JOHNS HOPKINS
BIOMEDICAL ENGINEERING

Monday, February 9, 2009, 1:00 PM, Clark 110
(Will be teleconferenced to Traylor 709)
Light lunch will be provided at 12:00 in Clark 110

Heparin and Heparan Sulfate: New Approaches in Glycoengineering

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Hosted by: Kevin Yarema

Abstract: Heparin, a prominent clinical anticoagulant, is the most widely used carbohydrate-based therapeutic. Pharmaceutical heparin is a natural product prepared from animal tissues. The heparin contamination crisis in 2008, led us to examine opportunities to utilize biotechnology to prepare heparin and heparin oligosaccharides for therapeutic applications. In undertaking this project in became clear that we lacked a full understanding of heparin biosynthesis, particularly the control of the placement of structural domains within the heparin polysaccharide. We have initiated an artificial Golgi project, utilizing both microfluidic and microarray platforms, to serve as a test bed to develop a means to control heparin biosynthesis. This technology also has applications for the study of structural and functional glycomics of heparin and the related, heparan sulfate, particularly in to stem cell differentiation.

Upcoming Seminars
February 16: Ruth Nussinov
February 23: Xiao-Jing Wang
February 27: Michael Guttman

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