Spring 2012 Faculty Candidate Seminar

Manufacturing – Its Role in Addressing the Grand Challenges for Engineering

Iris V. Rivero
Texas Tech University

Wednesday, March 7, 2012 - 4:00 to 5:00 p.m. - 1312 Hoover Hall

Abstract
The seminar will discuss manufacturing research projects that align with Engineering Grand Challenges as defined by the National Academy of Engineers. In particular, these projects emphasize the fabrication of materials constructs that have the potential future capabilities of providing localized drug delivery and/or of restoring the functionality of damaged tissues. Current manufacturing processes for the fabrication of materials constructs used in tissue engineering are constrained by their inability to be controlled for achieving repeatable morphological characteristics that impact resultant mechanical and physical properties. Therefore, the premise of these research projects is to elucidate the effect of processing parameters on particular constructs’ characteristics to influence their performance as medical devices.

The seminar will conclude by presenting an overview of research plans and collaborations to be developed in the near future for establishing enduring and successful research partnerships.

About the Speaker
Iris V. Rivero is an Associate Professor in Industrial (Manufacturing) Engineering at Texas Tech University. Dr. Rivero received her B.S., M.S., and Ph.D. in Industrial & Manufacturing Engineering from the Pennsylvania State University. Her research interests include manufacturing processes, biomedical engineering, and nanomaterials. She has industrial experience in the field of advanced manufacturing systems and materials at Detroit Diesel Corporation and Honeywell Engines & Systems. In addition, she participated as a faculty fellow at NASA's Marshall Space Flight Center. In 2009 Dr. Rivero was recognized with the Society of Manufacturing Engineers (SME) John G. Bollinger Outstanding Young Manufacturing Engineer Award conferred in recognition of her significant achievements and leadership in the field of manufacturing engineering as a young engineer. Dr. Rivero is also a past recipient of the 2007 Texas Tech's Alumni Association's New Faculty Award for the college of engineering.

Lastly, Dr. Rivero has led the revitalization of the Manufacturing and Design Division of the Institute of Industrial Engineering and was elected the President of the Board for the 2010-2012 terms. In this role Dr. Rivero expects to strengthen relations among Manufacturing divisions of major organizations (i.e. SME and ASME), and to contribute to forging the future of the field in the country.

Teaching seminar is Thursday, March 8 at 9:00 a.m. in 2004 Black