1154-60-2802 **Scott A McKinley***, 6823 St Charles Ave, New Orleans, LA 70118, and **Christel Hohenegger**.
Anomalous Diffusion of Foreign Particles in Biological Fluids.

The last twenty years have seen a revolution in tracking data of biological agents across unprecedented spatial and temporal scales. An important observation from these studies is that path trajectories of living organisms can appear random, but are often poorly described by classical Brownian motion. The analysis of this data can be controversial because practitioners tend to rely on summary statistics that can be produced by multiple, distinct stochastic process models. Furthermore, these summary statistics inappropriately compress the data, destroying details of non-Brownian characteristics that contain vital clues to mechanisms of transport and interaction. In this talk, I will describe the stochastic integro-differential equation framework we use to model this behavior and the associated statistical challenges that have arisen from recent work on the movement of foreign agents, particularly synthetic microparticle probes, in human mucus. (Received September 18, 2019)