1117-35-491 **Changhui Tan*** (`ctan@rice.edu`), Rice University, Department of Mathematics-MS, 6100 Main St. Houston, Houston, TX 77005. *On aggregation equations with alignment.*

In this talk, we introduce a new system of aggregation equations with the presence of alignment. The system is motivated by biological interaction dynamics concerning attraction, repulsion and alignment. The so-called "3-zone" interaction framework is successfully used to model complex behaviors of interacting agents (animals, robots, etc). The proposed system serves as a macroscopic representation of such models. We establish a well-posedness theory for the system, and show rigorously that the system is a hydrodynamic limit of the kinetic 3-zone interaction model with zero inertia. This is a joint work with Razvan Fetacau and Weiran Sun. (Received January 19, 2016)