

MU Biodesign and Innovation Program

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Introduction

The MU Biodesign and Innovation Program (MUBIP) centers its efforts off two tiers: (1) formal educational training through a biodesign and innovation fellowship and (2) interdisciplinary faculty collaboration. The Department of Surgery and College of Engineering on the University of Missouri campus in Columbia recognizes the growing need to improve patient care and desire to impact this arena through the collaborative development of MUBIP. MUBIP goals are to successfully bring new medical technologies and health care solutions into the market while producing high quality innovative professionals with the desire and knowledge to continue producing new medical technologies within our program, the University of Missouri, MU Biodesign affiliates, corporations or through the establishment of new companies resulting in economic gains.

Formal Educational Training

The education tier is focused primarily on the fellowship. The experience simulates, in a compressed one-year timeframe, the phases of a start-up medical device company. The fellowship consists of a three member team including a surgeon, engineering with at least a masters degree, and business professional with a MBA. The fellowship team start date is July 1 and ends June 30.

The fellowship year structure is divided into three phases that provide observation and hands-on experience in clinical, engineering and business environments. Phase 1 is clinical immersion; Phase 2 engineering design and development, finishing with Phase 3, business practices. Each phase is

approximately 4 months with overlap throughout the year. In addition to observation and hands on training in each phase the fellows attend lectures related to the biodesign process, surgery, engineering and business. Lectures are presented by faculty from the Department of Surgery, College of Engineering, entrepreneurs, angel fund investors, venture capitalists, industry leaders, founders from start up companies, and other successful biodesign related individuals from the community and nationwide. Faculty, staff, residents and students are welcome to attend these lectures.

Interdisciplinary Faculty Collaborations

Interdisciplinary faculty collaboration is the other tier of MUBIP. MUBIP goal is to facilitate collaboration between faculty within the University of Missouri Campus through interdisciplinary research and education. With the MUBIP mission focused to improve health care through invention and implementation of new medical technologies, we believe this can be accomplish through MUBIP guidance and support from the faculty members collaborating to build on existing relationships and form new relationships to invent innovative medical technologies.

Conclusion

MU Biodesign & Innovation Program is a new innovative way to grow, build and promote new medical technologies to improve patient care. The education is a novel way to help surgeons, engineers and business people learn the process from napkin to market and prepare them for a future in medical device development. This program has the ability to impact future patient care with a generation of knowledgeable successful inventors. Collaboration is a key factor to continue improving patient care. Technologies, research and knowledge continue to grow; however, to maximize the potential of new inventions and improve patient care, it is crucial to bring engineers and surgeons together to be leaders in today's changing world.