1126-65-149 **Hyesuk Lee** and **Shuhan Xu*** (shuhanx@clemson.edu). *Numerical approximation on Viscoelastic Fluid-Structure Interaction Problems.* Preliminary report.

A viscoelastic fluid is a non-newtonian fluid where computational difficulties arise due to the hyperbolic character and the lack of a stabilizing term for the stress. In this talk, we consider a viscoelastic fluid-structure interaction (FSI) problem formulated in (i) a monolithic framework and (ii) a partitioned framework. The Finite Element Method (FEM) is used for the numerical solution, and the Arbitrary Lagrangian-Eulerian (ALE) formulation is applied to handle the time-dependent fluid domain. Numerical experiments concerning different schemes will be presented for comparison. (Received January 10, 2017)