Dr. Kristen Billiar, Professor, Head, Biomedical Engineering  
2013-14 Coleman Fellow

Four years of real-world corporate experience before coming to WPI has taught Kristen Billiar a thing or two about entrepreneurship, making him a logical choice as a Coleman Fellow.

“I definitely saw the value of the business side of things after working (at regenerative medicine company Organogenesis) for four years,” said Billiar. “If there wasn’t good management and wasn’t a good business plan, it didn’t matter how good the science was.”

An associate professor of biomedical engineering, Billiar teaches the mechanics of tissue development and healing in the growing field of mechanobiology and ensures that his students get exposed to business concepts as well as bioengineering ones. “To study tissue engineering you need quantitative tools and a lot of them are new devices that I work on with students,” states Billiar. “In my lab I encourage students to think about those types of devices in a larger context, such as starting their own companies. I will often urge student teams working on their Major Qualifying Projects (MQP) to apply for patents -- in just this past year, two of my teams have applied for patents in two totally different areas.”

To help foster an entrepreneurial mindset in his students, Billiar, who co-teaches a senior-level design course, talks not only about the engineering process but brings in entrepreneurship speakers and industry professionals as well to talk about developing business plans and a value proposition. WPI’s intellectual property (IP) expert also visits the class to talk with students about the importance of protecting any IP they may be developing in the course of their studies.

In addition to promoting entrepreneurship in his labs and classroom during the academic year, Billiar also runs a graduate-level summer “boot camp” with Professor Frank Hoy, WPI’s Paul Beswick Professor of Entrepreneurship and Director of the Collaborative for Entrepreneurship & Innovation, and Glenn Gaudette, an associate professor of biomedical engineering and another Coleman Fellow.

“Half of this boot camp is technical and half is business-related,” said Billiar. “We want to get attendees to start thinking at the PhD level that the research they’re doing in their labs could be translated into a commercial venture. We’re trying to get the entrepreneurial mindset going right away. A high percentage of students go to work in small companies and start-ups and I suggest to students to not just bury themselves in the technical aspect of the work, but to look at it as part of a bigger picture, and how it can be turned into a successful business.”

Billiar, an active athlete in his off hours, has had reconstructive surgery on both his knees as a result of basketball injuries but managed to turn his misfortune into a teaching opportunity. “My surgeon came into my class and presented my students with the challenge to come up with knee ligament replacements,” said Billiar. Billiar now serves as Department Head for Biomedical Engineering.

#