Call for Abstracts

13th U.S. National Congress on Computational Mechanics (USNCCM13)
http://13.usnccm.org/

July 26 – 30, 2015

Track: 100 Biological Systems

Mini-Symposium: 104 Modeling of Vascular Tissue, http://13.us-nccm.org/MS104

Location: San Diego, California, at the Manchester Grand Hyatt.

Mini-Symposium Organizers: Arun Srinivasa (asrinivasa@tamu.edu) & Sevan Goenezen (sgoenezen@mengr-tamu.org), Texas A&M University, College Station, TX.

Description
Advances in medical imaging has made it possible to extract patient specific geometry of the vasculature utilizing computed tomography (CT) scans, magnetic resonance imaging (MRI), or ultrasound imaging. Simultaneously, the tremendous increase in computational performance in recent decades has lead to extensive research in computational models of the in-vivo vasculature to compute the wall stresses, strains, material properties, etc, that may have important medical applications in assessing the risk of vascular diseases and failure modes.

However, current approaches are dominated by uncertainties, thus limiting the application to assess the risk of vascular diseases. The proposed mini-symposium addresses these model uncertainties and will bring together researchers to present their state of the art modeling efforts. In particular, the mini-symposium will address constitutive modeling efforts for vasculature. Topics to be addressed include, inferring the anisotropic and heterogeneous nature of the arterial wall layer, unknown pre-stressed states, as well as differences between diseased sections. Furthermore, the material properties may vary between individuals and correlate with age, gender, external environmental factors (for example tobacco use or heavy alcohol consumption).

The aim of the mini-symposium is to bring investigators together addressing any of the above discussed challenges.

Abstract Submission
Authors should submit a 400 word text only abstract on the http://13.usnccm.org/abstract_instructions website by *February 15, 2015*.

Congress Co-chairs: Yuri Bazilevs & David Benson, University of California San Diego.