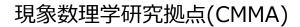
## 全国共同利用・共同研究拠点 明治大学先端数理科学インスティテュート





## MIMS/CMMA Seminar on Self - Organization

## 第20回 自己組織化セミナー

2017年2月9日(木) 15:30~17:30 明治大学中野キャンパス 6階 研究セミナー室

February 9, 15:30-16:20 Jan Elias (Paris-Sud Univ., France)

On a Reaction-Diffusion-ODE Model for Farmers and Hunter-Gatherers

In this talk we summarize our theoretical knowledge of a newly proposed reaction-diffusion-ODE system for the spreading of farmers into a region occupied by hunter-gatherers. We will address mathematical problems of existence and uniqueness of solutions, large time behavior and a singular limit problem.

February 9, 16:30-17:20 Danielle Hilhorst (CNRS/Paris-Sud Univ., France)

Dispersal towards Food: The Singular Limit of an Allen-Cahn equation

The effect of dispersal under heterogeneous environment is studied in terms of the singular limit of an Allen-Cahn equation. Since biological organisms often slowdown their dispersal if food is abundant, a food metric diffusion is taken to include such a phenomenon. The migration effect of the problem is approximated by a mean curvature flow after taking the singular limit which now includes an advection term produced by the spatial heterogeneity of food distribution. It is shown that the interface moves towards a local maximum of the food distribution. In other words, the dispersal taken in the paper is not a trivialization process anymore, but an aggregation one towards food.

中野キャンパスへのアクセス

JR中央線快速・総武線、東京メトロ東西線/中野駅 下車 北口より徒歩約<mark>8分</mark> 詳しくは、http://www.meiji.ac.jp/koho/campus\_guide/nakano/access.html

世話人:三村昌泰(明治大学)、小田切健太(専修大学)

組織委員:池田幸太(明治大学)、上山大信(明治大学)、小川知之(明治大学)、未松 J. 信彦(明治大学)

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