

# UT System Competitiveness Initiative Supports Entrepreneurial Businesses

**Entrepreneurship in the Changing Economy:  
From Survival to Sustainability**

*October 14, 2009  
Federal Reserve Bank of Dallas*

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*The University of Texas System, Office of Research and Technology Transfer*



**THE UNIVERSITY of TEXAS SYSTEM**  
*Nine Universities. Six Health Institutions. Unlimited Possibilities.*

## Overview...

- State of Texas and UT System
- UT System Competitiveness Initiative
- State of Texas/University Funding Partnerships
- ***UT System Resources Benefit Texas Businesses***



## TEXAS NATIONAL COMPARISONS...

FY 2006	Texas Rank among States	Number/ \$
Research expenditures	4	\$2.6 Billion
U.S. patents issued	4	190
Licenses/options executed	3	277
Start-up companies formed	9	19
Licensing revenue	8	\$47.6 Million

Source: State Science & Technology Institute provides state calculations with AUTM data (Association of University Technology Managers). AUTM FY 2006 Texas data includes UT Austin, UTSWMC, UTMB, UTHSC-H, UTMDACC, Baylor, Rice, TAMU, SMU, and UNTHSC.



## UT SYSTEM - STATE COMPARISON...

FY 2008	UT System Total	% of Texas Total
Invention disclosures	716	72%
U.S. patents issued	99	73%
Licenses/options executed	194	76%
Start-up companies formed	25	81%
Licensing revenue	\$37.2 Million	72%
Research expenditures	\$2.2 Billion	78%

Source: Texas Higher Education Coordinating Board Technology Development and Transfer Survey, FY 2007 and FY 2008. The report includes all Texas public universities and health-related institutions.



## UT System: Story of Diversity and Collaboration...

### 15 Institutions:

9 Academic Universities  
6 Health Institutions

- 195,000+ Students
- 66,000+ Faculty/staff
- \$11.5 billion+ FY 2009 Operating Budget
- [Fast Facts 2009](#)



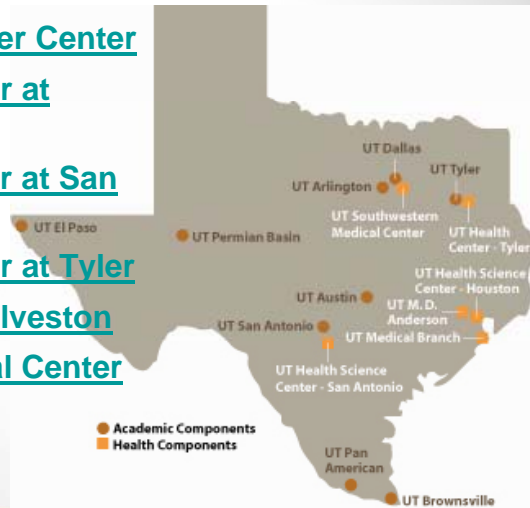
## UT Academic Universities...

- ✓ [UT Arlington](#)
- ✓ [UT Austin](#)
- ✓ [UT Brownsville](#)
- ✓ [UT Dallas](#)
- ✓ [UT El Paso](#)
- ✓ [UT Pan American](#)
- ✓ [UT Permian Basin](#)
- ✓ [UT San Antonio](#)
- ✓ [UT Tyler](#)



## UT Health Institutions...

- ✓ [UT M. D. Anderson Cancer Center](#)
- ✓ [UT Health Science Center at Houston](#)
- ✓ [UT Health Science Center at San Antonio](#)
- ✓ [UT Health Science Center at Tyler](#)
- ✓ [UT Medical Branch at Galveston](#)
- ✓ [UT Southwestern Medical Center at Dallas](#)



## ***UT System brings revolutionary discoveries and new companies to market...***

- **Commercialization Culture/ Incentives**
- **Resources: Competitiveness Initiative**
- **State, local, industry partnerships**
- **Sophisticated infrastructure**

 **Long track record  
of commercial success**



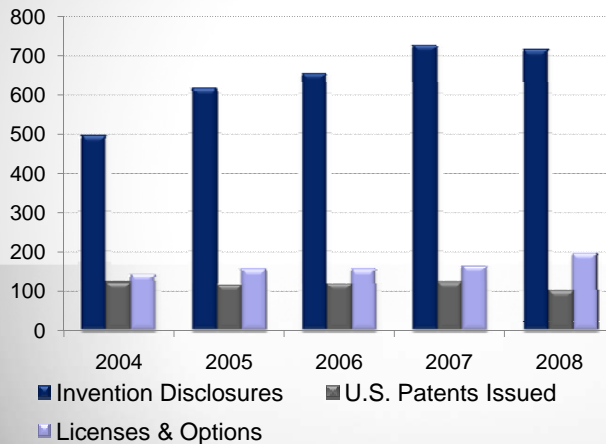
## ***UT System is a Global Leader...***

- **1<sup>st</sup> in the world biotech patents**  
(2006 Milken Institute)
- **2<sup>nd</sup> in US “Patent Powerhouse”**  
(*The Scientist* 2005)
- **5<sup>th</sup> in Patented Technology Strength™** (2009  
Universities Patent Scorecard™)
- **\$2.17 billion annual research pipeline** (2008)
  - ❑ **2<sup>nd</sup> in federal R&D funds** for science & engineering
  - ❑ **5.9%** of all fed funds (NSF 2007)



## UT System is a Global Leader...

The University of Texas System  
Technology Transfer Activities 2004-2008



Five year Totals  
2004 - 2008

Invention Disclosures	3,207
U.S. Patents Issued	572
Licenses	837
Gross IP Revenue	\$169 Million
Start-up Companies*	83

Source: Texas Higher Education Coordinating Board Technology Development and Transfer Survey

\*25 in 2008



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## UT System Commercialization Culture Starts at the Top...

- Strategic Goals/Mission
- Incentives and Policies:
  - ✓ Faculty awards
  - ✓ Tenure/Promotion Practices
  - ✓ Intellectual Property (IP) Policies
- Resources: \$3 billion Competitiveness Initiative



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## ***UT System Competitiveness Initiative \$3 billion+ since 2006...***



## ***UT System Competitiveness Initiative EXCEEDS \$3 billion since 2006...***

- **\$2.9 billion Academic and Research Facilities**
- **\$74.3 million Recruit and Retain Faculty**
- **\$21.9 million Library/ Equipment Repair and Rehabilitation projects**
- **\$1.9 million Partner with National Lab**
- **\$1.6 million Texas Ignition Fund (TIF) Grants to help Start New Commercial Ventures**





## ***UT System Competitiveness Initiative EXCEEDS \$3 billion since 2006...***

- ✓ **44** New or Renovated Facilities
- ✓ **5.7** million square feet
  - **+41%** Academic research space
  - **+2½** times Clinical space
- ✓ **120** Research faculty recruited or retained



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## ***UT System Competitiveness Initiative EXCEEDS \$3 billion since 2006...***

**Office of Research & Technology Transfer (RTT)**  
established 2005:



- +28.6%** Research Expenditures
- +16%** New invention disclosures
- +26%** New licenses and options
- +7%** Intellectual property gross revenue



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## State of Texas Partnerships: \$400 + Million Texas Emerging Technology Fund (TETF)...

69% of 106 TETF awards  
relate to UT Institutions



Program	Awards Benefiting UT System Institutions		Total All TETF Awards		% Awards Benefiting UT System Institutions
	\$	#	\$	#	
Research Superiority	\$30.3M	7	\$62.2M	15	47%
<b>Commercialization</b>	<b>\$62.9M</b>	<b>58</b>	<b>\$81.6M</b>	<b>78</b>	<b>74%</b>
Research Matching	\$25.8M	8	\$84.9M	13	62%
<b>Total</b>	<b>\$119.0M</b>	<b>73</b>	<b>\$228.7M</b>	<b>106</b>	<b>69%</b>

Source: Texas Governor's Office as of 7/7/09, only includes awards with signed contracts  
[http://members.texasone.us/site/PageServer?pagename=tetf\\_homepage](http://members.texasone.us/site/PageServer?pagename=tetf_homepage)



## TETF 7 Regional Centers for Innovation and Commercialization (RCICs)...

1. Central Texas Regional CIC
2. El Paso/Trans-Pecos Regional CIC
3. Gulf Coast Regional CIC
4. North Texas Regional CIC
5. Rio Grande Regional CIC
6. South Texas Regional CIC
7. West Texas Regional CIC



➤ STATEWIDE: Texas Life Science Regional Center of Innovation



## ***State of Texas Partnerships: \$3 billion Cancer Prevention and Research Institute of Texas (CPRIT) Cancer Fund...***



- **\$300 million per year**
- **Research leading to cancer breakthroughs & prevention**
- **UT leadership**
  - ✓ **Coordinating broad collaborative input for grant administration**
  - ✓ **Proposing Proof of Concept Funding leading to commercial results**
- **First proposals this fall**



## ***UT System Resources Benefit Texas Businesses...***

- **Business Incubators *Support 250+ startups [estimated 85% do not involve UT Intellectual Property]...***
- **Regional Economic and Small Business Development Centers**
- **5 Formal “Proof of Concept” Funds for UT Researchers with business connections**
- **Shared IP Search Engine**
- **Entrepreneurship Training**
- **88 Dedicated Tech Transfer Staff (2008)**
- **Regional Tech Transfer Office – STTM serves 4 campuses**



## ***UT “Proof of Concept” Funds bridge funding gap between discoveries and products...***

- **Total \$24 Million FY04-FY08**
  1. UT System **Texas Ignition Fund (TIF)**
  2. UTMDACC Office of Technology Discovery, Technology Review Committee (TRC) Fund
  3. UTHSC Houston **Pioneer Award Fund**
  4. **UTMB Business Accelerator Program**
  5. **STTM POC SPARC and POC Roadrunner Funds**
- Other less formal programs at UT Institutions...



## ***UT SYSTEM TIF BOASTS 5 startups AFTER JUST ONE YEAR!...***

### ➤ **2 Medical Breakthroughs**

- ✓ **Xanapath:** UT Southwestern Medical Center – Dallas’ Hyperspectral Microscopy Imaging for breast, lung, colon cancer
- ✓ **Pulmotect:** UT MD Anderson Cancer – Houston’s Aerosolized Lung Innate Immune Stimulant protects against lung infections

**XANAPATH**  
Advanced Cellular Profiling



### ➤ **3 Alternative Energies**

- ✓ **Organic Fuels:** UT Austin’s Algae biofuels
- ✓ **Lone Star Advanced Technologies:** UT Arlington’s Coal liquefaction
- ✓ **ZT Solar:** UT Arlington’s Solar Panel Surface



Lone Star  
Advanced  
Technologies



## CONCLUSION...

1. State of Texas & UT System seed & commercialize research discoveries by investing historic resources
  - ✓ Texas ETF -- \$400 + million
  - ✓ Cancer Fund -- \$3 billion
  - ✓ UT System Competitiveness Initiative -- \$3+ billion
2. ...Results improve lives globally & produce opportunities for new and existing Texas businesses
3. UT System's roots serving businesses in each of its communities run wide and deep...



## Longest History at UT Austin ...

- **IC<sup>2</sup> = Innovation + Creativity + Capital**  
[www.ic2.utexas.edu](http://www.ic2.utexas.edu)
  - ❑ 240 IC<sup>2</sup> Fellows, 140 [Visiting Scholars](#), 17 nations, two Nobel Laureates
  - ❑ 1<sup>st</sup> in US -- [MS in Technology Commercialization](#)
  - ❑ 2<sup>nd</sup> in US – 1989 [Austin Technology Incubator \(ATI\)](#)
  - ❑ [Global Commercialization Group](#) – 40 + countries
  - ❑ [TechBA Austin](#) 4000 SF, 16 companies, 1 ETF award
- [Bureau of Economic Geology](#) Austin, Houston, Midland [Industry Associates Program](#)
- 1984 McCombs Business School's "Moot Corp"  
<http://www.mootcorp.org/>
- UT Austin Engineering College "Idea to Product" (I2P) <http://www.ideatoproduct.org/>



George  
Kozmetsky



## Austin Technology Incubator (ATI) ...

### ➤ Programs:

- Clean Energy
- Wireless
- Info Technology
- Bio Life Sciences

### ➤ Resources:

- Talent
- Capital
- Partners

### ➤ Results Since 1989:

- 150 startups
- 10,000 jobs
- \$725 + million capital
- \$1.5 + billion revenue
- 4 IPOs

**ati** bioscience  
incubator  
THE UNIVERSITY OF TEXAS AT AUSTIN



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## UT Southwestern Medical Center at Dallas New BioCenter...

- ✓ 4 buildings
- ✓ + 2 parking garages
- ✓ ~ 400,000 rentable sf
- ✓ Build to demand



- ✓ Bldg #1: 100,000 rentable sf
- ✓ Biomedical grade MEP
- ✓ Utility: vacuum, dry air, gas, de-ionized water
- ✓ IT infrastructure



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- **UT Arlington Technology Incubator (ATI):**  
founded 2001
- **Partnership with City of Arlington and Arlington Chamber of Commerce**
- **Grant from US Department of Commerce EDA**
- **28,000 SF building with 8,000 SF incubator**
- **Arlington Entrepreneurship Center (AEC)**
- **Arlington Business Accelerator (ABA), LLC**
- **UTA School of Business faculty/staff: legal, business, accounting services for start-ups**



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## *UT Dallas...*

- **Texas Consortium of Entrepreneurship Centers**
- **Office of Technology Commercialization (OTC)**
- **Institute for Innovation & Entrepreneurship (IIE)**
  - Academic and Student Programs**
    - ✓ The Entrepreneurship Club@UT Dallas,
    - ✓ Business Idea Competition
    - ✓ Game Design Business Plan Competition
  - Faculty/Staff Development Programs**
  - Venture Development Program**
  - Community Outreach**
  - Research**





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**Houston's UT Research Park: UT MD Anderson Cancer Center & UT Health Science Center – Houston Partnership ...**



- **60 Acres adjacent to Texas Medical Center (TMC)**, one of the world's highest densities of clinical facilities for basic science and translational research
- **Small and start-up companies lease flexible space** with access to common facilities:
  - ❑ Labs with benches, wet labs, washing and sterilization equipment, storage, cold rooms, freezers, X-ray processing...
  - ❑ Private offices with modular furnishings, data/telecom/internet connections
  - ❑ Common reception, 24-hour carded security system access
  - ❑ Multiple conference, dining and training facilities
  - ❑ Central mail, loading docks and express package facilities



**UT Medical Branch at Galveston...**

- **Center for Technology Development**
- **Resources for Entrepreneurs**
- **Corporate Liaison Office**
- **SBIR/STTR application support**
- **Western Regional Center of Excellence for Biodefense and Emerging Infectious Diseases**





## ***UT El Paso Kauffman Campus Initiative...***

<http://www.utep.edu/utepkci/index.html>



- Centers for Entrepreneurial Development, Advancement, Research, and Support (CEDARS)
- Center for Research Entrepreneurship and Innovative Enterprises
- Center of Hispanic Entrepreneurship Entrepreneurial Development, Advancement, Research, and Support
- Center for Research Entrepreneurship and Innovative Enterprises (CREIE)
- **Also 6,100-square-foot W. M. Keck Center for 3D Innovation at UTEP's College of Engineering**



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## ***UT Health Science Center – San Antonio: South Texas Research Facility (STRF)...***

- **188,000 square feet**
- **\$150 million**
- **April 2011**
- **Texas Research and Technology Foundation incubator**



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## UT San Antonio ...



- **Center for Innovation and Technology Entrepreneurship (CITE):** Colleges of Business and Engineering partner...

- **SATAI**



- **Institute for Economic Development**

- CCBR** Center for Community and Business Research
- CRC** Contracting Resource Center
- RBP** Rural Business Program
- MBEC** San Antonio Minority Business Enterprise Center
- SBDCNet** SBDCNet National Information Clearinghouse
- SWTX SBDC** SBDC South-West Texas Border Network
- ITC** International Trade Center
- SASBDC** SBDC San Antonio
- SWTAAC** Southwest Trade Adjustment Assistance Center



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The CITE Process Illustrated:



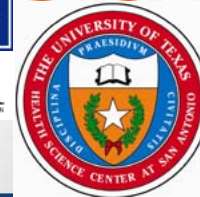
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## South Texas Technology Management (STTM)...

- **Regional TTO Model - 2007**
- **11 Professionals**
- **Serve UTSA, UTHSCSA, UTB, UTPA**
- **Total Research \$238 Million**
- **Advantages**
  - Breadth of technology coverage
  - Economy of scale
- **Barriers**
  - Campus cultures/ branding
  - Allocation of costs
  - Geographic separation



UTSA



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## UT Brownsville International Innovation Center...



- International Technology Education and Commerce Campus (ITECC) 2003
- **\$1.25 million EDA grant**
- **647,000 SF, 50 + Start-ups**
- **1,000 + jobs, 600+ clients, UTB/TSC support**
- **Brownsville Economic Development Council (BEDC)**
- **Texas Border Center for Economic and Entrepreneurial Development (CEED), Cross-Border Institute for Regional Development (CBIRD), Workforce Training and Continuing Education (WTCE)**
- **Consulate of Mexico, Export Import Bank of the U.S., and U.S. Export Assistance Center**
- **IIC Banking Program offers client companies direct contacts: SBA, OPIC, Ex-Im Bank, other funding...**



## *UT Pan American...*

- **Rapid Response Manufacturing Center [RRMC]**
  - ❑ 4500 SF Incubator + Advanced Manufacturing
  - ❑ Broad Regional Support
- **100 Fortune 500 Global Companies**
- **Entrepreneurship Boot Camps free to public**



## Tyler Area Business Incubator...

### UT Tyler

- Technology Commercialization and Office of Sponsored Programs
- Commercialization and Entrepreneurship Boot Camp – free to the public 10/2/2009
- TxAIRE Texas Allergy, Indoor Environment and Energy Institute ETF – Research Superiority Award 2008

COMMERCIALIZATION & ENTREPRENEURSHIP BOOT CAMP  
FALL 2009

UT TYLER

UTD iie  
The power and the potential of the business world are in the hands of those who believe in it.

UT DALLAS

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FALCONS  
**UTPB**  
THE UNIVERSITY OF TEXAS OF THE PERMIAN BASIN

CEED  
Center for Energy & Economic Diversification

- **Founded in 1999** <http://ceed.utpb.edu/about-ceed/ceed-overview/>
- **Petroleum Industry Alliance (PIA) and PETROLEUM TECHNOLOGY TRANSFER COUNCIL**  
[HTTP://WWW.PTTC.ORG/TEXAS SENEW MEXICO/TEXAS SENEW MEXICO\\_HOME.HTM](http://www.pttc.org/texas_senew_mexico/texas_senew_mexico_home.htm)
- **Economic Development Administration University Center (EDA)** <http://ceed.utpb.edu/programs-and-organizations/economic-diversification/about-ceed-edp/>
- **UTPB Small Business Development Center (SBDC)**  
<http://www.utpbsbdc.org/>

New Mexico

**EDP**

Helping West Texas Grow

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## ***RTT Out-reach...***

➤ **[www.NCET2.org](http://www.NCET2.org)**

- Co-hosts for annual conference in DC – December '09
- GLOBAL Webinars

➤ ***World's Best Technologies WBT Showcase***

- Arlington TX March 2010
- UT System Chancellor's Entrepreneurship & Innovation Awards – 2007 & 2010

➤ **[BIO International Annual Convention](#)**

- Chicago IL McCormick's Place May 2010
- Texas Pavilion, Opportunity Houston, UT System home base



## ***State of Tomorrow™ PBS series...***

### ***Winner of Five Lone Star EMMY® Awards***

...explores critical challenges facing Texas and the world. And ...tells unforgettable personal stories about the greatest issues of our time. Throughout the 31 segments in 13 episodes, we meet families who are grappling with serious illnesses, men and women preparing to confront disasters, and researchers pursuing the most intricate, elusive problems of health, science, education, technology and the environment. With personal stories from our communities, the series demonstrates the profound impact public higher education has on all of our lives.

**<http://www.stateoftomorrow.com/homepage.htm>**

- **Special Thanks**
- The University of Texas Foundation
- The University of Texas System Chancellor's Council
- The University of Texas System Board of Regents
- The University of Texas System Office of External Relations



## ***UT is Making a Difference...***

- ✓ RTT Web Site: [www.utsystem.edu/rtt/](http://www.utsystem.edu/rtt/)
- ✓ UT Start-up Companies:  
<http://www.utsystem.edu/rtt/technologytransfer/TTStartUps/start-ups.htm>
- ✓ UT Technology Transfer Offices:  
<http://www.utsystem.edu/rtt/Reps/RepsTT.htm>
- ✓ Office of General Counsel – IP Web Site :  
<http://www.utsystem.edu/ogc/IntellectualProperty/index.htm>

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