



Chris Fleckenstein works on a machine at Molecular Imprints Inc., a company created by the University of Texas that received a grant from the Emerging Technology Fund.



Angela Belcher is a chemist with expertise in biomolecular materials. Her research involves hybrid organic-inorganic materials.



Anthony Jimenez, one of 80 employees at Austin-based Molecular Imprints Inc., puts together a device to hold wafers.



Belton-based Advanced Laser Materials' equipment and techniques allow for fast and easy production of all sorts of objects.

Universities cashing in on innovation

Commercialization efforts picking up speed

By Kirk Ladendorf
AMERICAN-STATESMAN STAFF
Monday, April 02, 2007

The University of Texas at Austin is getting better at commercializing the inventions that its scientists and engineers develop, according to a state study to be released today.

UT-Austin took in a record \$8.4 million in technology licensing income in fiscal 2006, up 26 percent from 2005. Statewide, all publicly funded colleges and research organizations generated \$40.5 million in licensing income, up 1.5 percent.

All state schools in Texas are under pressure to commercialize more faculty research to help Texas create homegrown companies in fields such as nanotechnology, the cutting-edge industries that are expected to become big job generators.

Texas has a long way to go to catch up to research powerhouses such as the University of California campuses, which collect tens of millions a year in patent royalties and have spawned high-profile companies.

But the report shows steady progress.

It may be used as a partial measure of the potential impact of the state's \$200 million Emerging Technology Fund, which the Texas Legislature created in 2005 to accelerate the growth of research-based companies in Texas.

Much of that money will go to university researchers and to small companies based on that research.

According to the study released by the Texas Higher Education Coordinating Board, the leaders in generating licensing income in Texas were: the UT Southwestern Medical Center, \$12.3 million; UT-Austin, \$8.4 million; the UT M.D. Anderson Cancer Research Center, \$6.3 million; the Texas A&M University System, \$6.5 million; the UT Health Science Center in Houston, \$3 million; and the UT Health Science Center in San Antonio, \$2 million.

However, the revenue was offset by the costs of commercialization offices and legal expenses, especially patent law-suits. Overall, the universities spent \$16.6 million on those costs, including \$1.5 million at UT-Austin.

UT-Austin also helped create seven startup companies that licensed its research in the year, bringing its total to 19. That compared with 18 for M.D. Anderson, 11 for the Texas A&M System; nine for the Health Science Center in San Antonio and six for the Southwestern Medical Center.

"UT-Austin has been creating six or seven new companies a year, outpacing all public universities in the state," said Juan Sanchez, vice president for research at UT-Austin. "That is not only encouraging, but also clear evidence of the emergence of a strong entrepreneurial culture among our faculty and students." UT's commercialization growth has been rapid and recent. In the past, the school was regarded as a national underperformer in commercialization for a major research school, according to Neil Iscoe, director of the school's Office of Technology Commercialization since 2003.

The school has cultivated closer ties with investment companies and worked as a kind of marriage broker between researchers and investors. It has sponsored commercialization conferences in Austin and created a searchable online database of its patent holdings.



UT professor Nicholas Peppas works with new particles to deliver medicines to the body.

"We are becoming a place that people are coming to to find technology, and we are actively promoting that," Iscoe said. "We are building a diverse portfolio of promising companies, and we have been willing to collaborate with investors to do deals that make sense."

And recently, UT changed its policies to streamline its process and address complaints by some faculty members and entrepreneurs about bureaucratic hurdles. At least a few investors say UT's proactive approach is working.

Austin-based Emergent Technologies Inc., which invests in biotech startups, says one reason it created a fund devoted to technology licensed from UT System schools was the collaborative attitude it found at UT-Austin and UT-Arlington.

Bruce Thornton, a UT alumnus and an investor in a new UT-related startup, Advanced Laser Materials LLC, said the collaborative attitude of Iscoe's office was a key to getting the deal done.

Advanced Laser develops materials that can be turned into rapid prototypes and precision tools through a process known as laser sintering.

UT was willing to take its licensing fee in company stock rather than cash, Thornton said. That saved the startup money early on and could earn the school a handsome profit now that the Belton company is approaching profitability and pursuing larger deals.

"UT brought a flexibility and creativity to the licensing process," said Thornton, a veteran entrepreneur who believes that outsiders underestimate how much work it takes to turn good research into a successful business. "Building a new company is much harder than most people realize. It is a grind. It is not a snap of the fingers. Not enough people realize that yet."

Some UT companies have landed grants from the Emerging Technology Fund.

One recipient is Austin-based Molecular Imprints Inc., which has 80 workers and expects this year to have \$20 million in sales of its equipment that helps make advanced computer chips and other products.

CEO Mark Melliar-Smith says the company is close to becoming profitable and is paying back UT with royalty payments and about \$200,000 a year in research grants.

"The large universities of the United States, including UT, are becoming critical assets to the country," Melliar-Smith said. "They have become the wellspring of multidisciplinary research and innovation as some of the large corporate labs have begun to be shrunk back."

Some UT researchers are saying they like what they see in the commercialization process.

Chemical engineering professor Nicholas Peppas said he liked the way UT worked with Emergent Technologies to create a startup called Mimetic Solutions LLC based in part on his research in intelligent drug delivery.

"The process is working magnificently at UT," Peppas said.

The system works far more smoothly, he said, than it did at Purdue University, which he left four years ago.

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