

NMSU taking research, discovery to the next level  
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New Mexico State University is all about discovery. As the state's land-grant university, it is our mission to serve the needs of our state through education, research and Cooperative Extension/outreach programs. It is through our commitment to research that NMSU is constantly seeking new discoveries and, for generations, has led the way with innovative research in agriculture, engineering, science and other fields.

NMSU conducts extensive research across a variety of disciplines with outside funding totaling more than \$1 billion over the past seven years. In the last year alone, more than two dozen NMSU faculty and staff members have generated external funding of more than \$1 million each for their research and 40 faculty and staff members have received funding of more than \$500,000 each.

While making discoveries is important, NMSU is also taking the next step, and working to advance our discoveries from the laboratory to the marketplace. Success in this effort can bring additional economic opportunity, as well as other benefits, to the state.

NMSU's Arrowhead Center has a unique program, named Launch, where researchers compete to see if their technology can be commercialized. With economic support from the U.S. Department of Commerce's Economic Development Administration, as well as NMSU and our partners, Launch provides an opportunity for our researchers to collaborate with a diverse team of professionals at the earliest stages of development.

Launch awardees go through a competitive process to showcase how an investment in the early stages of their technology can help to make it a commercial reality. NMSU faculty members selected to participate in the program receive mentoring, market analyses, demonstration-validation services and access to investment networks through to the Arrowhead Innovation Network. This support network provides technical assistance from experienced business people, better access to investment funds and other services. They also receive up to \$25,000 in cash investment in their technology.

In 2012, awards were given to Jeffrey Arterburn, Charles Shuster and Kevin Houston, who focus on a new class of fluorescent organic dyes and associated compounds referred to as "HPY-Dyes." These revolutionary dyes have applications in biological, biomedical and biotechnology fields as indicators of cell viability and function. Launch Awards also went to Geoffrey Smith and Shuguang Deng, who developed a bacteria culture that produces large quantities of hydrogen gas, which can be captured in a biopolymer. This technology can produce hydrogen gas and a hydrogen-storing biopolymer from organic waste.

For 2013, three teams of faculty members received Launch Awards. Jessica Houston and Mark Naivar are working in the field of commercial flow cytometers, which can be used

in biology and medical industries to count and sort specific cells. Zohrab Samani has developed an app for properly scheduling irrigations for pecan fields. The preliminary results suggest this irrigation scheduling system can improve crop yields and potentially can decrease water usage—important as our state continues to struggle with water supplies. Phillip De Leon, Don McCoy and Steven Spence are focusing on Internet security software using voice authentication.

And this year, we expect an equally impressive group of awardees to be named. We have already seen a dramatic increase in the number of researchers interested in participating in the selection process and look forward to announcing the winners in the coming months.

Something we have known for a while, but had never before put into words, is the idea that NMSU transforms lives through discovery. The research done here has the potential to improve the lives of people around New Mexico and make the state more attractive to additional economic development. This, in turn, would give us the potential to fuel even more research and take our advancements even further. New Mexico State University is truly all about discovery.