

N.M. tech centers churn out patents

By Winthrop Quigley / Journal Staff Writer on Mon, Aug 22, 2011



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Patents keep flowing out of New Mexico's centers of technical innovation at an impressive rate.

Successful commercial ventures based on those innovations appear much more slowly, but they do appear, and what venture capitalists and entrepreneurs call the ecosystem that is necessary to support start-up technology companies is developing in New Mexico, according to some University of New Mexico experts.

Just since June 2010, nine patents have been awarded to research affiliated with the UNM Cancer Center. Another 14 patents were awarded to other UNM researchers during the 2010-11 academic year. A nonprofit company owned by the university, STC.UNM, forms between five and eight new companies a year to create commercial ventures based on UNM patents.

Patent parade

Patents awarded in the 2010-11 academic year for Cancer Center-affiliated research:

Faster flow cytometry.

Researchers: Larry Sklar and Bruce Edwards

A new platform for flow cytometry. Researchers: Sklar, Eric Prossnitz, Angela Wandinger-Ness and Peter Simons

Method to isolate stem cells from the kidney. Researchers: Wandinger-ness, Tamara Roitbak and Elsa Romero

Compounds for modulating GPR 30 and other estrogen receptors. Researchers: Prossnitz, Jeffrey Arterburn, Sklar, Edwards, Tudor I. Oprea, Cristian Bologna and Daniel Cimino.

Process for producing silica nanoparticles. Researchers:

New Mexico is far from being Silicon Valley, but Silicon Valley wasn't always Silicon Valley either, said Larry Sklar, a Cancer Center pathologist, holder of 17 patents and a scientific adviser to a company that was founded to commercialize innovations he developed with another UNM pathologist.

Stanford University, which is credited with spinning out many of the innovations and some of the people who created the information technology industry that grew up in and around the Palo Alto, Calif., campus, used to be called The Farm, Sklar said. "There were pockets of excellence, just like here," he said, but it wasn't until the 1970s and 1980s that the area achieved the critical mass of patent attorneys, venture capitalists, entrepreneurs and business managers – the ecosystem, if you will – to become Silicon Valley.

Building critical mass

Sklar said it takes about 30 years to get that critical mass. He thinks New Mexico started on that path some time in the 1980s or 1990s.

Working in New Mexico's favor is the willingness, even eagerness, of researchers from different fields and institutions to collaborate, said STC President Lisa Kuuttilla. "We have some really unique things here that combine our historical energy-related research and development with the sort of more modern medical and life science research," she said. "Often innovation occurs at the intersection of those disciplines."

The intersections showing high promise occur in the fields of nanotechnology, microsystems, biomedical engineering and nuclear medicine, she said.

Those intersections are institutional as well as personal. The UNM Center for Biomedical Engineering, for example, is designed to foster collaborations between the university and the national laboratories. Kuuttilla said UNM shares about 70 patents with Sandia National Laboratories and about 35 with Los Alamos National Laboratory.

Sklar came to New Mexico from Scripps Institute in La Jolla, Calif., in part because he thought that "between the labs and the university there should be some things here." Sklar was interested in flow cytometry, which is an electronic and chemical technique for detecting and examining cells and other microscopic matter. Much of the early research in the field was done in the national laboratories, and Sklar was able to tap biological expertise at UNM and electronics expertise at the labs to further his research.

Pathological progress

Abhaya Datye, Timothy Ward and Hien Pham.

Process for producing other nano structures. Researchers: C. Jeffery Brinker and Xingmao Jiang.

Method for detecting lung infections in cystic fibrosis patients. Researchers: Vojo Deretic and Graham Timmins.

Noninvasive test for tuberculosis infection.

Researchers: Deretic and Timmins.

System for measuring DNA damage in skin. Researcher: Timmins.

Sklar's work, in collaboration with UNM pathologist Bruce Edwards, became the technical foundation of Intellicyt Corp., founded in 2006 when STC presented the scientists' inventions to entrepreneur Terry Dunlay. Dunlay had a 20-year track record managing and building biotechnology companies. Intellicyt employs 40 people and has raised \$3.3 million from investors, including \$1.5 million from Albuquerque's Verge Fund, Kuuttila said.

Sklar said the researchers had reached a point where they had to decide if they wanted their "day jobs" to be scientific innovation or product development, marketing and support. They chose innovation.

The future success of Intellicyt and other New Mexico start-ups will depend on the speed with which an ecosystem develops. Kuuttila said that finding entrepreneurs like Dunlay to take on a company like Intellicyt is only a first step. It's hard to recruit the next level of management – the chief financial officers, the vice presidents of marketing and the manufacturing experts – to a community where there are few companies in a similar business.

If the company these people join doesn't work out, or if the CFO wants to become a CEO at a similar company, they can't just walk across the street to a new job the way you can in Silicon Valley or Research Triangle in North Carolina or the Route 128 corridor near Boston. People take a big risk leaving a job elsewhere to take one in a New Mexico start-up, Kuuttila said.

'Nexus of connections'

Sklar said that Intellicyt needs to import people who know how to build a product line and market it. It takes a "nexus of connections" among people to find and acquire the talent a start-up needs, he said.

New Mexico's ecosystem "is still tiny," Kuuttila said. "We have some attorneys who know how to do these transactions. We have some accountants who know how to do start-ups. We have some consultants." More venture capital is available than ever before. New Mexico still needs more business expertise and more serial entrepreneurs. "Those folks will come here as activity develops," Kuuttila said.

Sklar added, "I'm hopeful."