

Abstract:

Crowded motion of particles is of importance in many applications such as the movement of pedestrians in large crowds as well as the motion of ions through narrow channels in biological systems. In this talk, we will derive a non-linear system of coupled PDEs with cross-diffusion from a discrete hopping model. We shall then discuss existence of solutions as well as uniqueness close to stationary states. In a second part, we will address the general question of parameter identification in non-linear drift-diffusion equations which also serve as models for crowded motion.