

Innovations

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Majority of Centers of Excellence funding goes to University of Utah companies.



873 Students and Counting.



Technology feature: Taking advantage of what nature intended with Seasonal Energy.

Unanticipated applications of basic research

From the panel discussion, "Practical Applications of Basic Research," at the College of Science



Dale Clayton is an evolutionary biologist in the College of Science. He is not your typical entrepreneurial faculty member, but when he made an innovative connection between bird lice and head lice, he just couldn't help himself.



After struggling to keep lice alive on feathers in his lab, Clayton

realized they couldn't stay alive because the air was too dry. The lab started experimenting with the idea that hot air can kill lice. Undergraduate and graduate students alike worked on small experiments using anything from old-fashioned bonnet style hair dryers, to dog grooming instruments. Their experiments evolved into what is known as the LouseBuster™, a new medical device that kills human head lice using controlled warm air.

In November 2006, Clayton and some of his students published a paper in the journal *Pediatrics*. Although there was concern that they were being too open with their research before the intellectual property was secured, the journal article started an enormous international feeding frenzy and ended up helping, not hurting, the research and the company behind the new technology. This success gave Clayton's findings market validation. It showed the extent of interest and need which helped get a company, Larada Sciences, formed with financial backing from private investors.

"There are a lot of misunderstandings about commercialization," says Clayton. "Most academics don't have a clue about why we do it. People assume it's to make a lot of money. That's just not true. The odds are you're not going to make a lot of money."

So why did Clayton get involved in commercialization? He believes that, "it helps the public understand the importance of basic research. When you tell someone that you study the evolution of bird lice at a cocktail party the first question they ask is 'why should we care about bird lice?'"

Clayton went on to explain that in terms of basic research, it's not a bad thing to have some type of serendipitous application of your findings. "You could end up putting another arrow in the quiver of unanticipated applications that come out of basic research. Many of the coolest inventions, such as electricity, were things that people didn't set out to invent."

Clayton didn't become an evolutionary biologist because he wanted to be a big business tycoon or successful entrepreneur, but when the opportunity presented itself, he let commercialization happen. His students got excited; two of them becoming co-inventors of the LouseBuster™ and five of them authoring the paper focused on the research. He explains it as the ultimate educational opportunity, "commercialization can get at the main heart of the University: teaching, research and service."

The culture for funding basic research is at a very fragile state. Clayton hopes that his discovery can help the public understand the need for such basic research, which he believes traditionally hasn't been held in high enough regard. Clayton said that scientists involved in basic research are sometimes hesitant to work on commercialization projects because they're just too busy. "They don't realize there's a history of successful commercialization here at the U," says Clayton. "They aren't aware of the resources available to them, such as the Entrepreneurial Faculty Advisors, should they have a breakthrough idea like the LouseBuster™ or even a simple question. They don't know that they don't have to do it alone."

Larada Sciences, a University startup company established in 2006, recently received FDA clearance for their technology, the LouseBuster™, which eradicates head lice and their eggs without harsh chemicals, in a single 30-minute treatment.

This article was based on a panel discussion that was held by the Entrepreneurial Faculty Advisors for faculty members within the College of Science. ■