

CEREBRAL ANEURYSMS

Juan R. Cebral*, **Christopher M. Putman**** and **Jay Humphrey*****

*Center for Computational Fluid Dynamics, Fairfax, Virginia, jcebral@gmu.edu

**Interventional Neuroradiology, Inova Fairfax Hospital, Virginia,
christopher.putman@inova.com

***Biomedical Engineering, Yale University, Connecticut, jay.humphrey@yale.edu

PROPOSAL

Key Words: *cerebral aneurysm, hemodynamics, biomechanics, mechanobiology, clinical management.*

Understanding the mechanisms of pathogenesis, progression and rupture of cerebral aneurysms is crucial for improving current diagnostic and interventional procedures. This is a multi-factorial problem that involves hemodynamics, wall biomechanics and mechanobiology. Over the past several years, great progress has been made in the development and application of computational modelling techniques to study these mechanisms. However, the exact processes and their interactions are still poorly understood. The purpose of this mini-symposium will be to present and discuss the state of the art of research in the field of cerebral aneurysms, both from the computational modelling and clinical perspectives. Papers will be invited covering all aspects of cerebral aneurysms including hemodynamics, wall biomechanics, growth and remodelling, flow diverting devices, as well as clinical research. This mini-symposium will bring together biomedical engineers, computational and mathematical modelling researchers and clinicians with the aim of exchanging ideas, discussing current problems and limitations, and identifying future research directions and opportunities.