Predicting Biodegradation in Tissue-engineered Scaffold Fabrication

Speaker:
Li Zeng, Assistant Professor, Industrial and Systems Engineering, Texas A&M University

Date:
Friday, March 4, 2016 - 1:00pm to 2:00pm

Location:
L2D2 (Engineering Lecture Hall)

Abstract:
Tissue-engineered scaffolds play a critical role in the development of engineered tissues/organs, and scaffold fabrication has been a heated research area in bioengineering in recent years. One critical problem in scaffold fabrication is controlling the degradation rate of scaffolds in the human body. While some theoretical studies have been done, this problem remains a challenge. This research develops two statistical methods for scaffold degradation modeling and prediction. A good feature of these methods is that they are able to incorporate expert knowledge on scaffold properties for better prediction performance and meaningful interpretation. This talk will briefly introduce the basic ideas of the methods and results of a case study.

Biography:
Li Zeng is an Assistant Professor in the Industrial and Systems Engineering Department of Texas A&M University. She received her B.S. and M.S. degrees in Optical Engineering from Tsinghua University, China, and M.S. degree in Statistics and Ph.D. in Industrial Engineering from University of Wisconsin-Madison. Before joining Texas A&M in Fall 2015, she was a faculty in the Industrial, Manufacturing, and Systems Engineering Department of the University of Texas at Arlington. Her research interests are process modeling, analysis and control in complex systems including manufacturing systems and healthcare delivery systems. Her research is supported by federal and state agencies such as the National Science Foundation, American Heart Association, and University of Texas System. She is a member of INFORMS and IIE.