PRESENTER: Dr. Bret Ulery, Assistant Professor
MU Department of Chemical Engineering

TITLE: Biomodulatory Materials

ABSTRACT:
As the biomaterials community tackles grand challenges like intracellular drug delivery and complex tissue regeneration, strategies employing inert biomaterials serving a singular function are suboptimal. Instead, novel, multi-dimensional strategies need to be developed to achieve the next series of breakthroughs in biomaterials-based research. One new paradigm is the exploitation of the physicochemical properties of biomaterials to directly modulate cell and host responses. These biomodulatory materials can be used individually or in combination with bioactive factors to produce desired outcomes in a variety of biomedical fields. In this seminar, I will present my prior research designing and utilizing biomodulatory materials in musculoskeletal regenerative engineering and immunoengineering as well as discuss future opportunities in these areas.

BIOGRAPHICAL:
Bret Ulery is currently an Assistant Professor in the Department of Chemical Engineering at the University of Missouri. After earning a B.S.E. in Chemical Engineering and a B.S. in Biochemistry from the University of Iowa in 2006, he conducted graduate research with Dr. Balaji Narasimhan at Iowa State University and received his Ph.D. in Chemical Engineering with a Graduate Minor in Immunobiology in 2010. Following completion of his doctoral studies, he spent four years as a postdoctoral researcher first working in Dr. Cato Laurencin’s research group at the Institute for Regenerative Engineering at the University of Connecticut Health Center and then in Dr. Matt Tirrell’s group at the Institute for Molecular Engineering at the University of Chicago.

DATE • TIME • LOCATION:
Tuesday, February 24, 2015, 4:00 PM, 107 Agricultural Engineering Building