Title: *Analytical and Computational Methods for Fluid-Structure Interaction Applications to Aneurysms*

Abstract: In this talk, we develop analytical and computational models for understanding soft tissue mechanics, fluid dynamics, and their interaction for aneurysms. Despite major advances in this area, there is still a need for more sophisticated models which provide better insight into understanding the biomechanics of aneurysms. Towards this end, this talk will develop a hyperelastic membrane model which incorporates fluid-structure interaction for a cylindrical geometry undergoing radial inflation. Extensions of the model to include viscoelasticity in the aneurysmal wall will also be discussed.