

学术报告

Mean-field models for chemotaxis

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Venue: Room 111, Center for Applied Mathematics

Abstract: This talk will focus on my works on mean-field models for chemotaxis based on kinetic theory, including pathway based mean-field models, augmented Keller-Segel model for *E. coli* chemotaxis, and an asymmetric model for biological aggregation. I will give mathematical derivation of the mean-field models by taking some proper moment closure of kinetic biological systems. Building biological mechanism in the models are essential to capture some interesting swarming phenomena, for example, phase-delayed traveling wave (memory effect) and soliton solution (asymmetric sensing). Connections to the chemotaxis model proposed in [G. Si, T. Wu, Q. Ouyang and Y. Tu, Phys. Rev. Lett., 109 (2012), 048101] will be also discussed.

欢迎大家参加！