ID de Contribution: **45**   Type: **Contributed talk**

Well-posedness of an integro-differential model for active Brownian particles

jeudi 18 novembre 2021 15:15 (30 minutes)

I will discuss a work in collaboration with M. Bruna (Cambdrige), M. Burger (FAU Erlangen-N¨urnberg), and S. Schulz (Wisconsin-Madison). We propose a general strategy for solving space-periodic nonlinear evolution problems with periodic boundary conditions, showing an underlying integro-differential structure, here no natural maximum/minimum principle is available. This is motivated to study several macroscopic models for active Brownian particles. To do so, we focus on a specific semilinear parabolic equation with an active drift term, which is the macroscopic model for a system of active Brownian particles with short-range and strong repulsive interactions.

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