QBiC SEMINAR

Speaker

Katsuhiro Nishinari, Ph.D.

RCAST, the University of Tokyo

Date & Location

Monday, September 1, 2014
16:30 - 17:30

OLABB 1F Lounge (6-2-3, Furuedai, Suita, Osaka)
***There will be a video broadcast in CDB Bldg.D, E-206**

Title

Traffic jams of self-driven particles

Abstract

Jamming phenomena are seen in various transportation system including cars, buses, pedestrians, ants and molecular motors, which are considered as 'self-driven particles'. There is universality of jam formation among various sorts of flows. We recently call this interdisciplinary research on jamming of self-driven particles as 'jamology'. In the talk, starting from the backgroud of this research, a simple mathematical model, called the asymmetric simple exclusion process, is introduced as basis of all kinds of traffic flow. Then it is extended in order to account various traffic phenomena including kinesins on a microtuble, and the comparison between theory and experiment is given to show that the models are able to capture fundamental features of observations.

Host

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