

# NM Tech creates student center to drive technology to market

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The New Mexico Institute of Mining and Technology in Socorro is paving a path to market for new technologies, and it's placing students in the driver's seat.

The university's newly created Center for Leadership in Technology Commercialization, launching this month, will offer a slate of new courses and hands-on experience for undergraduate and graduate students to acquire knowledge and skills to guide new technologies to market.

Under the program, teams of students will conduct market studies and other tasks to help researchers commercialize innovation from the university and from New Mexico's national laboratories.

Administrators expect that to lead to new startup companies, generating more revenue for the university and creating job opportunities for students, said Management Department Chairman Peter Anselmo.

"Students will become the bridge between researchers and the market," Anselmo told the **Journal**. "That will help move technology out of the labs, while allowing students to develop skills and knowledge to create businesses."



Undergraduate student research assistant Kathleen Huynh is culturing human cancer cells and testing them for sensitivity to compounds designed by New Mexico Tech's Chemical Biology and Screening Collaborative Core. (Courtesy of NM Tech)

Overall, the university wants to create a “culture of entrepreneurship” on campus, said New Mexico Tech President Dan Lopez.

“Students will work on real-life projects that we believe have commercial potential,” Lopez said. “But if those projects don’t pan out, those students will still learn to create companies. As a result, rather than look for jobs, some of them will instead generate jobs themselves.”

That concept isn’t new. Rather, it reflects an emerging strategy at universities in New Mexico and elsewhere.

### **An emerging strategy**

The University of New Mexico, for example, has built a particularly robust technology transfer program through its Science and Technology Corp. that emphasizes interdisciplinary collaboration across campus among students and faculty. In fact, UNM launched a professional science master’s program in 2010 to teach science students business skills to help move innovative research from lab to market.

And the Anderson School of Management’s annual technology business plan competition, now in its eighth year, aims to provide hands-on entrepreneurial skills to students while motivating them to build companies around new technology.

UNM is also developing a new “Innovation Academy” as part of the Innovate ABQ research district it hopes to create Downtown. The academy will offer classes and real-world training in commercializing new technology, and in building and managing business ventures.

New Mexico State University in Las Cruces also offers hands-on training and assistance for students to form startup companies through its Arrowhead Center Inc.

New Mexico Tech, however, has lagged behind in building a tech-transfer program that incorporates faculty and students. Until now, it only has commercialized select technologies on a case-by-case basis.

That has led to a few big success stories, such as the now globally recognized “nicotine patch,” which originally was created by New Mexico Tech researcher Frank Etscom. The university has earned tens of millions of dollars in revenue from that technology.

### **A new direction**

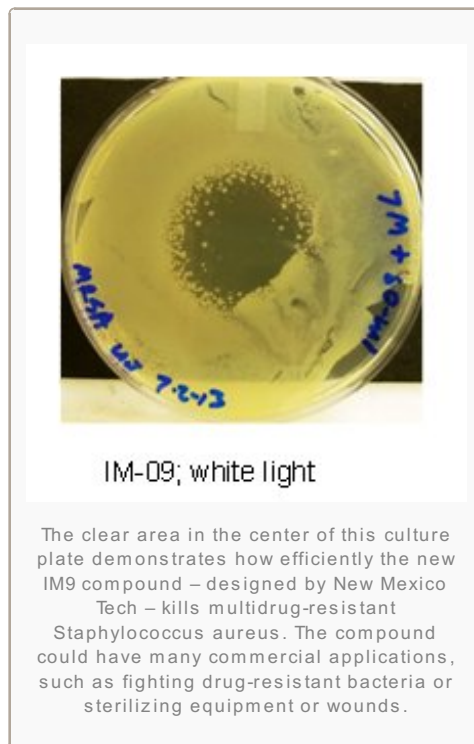
The new commercialization program marks the university’s first concerted effort to institutionalize entrepreneurial training and technology transfer.

“In the past, if faculty got funding or had a potentially marketable idea, they would try to get a patent with help from the university foundation, and they would share the proceeds if the venture was successful,” Anselmo said. “But now we want to systematically introduce a market-based focus into research early on, with teams of students working with researchers to figure out how to do that.”

The center will begin operations this month with nine students divided into three teams that will conduct research on different technologies.

That includes a new, particularly promising biopharmaceutical compound that could be used to fight drug-resistant bacteria and cancer. The university’s Chemical Biology and Screening Collaborative Core developed the compound, known as IM9, which preferentially binds to the deadly MRSA bacteria, said Biology Department Chairwoman Sneana Rogelj.

The compound basically eliminates an ejection mechanism found in infected cells that allows them to expel antibiotics,



thus reducing bacteria resistance to drugs, Rogelj said.

Moreover, the compound becomes much more directly toxic under white light, which means it can be turned into a far-more-powerful bacterial or cancer killer by simply shining light onto drug-infused target areas.

It could also potentially be used to sterilize equipment or wounds simply by spreading a thin film of the compound on an instrument or wound and shining a flashlight on it.

### **Promising applications**

“There’s a whole spectrum of potential applications, so we’re hoping the student team can help us determine where the drug could best fit in the market,” Rogelj said. “We’d like them to help pinpoint the niches that the drug could fill in the medical system, whether as a drug for antibiotic-resistant bacteria or as a sterilizing mechanism for surgical instruments.”

The other two student teams will research a new technology from the university’s materials engineering department and a yet-to-be-determined technology from one of the national laboratories, which the university wants to partner with on commercialization.

New Mexico Tech is financing the center entirely through private donations.

“We decided to not seek any state appropriations, but instead look for private funding,” Anselmo said. “I call it high-end ‘crowd funding.’ We’re asking individuals and other entities for five-year commitments of about \$20,000 per year.”

So far, the university has raised \$200,000, or about \$40,000 per year for five years, allowing it to immediately finance three student teams per semester. It expects to raise enough in three years to hire a full-time center director and a faculty member, support student internships at the national labs, and fund between 12 and 15 student project teams annually.

Given the university’s broad areas of research, the center could generate significant commercialization opportunities, said Tom Stephenson, managing partner at the Verge Fund, which sponsors a speaker series on entrepreneurship at New Mexico Tech.

“They have great strength in most of the physical sciences and in software capability, and they’ve done a tremendous amount of work in explosives and in mining and extractive industries,” Stephenson said. “They may well find ancillary applications for their technologies that have good commercial value. Market research through the center will help identify those things.”