STTM
SOUTH TEXAS TECHNOLOGY MANAGEMENT
UNIVERSITY OF TEXAS

ANNUAL REPORT

FISCAL YEAR
2009

INTERIM DIRECTOR'S REPORT

I am pleased to present the first annual report of South Texas Technology Management (STTM), a regional technology transfer office providing services to four University of Texas institutions: UT Health Science Center at San Antonio, UT San Antonio, UT Pan American (Edinburg), and UT Brownsville. Since July 2009 I have been privileged to serve as its Interim Director. The purpose of the office is to protect university inventions as provided for in patent law and license them to companies with the intent of providing innovative goods and services to benefit the local community and the people of Texas, while producing economic returns to our constituent universities, faculty inventors, and to the community through company formation, job creation, and regional economic development.

Our office has a unique window on the tremendous faculty innovation and inventiveness at our four partner institutions. To be present at the birth of exciting new technologies is a stimulating and motivating privilege. Multidisciplinary research at the interface between medicine and engineering is an exceptionally fruitful source of innovation and we witness such productivity regularly. From experience we know that some of our inventions have the potential to change the way we do medicine and surgery, to diagnose, prevent and treat disease, and to improve materials, energy efficiency, transportation, communications, and manufacturing processes. As in the past, some of our inventions will create new products, new companies, new jobs, and new wealth.

2009 was a difficult year for technology transfer with continuing global economic disruptions and uncertainty, a major downturn in business activity, and imposition, or the threat of imposition, of higher taxes on businesses and individuals, and unprecedented levels of public debt, all affecting capital formation for technology-based start-up companies and producing a record low number of initial public offerings. Entrepreneurs have had to find other sources of capital as the traditional sources have diminished and moved up the food chain, demanding start-up company formation and product development to be significantly more advanced and of lower risk than in the recent past. Nevertheless Texas inventors and entrepreneurs are perhaps better off than most in having access to grants from the Texas Emerging Technology Fund, the UT System Texas Ignition Fund, and the Texas Cancer Prevention and Research Institute. Our STTM inventors have also competed for Proof of Concept (POC) awards sponsored by the San Antonio Life Sciences Institute, an organization funded by UT Health Science Center at San Antonio and UT San Antonio.

During 2009 also, STTM has made changes in its organization, management, and business procedures to better serve the differing needs of our participating institutions and manage our resources and portfolios as efficiently and cost-effectively as we can. Academic technology transfer has usually been a fine balance between attempting to patent every invention disclosed by faculty, thereby running up unsustainable legal and legacy maintenance costs,

and trying to patent only those inventions that are deemed to have a lucrative future. The problem with this of course is that a newly disclosed invention frequently looks like a newborn child, and as Mr. Faraday said to Mr. Gladstone, "Sir, What is the value of a new-born child?" Academic technology transfer offices have their own horror stories of seminal inventions they failed to recognize and not a few offices are happy to claim as evidence of their own alacrity the inexorable working of chance.

In 2008, to address a significant operating deficit, STTM adopted a policy of being more selective in filing provisional applications and during the following 12 months undertaking careful marketing diligence and converting only those cases where we had been able to generate significant licensing interest from industry or investors to justify the steep increase in costs going forward. In 2009 we decided to be more liberal with provisional filings but continue the policy as to conversions. This decision-making is not a science however and we have tried to bring to bear many years of varied commercial experience and not to view the world as black or white. We have no reliable feedback loop to inform our daily activities. Today we are living on the decisions of our predecessors and it will be several years before we know the quality of today's choices.

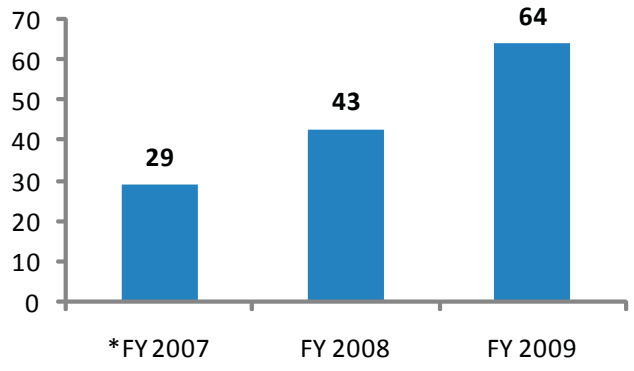
It is a pleasure to acknowledge the exceptional efforts of our inventors, the dedicated STTM staff, and our affiliated law firms.

Interim Director

On the cover:
"Double Helix" by Richard Harrell Rodgers - 24' x 12' aluminum sculpture on the UT Health Science Center at San Antonio campus. Photo by Richard Rodriguez

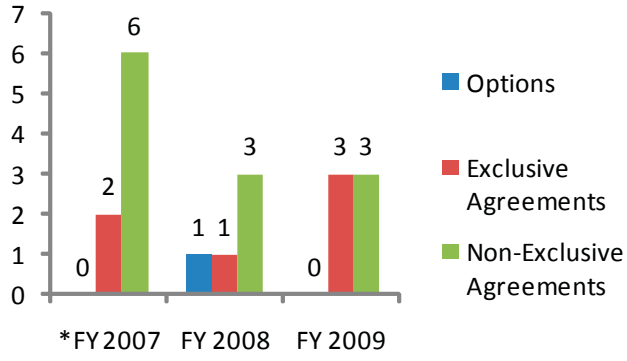
METRICS

Inventions Disclosed



* Pre-STTM / UTHSCSA Data Only

Licenses Executed



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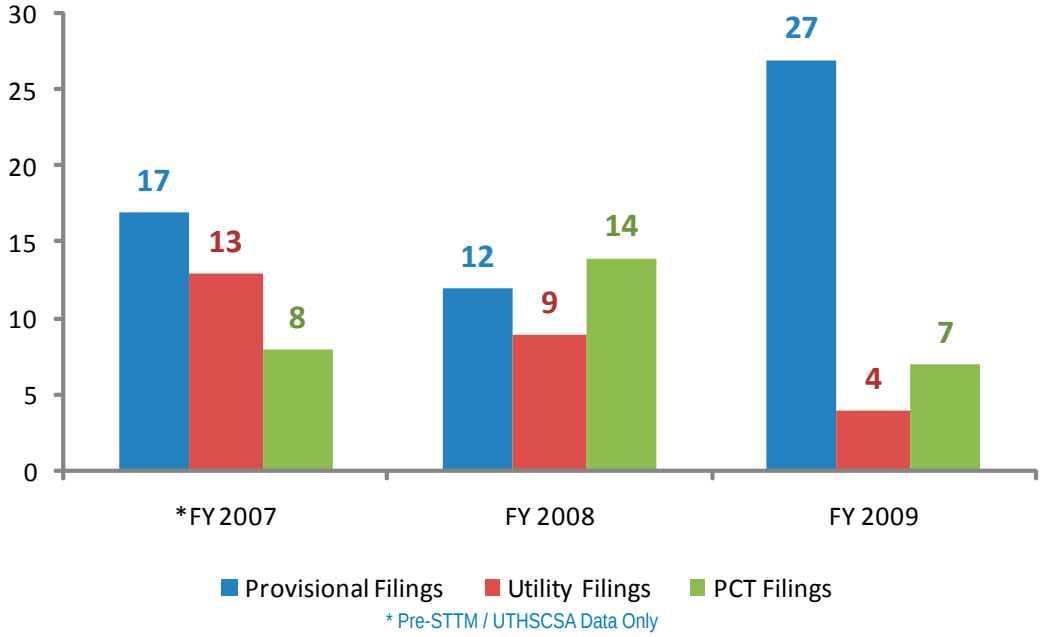
Grants Awarded

	FY 2008	FY 2009
POC Proposals Submitted	20	25
POCsparc Awards	13	12
POCsparc Awarded	$ 212,660	$ 246,932
POCrr Awards	1	4
POCrr Awarded	$ 25,000	$ 100,000
Total POC Grants Awarded	**$ 237,660**	**$ 346,932**
TIF Proposals Submitted	5	2
TIF Awards	1	1
Total TIF Grants Awarded	**$ 25,000**	**$ 49,893**

Amounts shown are in US Dollars. For more information on the POCsparc, POCrr, and TIF Grant Program, see page 9.

US and PCT Patent Applications Filed By Year



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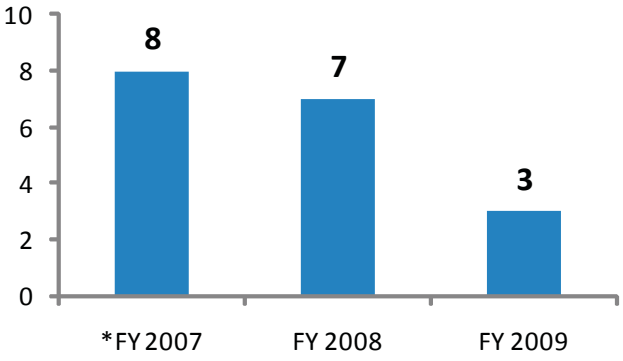
First Foreign Filings



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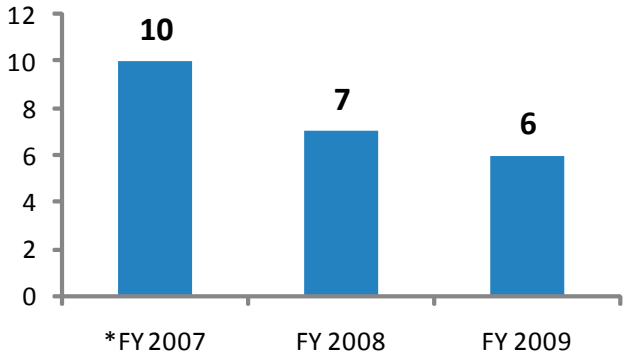
US Patents Issued



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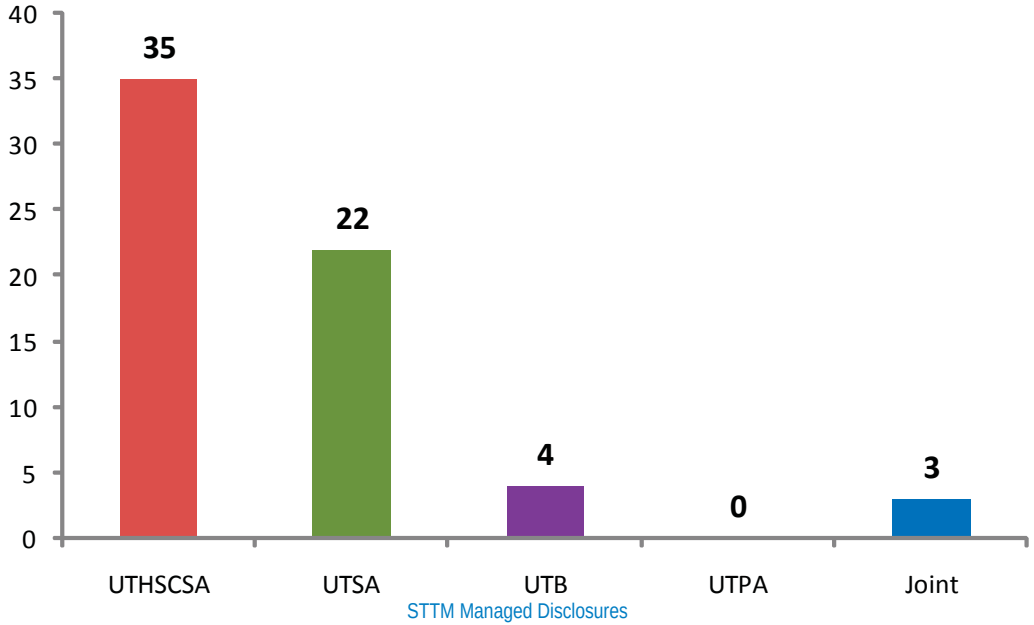
Invention Disclosures By Institution



DISCLOSURES

The maze-like path of technology transfer and the legal intricacies of licensing and commercialization often overwhelm researchers. Working alongside professional technology managers, the first step in protecting inventions and other intellectual property is providing adequate documentation. When academic researchers create or invent technology that is unique, novel, and non-obvious, they should fill out and submit an invention disclosure form (IDF) to the technology transfer office. At STTM, the received IDF is used for evaluating patentability and commercial prospects.

In 2009, STTM received 64 new invention disclosures from three different institutions – a 45% increase in submittals from 2008. UTPA's Office of Innovation and Intellectual Property managed all UTPA disclosures for FY 2009. We should note that history was made when researchers from the University of Texas at Brownsville submitted their first invention disclosure.

Photo left / right: The "Labyrinth Gateway," is a suspended metal sculpture designed by Lewis de Soto and is situated at the UTSA downtown campus on the corner of Durango Boulevard and South Pecos-La Trinidad Street, San Antonio, Texas.

EVALUATION

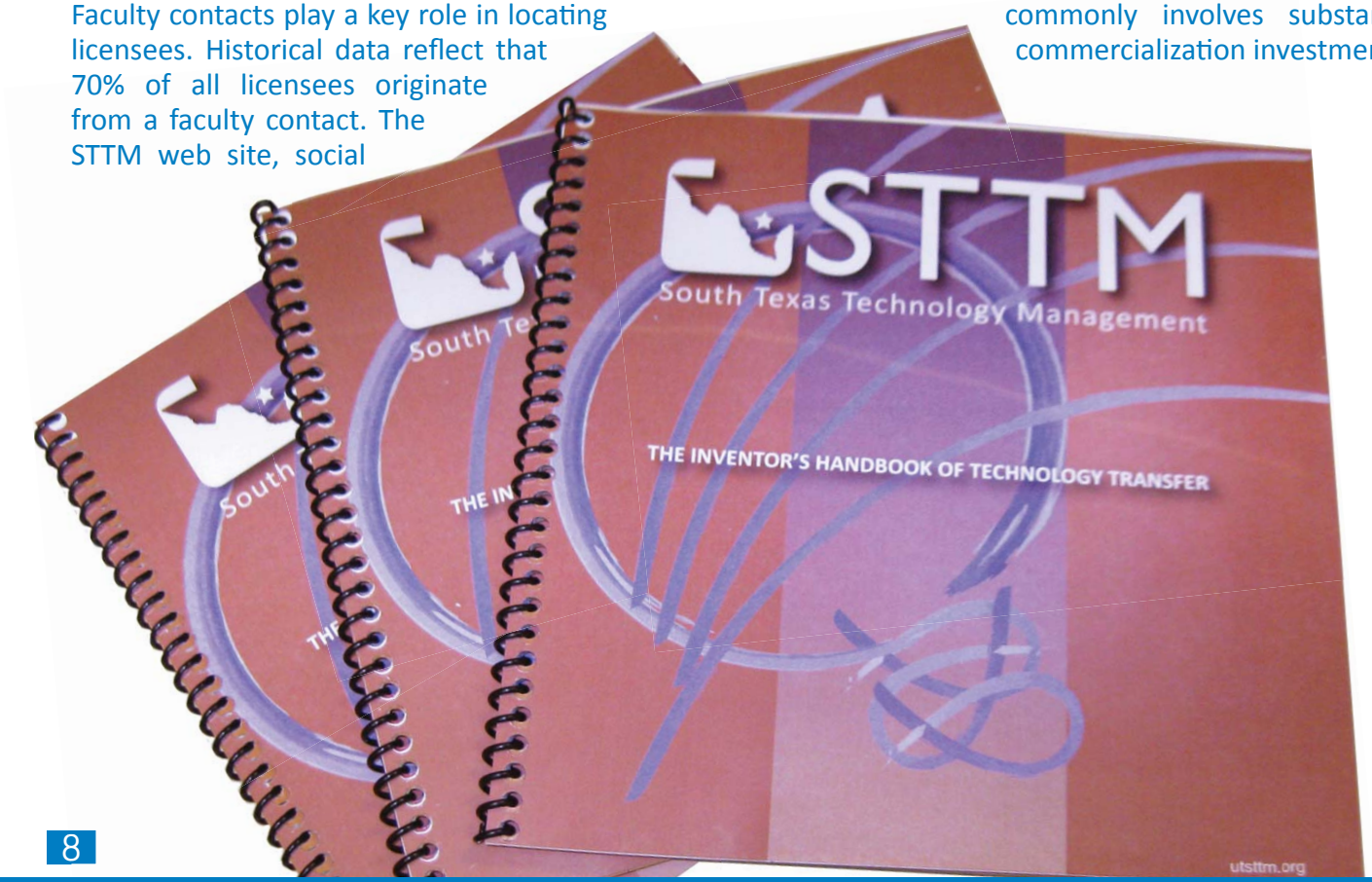
The South Texas Technology Management office has developed its own internal evaluation processes for invention disclosure submittals. In some cases STTM collaborates with UTSA's Management of Technology (MOT) graduate program to perform the due diligence on a business opportunity. MOT graduates spend a semester prospecting and assessing the competitive landscape of the business. The real-life immersion is invaluable to the graduates who gain the opportunity to witness the formation of a company. The technology managers at STTM, the researchers, and the graduates all benefit from the interaction. The collaboration between people of varied backgrounds and levels of expertise contributes to the evaluation and often times determines the best way to launch a business.

MARKETING & DEVELOPMENT

Market research and marketing the available technologies are two distinct but complementary functions of the commercialization process. To help identify and locate potential licensees, STTM staff use many data sources and various information gathering methods. The aggregated data are used at the later step of marketing the technology.

STTM staff and researchers leverage their attendance at industry events, conferences, forums, and seminars to establish direct contact with key industry personnel. Often, these direct relationships become useful when marketing an invention. Faculty contacts play a key role in locating licensees. Historical data reflect that 70% of all licensees originate from a faculty contact. The STTM web site, social networks, and other Internet methods are used to communicate technologies available for licensing. Faculty publications and presentations also provide valuable information useful in marketing.

It can take months and sometimes years to locate the right licensee, depending on the attractiveness of the invention and the size and intensity of the market. With access to a library of agreements collected over many years, technology managers are able to compare past activities on similar technologies when writing new licenses. Typically, university inventions are in the early stage of development and this commonly involves substantial commercialization investment.



GRANT PROGRAMS

Proof of Concept (POC) Grant

Proof of Concept: Short Proposals to Accelerate Research Commercialization – shortened as POCsparc – refers to a grant program administered by STTM which offers UT researchers awards of up to $25,000 to advance inventions toward successful commercialization. The grants are intended to support short-term, tightly-focused projects and help bridge the gap between promising inventions and development-ready innovations.

These grants are awarded to faculty employed at the four STTM-served institutions. POCroadrunner (POCrr) grants are available to UTSA faculty. The POCrr grants are funded through a supplement to the Texas Emerging Technology Fund award that established the Institute for Cyber Security at UTSA.

Texas Ignition Fund (TIF)

TIF grants are made available through the UT System Office of Research and Technology Transfer and provide up to $50,000 to support the commercialization of UT inventions and accelerate the movement of inventions into the public domain. STTM offers assistance to UT researchers who submit TIF grant proposals by providing a written assessment of the commercialization potential and an overview of the intellectual property. The written assessment provides supplemental documentation to the proposal and may improve the chances for an award.

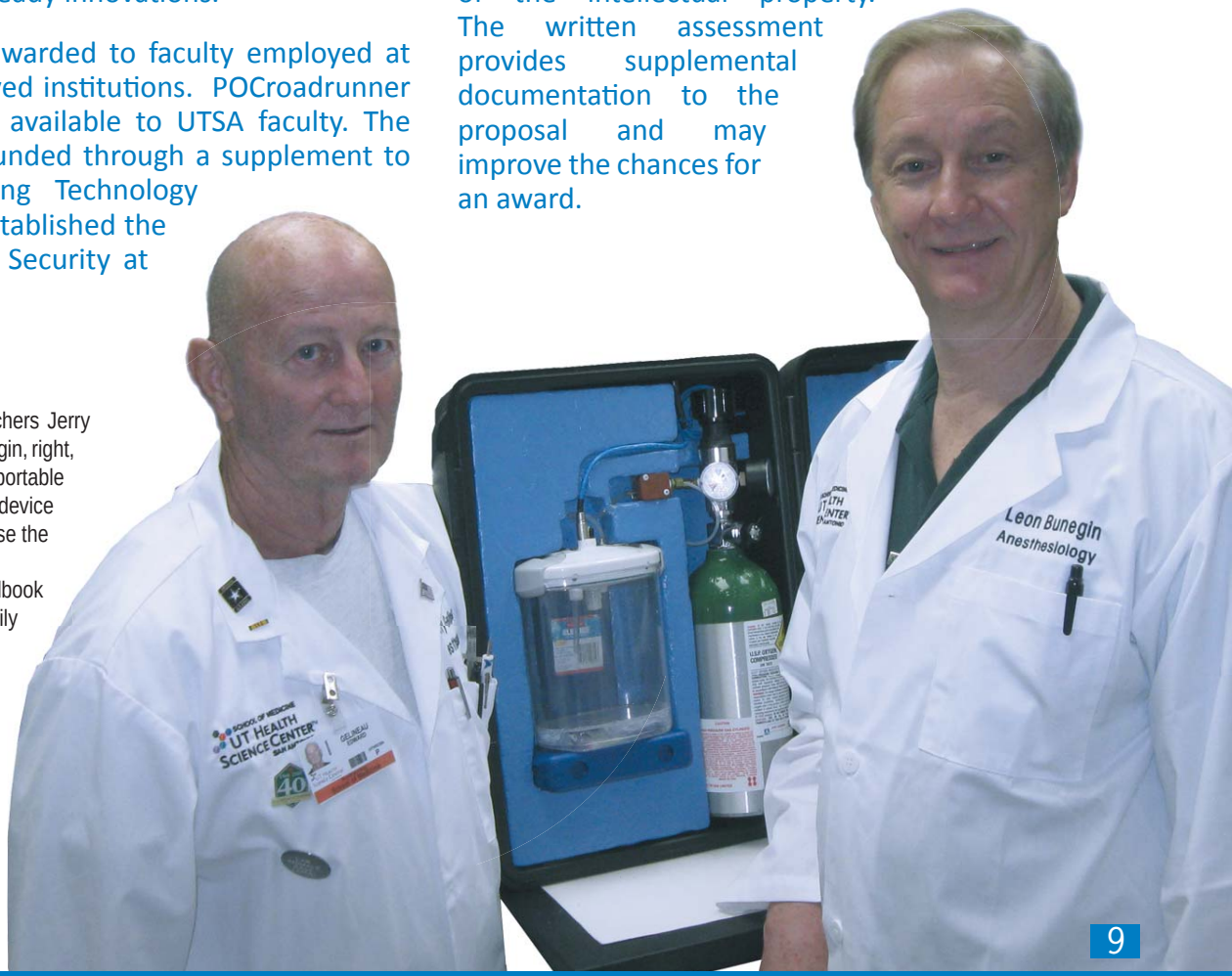


Photo right: UTHSCSA researchers Jerry F. Gelineau, left, and Leon Bunegin, right, stand next to their invention, a portable perfusion organ preservation device designed to dramatically increase the time to transport living organs.
Photo left: An inventors handbook published by STTM is readily available to faculty researchers.

GRANT AWARDEES

$25,000 to Renata Bastos, M.D., assistant professor in the Health Science Center Department of Surgery/ Division of Cardiothoracic Surgery, for the proposal "Inflatable Aortic Shunt." The award will support a multi-institution project involving Dr. Bastos and collaborators from the Health Science Center, UTSA and UTPA, and will fund the design, construction and testing of a prototype shunt for use in aortic surgery.

$25,000 to Andrew Tsin, Ph.D., professor in the Department of Biology at UTSA, for the proposal "Adaptive Optics and Retinal Imaging: Constructing a Prototype for a Diagnostic Instrument." Dr. Tsin's project will advance development of an instrument to diagnose eye diseases such as diabetic retinopathy and cancer.

$25,000 to Emilio Garrido, M.D., Ph.D., assistant professor in the Center for Biomedical Studies at UTB, for the proposal "Neurotargeting Via Cell-Type-Specific Neurotropic Ligands." Dr. Garrido's project will advance the development of therapeutic agents for central nervous system disorders.

$25,000 to Brent Nowak, Ph.D., associate professor in the Mechanical Engineering Department at UTSA, and Jonathon Jundt, D.D.S., graduate of the Dental School at UTHSCSA, to develop an implantable ultrasound-guided device for distraction osteogenesis, a surgical process to correct skeletal deficits through inducement of natural healing to generate new bone.

LICENSES

At the close of 2009, STTM was managing 91 active licenses with 48 companies. In 2009, STTM negotiated six new agreements which included four from UT Health Science Center, one from UTSA, and a joint UTHSC-USTA license.

Exclusive Agreements

A company will negotiate an exclusive agreement for an invention if the patent rights will help the company maintain market exclusivity and enable product development and manufacturing profitably. In 2009, three of the exclusive licenses negotiated by STTM contained patent rights enabling the company to sell a new vaccine, a new scaffold for regenerating bone, a new use for an imaging compound, and a device useful in testing the analgesic properties of a potential new pain medication.

Non-Exclusive Agreements

A company in need of a research tool such as an antibody, cell-line, or animal that is not otherwise commercially available may consider licensing it from the university. Research tools are infrequently patented since patents for the tools can significantly interfere with the freedom to do research. For this same reason, research tools and other reagents are often licensed to companies non-exclusively. In 2009, STTM licensed two cell-line reagents non-exclusively for internal research use, and one antibody for commercial sale.

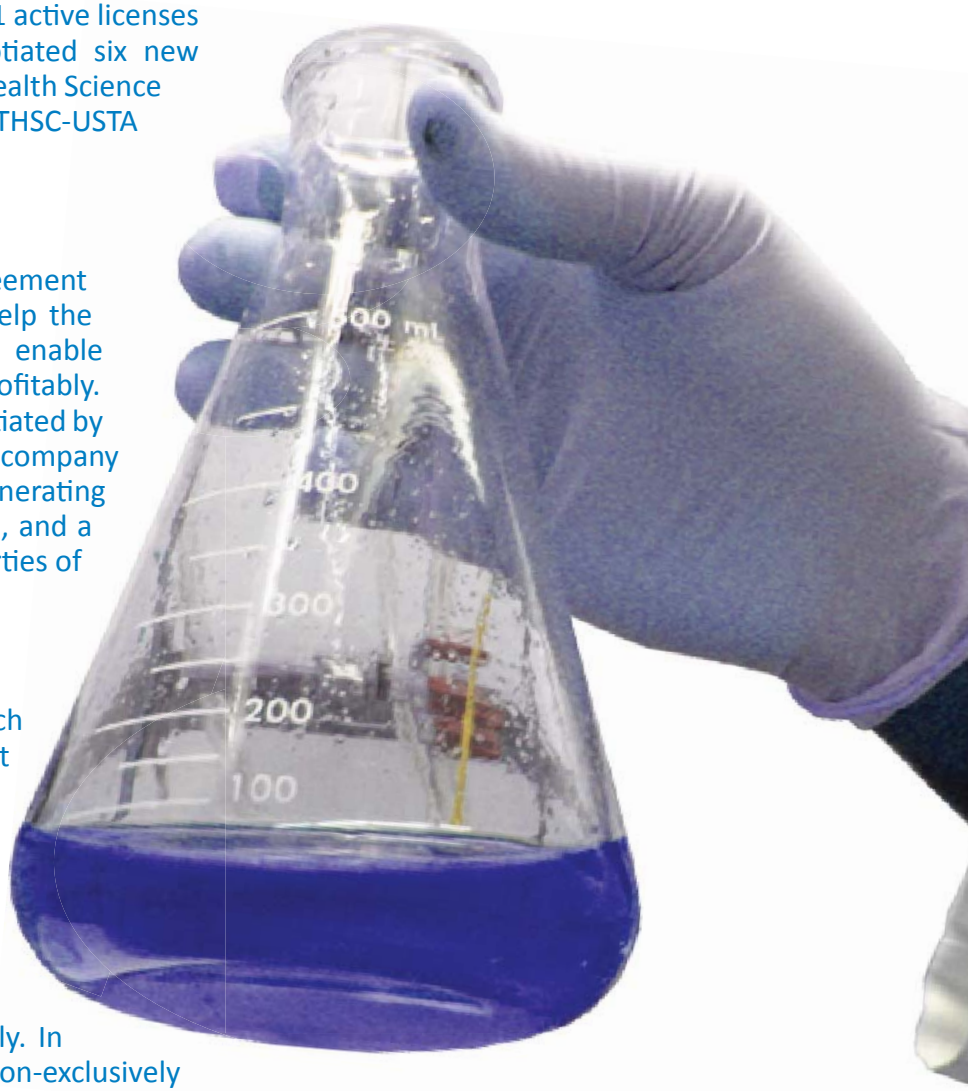
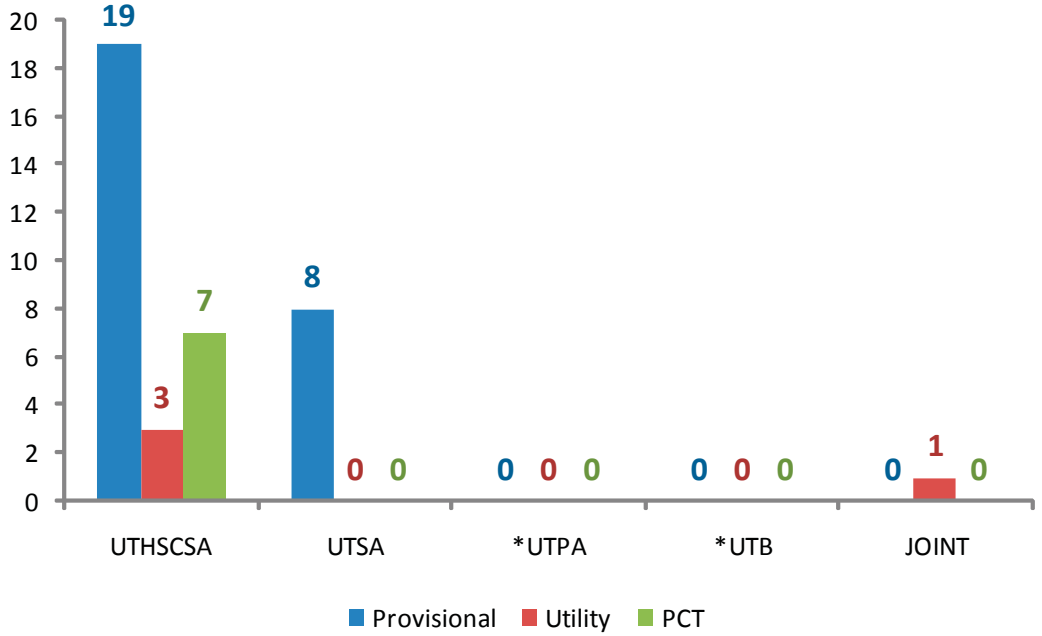


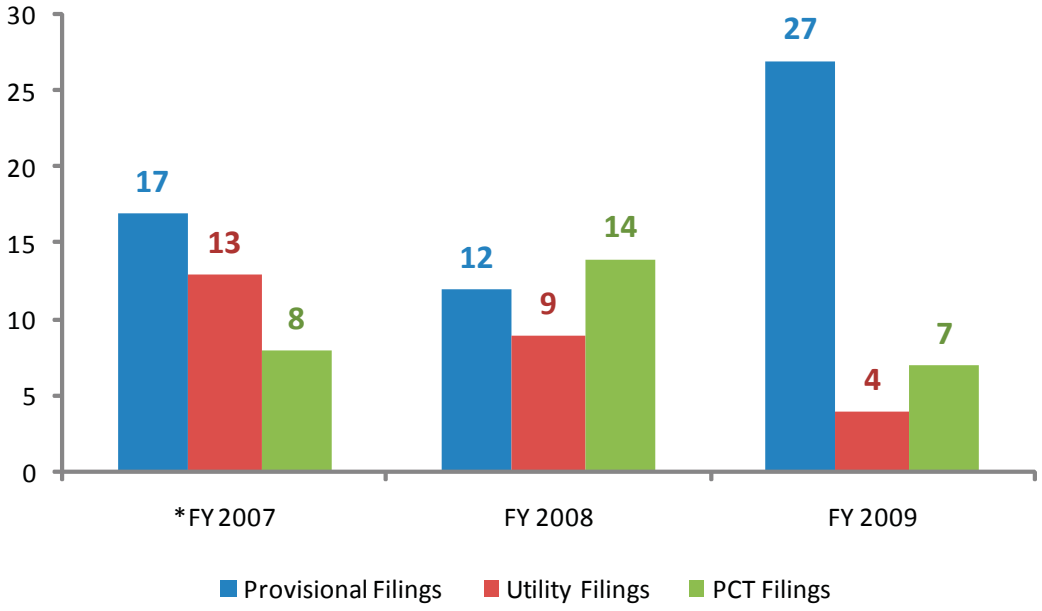
Photo left: Charles Thomas, left, and Karla Moncada, right, at the UTHSCSA Flow Cytometry Core Lab stand next to a BD FACS ARIA™ cell sorter instrument used obtain multiparametric multicolor analysis of cells.

Patent Applications By Institution, FY 2009



* No Patent Applications were filed for STTM-Managed Inventions from UTPA nor UTB in FY 2009

US Patent and PCT Applications Filed By Year



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PATENTING

The filing of a provisional or full patent application initiates a process which can result in the legal recognition of a unique, novel, and non-obvious creation of the inventor, by one or more governments.

Patent applications contain a written description of the invention, analogous to a journal article, having at least one embodiment and a set of claims defining the scope of the subject matter and its unique features. The patent search and examination process time of the US Patent and Trademark Office (USPTO) can range between 18 to 48 months and precedes any office action or grant.

The office action in the form of a written notice from the USPTO will be sent to the patent attorney indicating whether the application and claims have been accepted. Of the utility patent applications submitted to the USPTO, over 60% will be rejected owing to formalities needing clarification, insufficient evidence for claims, or claims that are not patentable over the prior art.

If a patent application is rejected, the patent attorney can file a written response within six months. During this process, input from the inventor(s) is often needed to confirm that the patent attorney understands the technical aspects of the invention and/or the prior art cited against the application. The attorney may amend the claims and/or point out why the USPTO's position is incorrect, however, new material may not be added to the specification. This interaction between patent examiner and the applicant is referred to as patent prosecution. Often, prosecution involves two office actions and two responses by the patent attorney, sometimes more, before the application is resolved.

Resolution can take the form of a final rejection or a notice that the application has been allowed. Until the patent is published, the application remains confidential.

Photo: UTHSCSA researchers Dr. Anthony J. Valente, left, and Dr. Robert A. Clark, right, display an original patent document of their invention issued by the US Patent and Trademark Office.

HIGHLIGHTS

Collaboration with Merck & Co. to Develop a Chlamydia Vaccine

A UTSA and Health Science Center team of researchers was the first to demonstrate that, in animal models of genital Chlamydial infection, a vaccine composed of a select group of recombinant C. trachomatis antigens can successfully accelerate bacterial clearance, and importantly, preserve female reproductive function. In 2009, this research took a big step closer to the development of an effective Chlamydia vaccine by the simultaneous execution of a sponsored research agreement and a license agreement with Merck & Co.

The Merck license agreement was the first revenue-producing license for any technology developed at UTSA, and the first exclusive license negotiated and executed by STTM for technology shared by two of the four University of Texas System institutions served by STTM.

Chlamydia trachomatis is responsible for nearly 2.3 million cases of infection in the U.S. population. A highly infectious and insidious organism, C. trachomatis frequently causes only mild or moderate symptoms, and those infected often do not receive diagnosis or effective treatment, because they are not aware they have the infection. Long-term C. trachomatis infection in females can lead to pelvic inflammatory disease, ectopic pregnancy, serious complications for newborn infants and infertility. Macrolide

Photo: Collaborative researchers, UTHSCSA's Guangming Zhong, M.D., Ph.D., left, and UTSA's Bernard Arulanandam, Ph.D., M.B.A., right.

(erythromycin-like) antibiotics can successfully eradicate the pathogen in most patients, but treated individuals are highly susceptible to re-infection if exposed via unprotected sex with an infected partner. Consequently, Chlamydia remains present and stable in a high percentage of sexually active individuals.

The trio of UT researchers involved in this collaboration include Guangming Zhong, M.D., Ph.D., professor of microbiology and immunology from the Health Science Center, Bernard Arulanandam, Ph.D., M.B.A., professor of microbiology and immunology in UTSA's South Texas Center for Emerging Infectious Disease (STCEID) and Department of Biology, and Ashlesh Murthy, Ph.D., a research assistant professor in UTSA's STCEID and Department of Biology. Zhong has conducted research for more than 20 years in Chlamydia pathogenesis and vaccine development, while Arulanandam has researched vaccine development and mucosal immunity for more than 12 years.

Both Zhong's and Arulanandam's laboratories are working hard with the Merck group to identify the most efficacious vaccine antigens for inducing anti-Chlamydial immunity. They are also planning to apply their vaccine research expertise and capabilities to other diseases by collaborating with other UT faculty members.

ANNUAL REPORT - FY 2009

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