

1135-VN-2587      **Amanda A Howard\*** (amanda\_howard@brown.edu), **Nathaniel Trask** and **Martin R Maxey**.  
*Simulations of suspension flows with a meshless moving least squares scheme.*

This talk will focus on a meshfree method for simulations of neutrally buoyant, non-Brownian particles in Stokes flow. We will discuss a meshless scheme using Moving Least Squares polynomial reconstructions to provide a computationally efficient method with higher order accuracy for use with general boundary conditions and arbitrary polynomial shapes while maintaining stability. The emphasis will be on applications to dense suspensions of particles, especially particles with polydispersed sizes and non-spherical shapes. Results will be compared to other schemes including the Force Coupling Method. (Received September 26, 2017)