

ETHICS OF...



ADVANCING UNIVERSITY INNOVATION

BY FRANCES ROGERS

When scientists at the University of Florida formulated Gatorade in 1965, it wasn't as part of an ongoing research study or even a classroom experiment. It was the result of a desperate cry from an assistant football coach to a doctor in one of the school's medical colleges. He wanted to see his Gator football team win games. Researchers did not set out on a commercial venture, yet their creation is now synonymous with every sport from Little League to the Olympics. And, it's netted the University of Florida more than \$150 million in royalties.

Research

Commercialization

Nearly 20 years later, an undergraduate at the University of Illinois set out to create a more user-friendly way to access the World Wide Web. The computer science major created a new browser that, for the first time, allowed hyperlinks, pages with images and the ability to scroll. After graduation, that student took his invention with him to Silicon Valley, where he established Netscape. The University of Illinois eventually received a small settlement, but only a fraction of what the newly formed company would come to earn.

"It's really hard to know, in advance, what is going to be valuable," said Greg Leman, director of University Entrepreneurial Initiatives at Baylor, and the Curtis Hankamer Chair in Entrepreneurship. "If you want to commercialize something invented at a university, it's easy to miss unforeseen—and sometimes unintended—uses and values. If you don't know what something is worth, it could be given away too easily."

That's where Leman hopes to help.

"Universities are afraid they're going to give away a Netscape when they should have had a Gatorade," Leman said. "If the university itself could do some of the initial work, incubate things, evaluate them as part of the business school's mission, many of these innovations can be brought to a point of clear, real, proven value. We could ease some fears of undervaluing. That's what we want to do at Baylor."

Truell Hyde, Baylor's vice provost of research and head of the Baylor Advanced Research Institute (BARI), believes that researchers' partnering with the business school is helping to lead Baylor in the right direction.

"As a research university, Baylor is still very young," Hyde said. "We're just starting down that path. The advantage is that it provides us an excellent position to establish partnerships with the school of business and the school of law and avoid some of the problems other universities have had."

The Baylor Board of Regents recognized the value of extending Baylor research capabilities into the commercial world by approving creation of the BARI. BARI's charter is to support faculty researchers and represent Baylor as a liaison to industry in fulfillment of their research efforts. One of BARI's goals is to ensure that Baylor faculty, while conducting "pure research," are also provided ways to examine their findings' effectiveness and explore practical application of their research through partnership with industry. Faculty are aided in this endeavor by Jim Kephart, director of program development for the BARI.

Kephart, who has over 30 years experience in program management, which includes eight years managing a \$400 million NASA international aerospace project, is keenly aware of the necessity to closely review ethical considerations when it comes to potential collaborations with industry.

"I came to Baylor with the desire to assist in the fulfillment of Baylor's Christian mission," Kephart said. "An additional desire was to assist in the fulfillment of the Baylor 2012 goals of bringing our research capabilities into the top tier of research universities. The two goals are not mutually exclusive. In fact, a number of the current research collaborations with industry have been brought about through mission-based contacts provided by my colleagues in the Hankamer School of Business."

Kephart said he reviews each research opportunity with three specific criterion in mind: First, does the research have the potential for providing a meaningful learning experience for the students and faculty; secondly, is the industry partner willing to provide sufficient investment in Baylor's research mission to result in meaningful gains for the social good; and finally, wherever possible, insure the commercialization of Baylor research can result in economic development for the local region.

In the near future, Hyde hopes to expand the BARI into a "discovery park" for Baylor research and development, with a very strong business school presence.

"This park would include a Baylor Business Mall, where researchers could find everything a small start-up, or even a larger existing business, might need after discovery such as assistance in marketing or commercialization," Hyde said. "Even in the short time Baylor has been involved in this type of endeavor, the business school has proven itself integral to what we do within the BARI and what we hope to expand to do."

While expansion to research that has practical applications for industry has many benefits for the university, and society, it may also introduce new problems at the university level.

"There is always the question at any university whether too much emphasis is being placed on commercialization in research," Hyde said. "One edict of my office is to make certain it not become so pervasive that it encroaches on the primary goal of the university, which is to provide an outstanding education to our students." Leman has heard these concerns expressed to a small degree at Baylor, but hopes that there can be a middle ground.

"There is a feeling among some, that if you bring commercialization into the picture, your research is no longer pure science," Leman said. "The feeling is that their standing as an academic could be tainted if they do anything commercial. From that perspective, it should just be about advancing science and nothing else."

Similarly, many people argue over art and music. Some fans of the Beatles felt their song "Revolution" was forever tainted after being used in a Nike shoe commercial.

"The argument exists because people care about their art or their science," Leman said. "They believe that gaining something valuable is not worth losing something as valuable. And the 'purity' of the art or the music or the science is very valuable to some."

While Hyde believes that the balance of pure science and commercial science is one that needs to be monitored at any university, he believes that most people agree that the benefits of applied research can be structured to outweigh the disadvantages.

"A first-class teaching university is greatly enhanced by faculty who are involved in research and scholarship," Hyde said. "One way to fund such research is through faculty partnerships and student internships with industry. I think most faculty members understand and appreciate that."

Once working with industry; however, there are additional pitfalls that the university must safeguard against, especially if corporations are providing outside funding for research.

"It's a bit of a tightrope," Hyde said. "For example, an industry might want our researchers to test something of theirs, but then not publish the findings if they prove unfavorable to the sponsor. As university researchers, we have to remain unbiased. As a result, before any Baylor faculty member agrees to work with an industry sponsor, we make certain they are aware that our faculty will remain completely unbiased in order to protect the faculty's and the university's reputations."

Hyde also works with Baylor researchers and industry to ensure that faculty members' rights are protected in commercial ventures.

"Intellectual property rights can be tricky," Hyde said. "Working with people at the business school and law school has resulted in policy that is very generous to the Baylor faculty while still fair to the university and the corporation."

Both Hyde and Leman agree that with carefully defined guidelines, applied research can be beneficial to everyone.

"At Baylor we understand that our talents and knowledge were given to us as gifts, and we are to steward those gifts well," Leman said. "We do have an ethical obligation to society to make sure the innovations we create are used for the good of mankind and are accessible to everyone."