1067-76-289 **Lisa Melanson*** (l-melanson@northwestern.edu), Technology Institute, ESAM Department, 2145 Sheridan Road, Evanston, IL 60208. *Modeling of Intracranial Aneurysms using Immersed Boundary Methods.* Preliminary report.

Wall shear stresses, which are dependent on vessel geometry, can lead to changes in the material properties of arterial walls allowing aneurysms to grow and potentially rupture. In this study, we examine both elastic and rigid arterial wall models to explore how this remodeling is influenced by geometry and fluid stress. Using immersed boundary methods,we investigate the correlation between shear stress and aneurysm aspect ratio, outlet/inlet size, and tilt angle of the aneurysm. (Received September 21, 2010)