOLOGY COMMERCIALIZATION ANNUAL REPORT

THE UNIVERSITY OF TEXAS SYSTEM FY 2011



Technology Commercialization Annual Report

At The University of Texas System, world-class research continues to lead to products and processes that have significant societal, cultural, and commercial value. Faculty and students at UT institutions, with the assistance of industry, investors, and technology commercialization professionals, help translate research findings into new applications, tools, and know-how to realize the full potential of research. At UT System, we help support commercialization activities by identifying investors in areas of research believed to provide high commercial interest and societal return, access entrepreneurial and leadership talent to drive innovation, communicate statistics and performance metrics to key stakeholders, provide shared services to our administrative staff to realize operational efficiency, and advisory services for all other areas.

By the Numbers

Total Research Expenditures	\$2,546,669,877
Number of Invention Disclosures	719
Total Patents Filed	599
Patents Issued	156
License Income	\$65,359,544
Number of Start-Up Companies	20

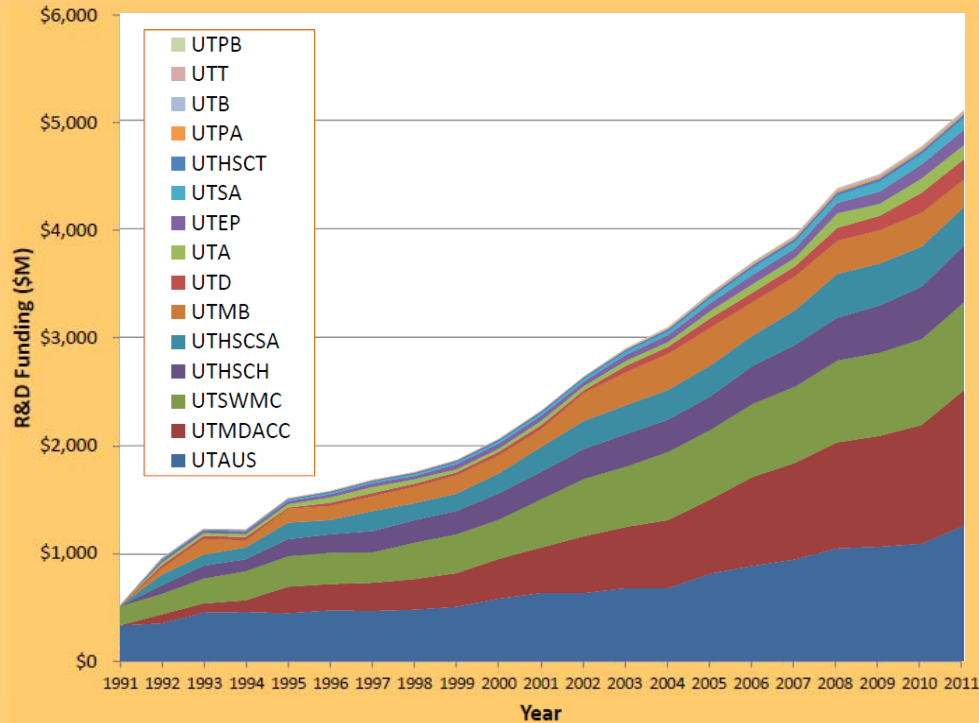
Though the UT System is second in the nation in terms of research expenditures, comparison to other university systems shows that it falls behind when it comes to generating returns on its investments. However, recent improvements in the UT System technology commercialization infrastructure have caused license income for UT to increase vastly over the past two years. For more information on UT System technology commercialization, please send an email to otc@utsystem.edu.

Where We Stand

Total Research Expenditures	Total Patent Applications	Issued Patents	Licenses	License Income	Start-Ups
UC System	UC System	UC System	UC System	City of Hope	UC System
UT System	MIT	MIT	Washington	Northwestern	MIT
Johns Hopkins	Johns Hopkins	UT System	Cornell	UC System	Illinois
MIT	Cal Tech	Wisconsin	Johns Hopkins	Sloan Kettering	UT System
Michigan	Stanford	Cal Tech	UT System	Columbia	Utah
Wisconsin	UT System	Illinois	Georgia	UT System (12th)	Columbia

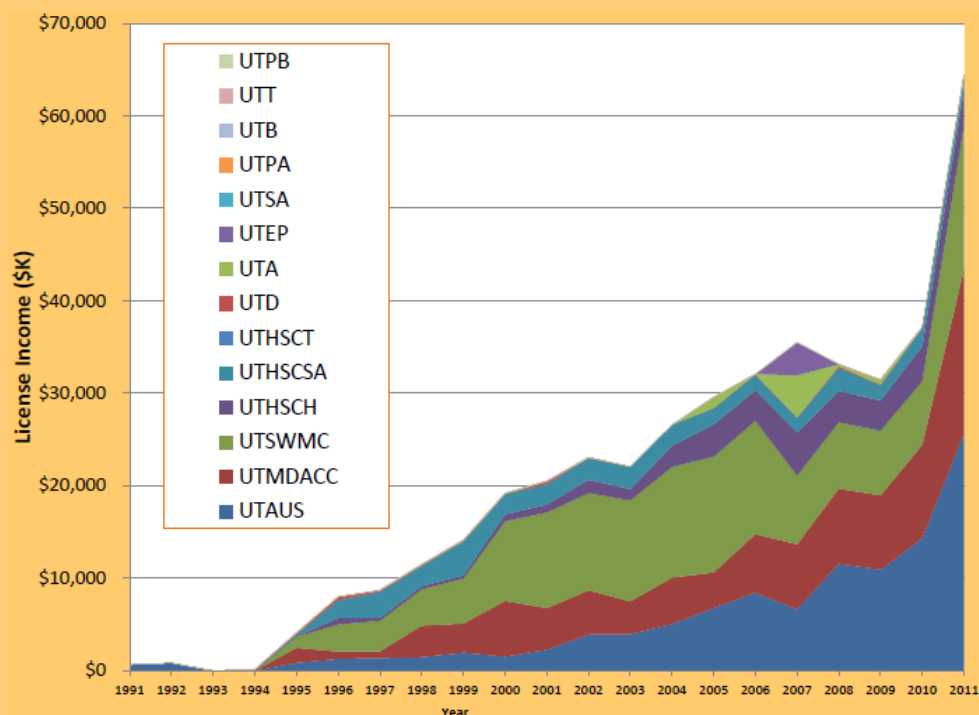
Research Expenditures Across UT System

In the past 20 years the UT System has vastly increased its research expenditures. Across the board, all 15 institutions have increased their research expenditures. This consistent growth indicates a strong supply of innovation and talent from within UT System with the challenge lying in translating the technologies generated by the research into profitable startups and licenseable patents.



License Income Across UT System

Most institutions have responded to this challenge well, with license income growing rapidly over the past two years at several major institution.





Terapio Corporation

Terapio Corporation is developing a pipeline of therapeutic applications based on the unique properties of RLIP76, a transport protein that helps move large molecules across the cell membrane. The company was founded in 2005 based on intellectual property developed at **The University of Texas at Arlington** by Dr. Sanjay Awasthi. Terapio's technology can be applied both as a radiation countermeasure and a drug delivery platform, which has been demonstrated in animal studies to significantly increase the overall survival after the exposure to lethal doses of radiation, even when administered after the radiation exposure. A second application is a very promising drug delivery platform.



Apollo Endosurgery

Apollo Endosurgery, Inc. is dedicated to revolutionizing patient care through the development of flexible surgery, which minimizes the trauma of surgical access by taking advantage of natural orifices to deliver surgical tools to targeted areas. Apollo was founded from a grant from **The University of Texas Medical Branch at Galveston's** Technology Commercialization Fund in 2007 and an exclusive patent license agreement with UTMB. Since then, Apollo has achieved FDA approval for its first device and substantial funding from several prominent investors, as well as the UT Horizon fund.



EMIT Corporation

The presence of hypothermia in trauma patients has been shown to double the mortality rate. Charles Cox Jr., M.D. and Brijesh Gill, M.D. from **The University of Texas Health Science Center at Houston**, aware of the tremendous impact hypothermia on trauma patients, co-invented and fabricated a working prototype of a portable fluid-warming device to overcome the limitations of available systems. The new device was designed to warm intravenous fluid and blood, or blood products, via a flameless hydrocarbon combustion process. Since the first prototype fabrication and invention disclosure, two patents have been issued and a startup company, EMIT Corporation, was founded in early 2009. EMIT announced in early 2011 that it had received FDA clearance to market the device in the U.S., now trademarked by the company as "HypothermX HX100."



Hydro-Québec

Lithium-ion technology developed by Dr. John Goodenough at **The University of Texas at Austin** is the foundation for an agreement between Canada-based Hydro-Québec, the world's largest hydroelectric generator and the largest electricity generator in Canada, and UT Austin for lithium-ion material technology. "This has been an amazing opportunity to collaborate with Hydro-Québec and the university's commercialization partners," Goodenough said. "We knew it was a promising technology, but the market was not ready for it in 1996 when we started on this endeavor. It was in the lab, and today it is a commercial product." The broad market penetration of these high-quality battery materials is a result of the growing global demand from the battery and automotive industries for reliable and efficient sources of energy.



Mayan Pigments, Inc.

Researchers at **The University of Texas at El Paso** have been studying ancient Mayan pigments for the past 15 years. The product of their research is a line of all natural, non-toxic and environmentally friendly pigments that pair ancient knowledge with technological refinement to create dyes that will long outlast the people who were intended to see them.



A UTEP start-up, Mayan Pigments Inc., has been marketing the pigments with a company on the West coast resulting in three of their colors included as key colorants in the company's paints and crayons.



Latakoo

Continuing to work towards building a successful technology commercialization ecosystem, **The University of Texas at San Antonio** is entering into more comprehensive partnerships within the industry. One such partnership is with an online video uploading service called Latakoo. Latakoo offers a solution to uploading large video files and high definition video in a fraction of the time that it takes other services. Latakoo partnered with UTSA to license the signal processing and data compression/encryption technology of Dr. Sos Agaian, a Peter T. Flawn distinguished professor at UTSA. As part of the licensing agreement, UTSA owns equity in the company.



Reata Pharmaceuticals

The University of Texas Southwestern Medical Center start-up company, Reata Pharmaceuticals, is following nature's lead and is developing new drugs that mimic the body's natural mechanisms for regulating inflammation. These new drugs, called AIM's (Antioxidant Inflammation Modulators) target the Nrf2 protein that protects against inflammation and oxidative stress. Reata is developing a portfolio of AIMs for diseases associated with chronic inflammation and oxidative stress, including chronic kidney disease, autoimmune, respiratory, cardiovascular, metabolic and CNS diseases as well as organ transplant.

In 2010, the company completed business development deals worth over \$1 billion. A co-development agreement with Abbott Laboratories ranks as the largest Phase II partnering agreement in the history of biotechnology. Reata has 110 employees and is based in Dallas, Texas.



Residual Oil Zones

The University of Texas of the Permian Basin has worked for a number of years with the petroleum industry in the Permian Basin to develop an understanding of Residual Oil Zones (ROZ's). ROZ's are the intervals below the main producing interval in existing oil fields which have some oil saturation, but using conventional techniques are not productive in extracting oil. The potential exists for the recovery of more than 10 billion barrels of oil from ROZ's in the Permian Basin. Over the past four years, UTPB has been involved in a number of grants sponsored by the U.S. Department of Energy and the Research Partnership to Secure Energy for America. In addition, UTPB has received industry match funds to model the development of the ROZ's over geologic time, identify where these ROZ's are today and quantify the size of the ROZ's. UTPB's most recent efforts will focus on expanding the understanding of the extent of ROZ's in other targets in the Permian Basin and expanding the scope to include basins in other parts of the United States. With the support of the U.S. Department of Energy and the Research Partnership to Secure Energy for America, the work conducted at UTPB will prove invaluable to expanding the network between the oil industry and its academic partners.



FibeRio Technology Corporation

FibeRio Technology Corporation in McAllen, Texas continues to progress with its mission to transform the materials industry through the unlimited availability of nanofibers. FibeRio is the world-wide exclusive licensee of Forcespinning™ technology which produces nanofibers in high volume at a dramatically lower price than other technologies. **The University of Texas-Pan American**, has developed its own patent portfolio covering the intellectual property surrounding the processes, equipment and methods of Forcespinning. The company hopes to leverage its impact on the local economy through the Fiber Valley™ initiative in conjunction with UTPA, the city of McAllen and the state of Texas.



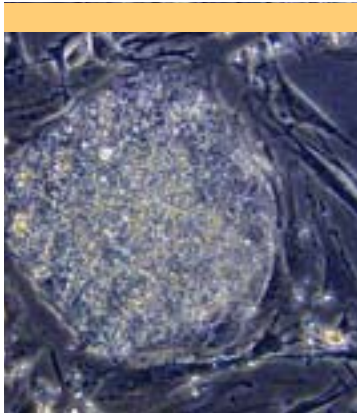
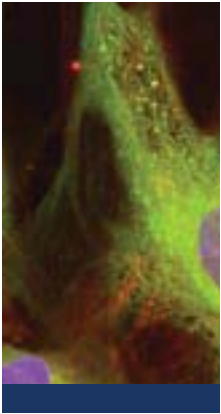
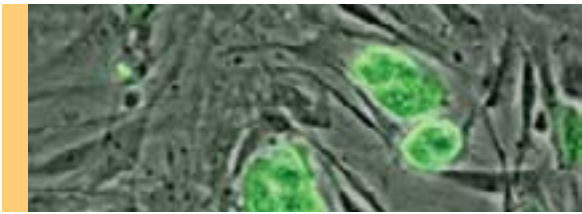
UT Tyler Targets Ants

While many products are on the market to kill fire ants, the endemic nature of the pest does not allow cost-effective, long-term management to be achieved. Researchers at **The University of Texas at Tyler** are developing a product that will enable other pest management strategies currently being used to be more effective. A new delivery strategy has been developed to introduce *Solenopsis invicta* virus “Texas” (SINV-TX) into populations of ants. This virus is species specific, affecting only *S. Invicta* and can be transmitted within populations. Until now, efficient primary delivery of the virus has been an issue. The newly developed strategy is extremely efficient and has overcome the primary introduction issue.



UT Dallas Ventures Out

Since the inception of **The University of Texas at Dallas**’ startup facilitation program in 2007, thirteen companies have been created that, in turn, raised over \$22 million in funding, created over 50 new high tech jobs and funded over \$3 million in sponsored research at UT Dallas. Dallas’ strong focus on creating new companies led the creation of the UT Dallas Venture Development Center in 2011. The Venture Development Center, completed in August 2011, is a state-of-the-art business incubator that currently houses spinoff companies that are based on UTD technology. Venture Development Center staff and its Advisory Board of experienced entrepreneurs and investors team with OTC staff and IIE Faculty to provide mentoring, accounting services, entrepreneurial education, showcase opportunities, and connectivity to investors and professional service providers.



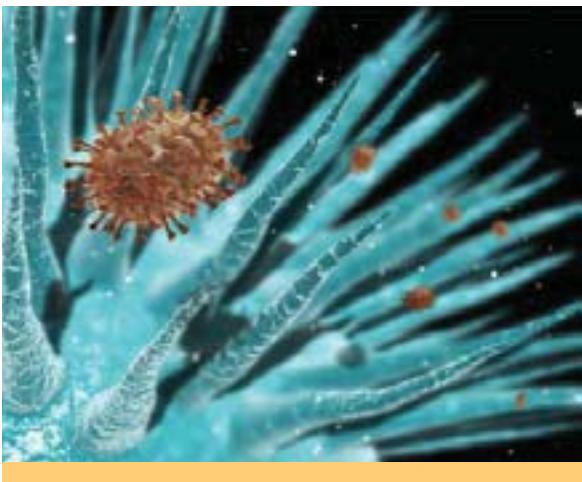
StemBioSys

StembioSys, a biomedical company led by Steven A. Davis, M.D. and Xiao-Dong Chen, M.D, Ph.D., an associate professor in the Dental School at **The University of Texas Health Science Center at San Antonio**, has developed a new system which isolates and expands stem cells from umbilical cord blood. This revolutionary new system extracts stem cells from umbilical cord blood which scientists have long known to contain stem cells, but did not have means to efficiently extract a sufficient amount. Previously, the amount of mesenchymal stem cells (MSC) present in the umbilical cord blood was not high enough to justify extracting them from that location, but StemBioSys' new extracellular matrix vastly expands and increases the amount of MSCs that are able to be recovered. StembioSys has patents for all aspects of the recovery process.



UT Brownsville Partners Up

The University of Texas at Brownsville has partnered up with the Arroyo Colorado Watershed Partnership to receive funding from two grants. The UTB Department of Environmental Sciences received approximately \$80,000 which will be used to fund the assessment of water quality in the Arroyo Colorado watershed. While one of the main focuses of the project is to provide students real-world experience that will prepare them for graduate school, it also serves to improve the quality of water in the region as well as provide opportunities for development. Utilizing a separate sub-grant, the department is currently working with Texas A&M University – Kingsville to provide local schools and grassroots organizations with environmentally friendly improvements such as pervious pavement, green roofs, rain gardens and swales.



Targeting Influenza

A notable discovery in the area of influenza therapeutics from **The University of Texas Health Science Center at Tyler** Center for Pulmonary Infectious Disease Control (CPIDC) group could reduce the severity of thousands of influenza infections that occur in the United States annually. This group, led by Peter Barnes, M.D, discovered that the growth factor called GMCSF protects against lethal influenza infection in mice. Influenza remains a serious public health risk in this country and some patients develop life-threatening disease despite vaccination or administration of antiviral therapy. GMCSF is designed as an intervention to improve outcomes for those patients.