Meiji University Global COE Program
44th Mathematical Sciences based on Modeling, Analysis and Simulation seminar

Date : July 12, 2011, 16:30～18:00

Location : Meiji Univ. Ikuta Campus, Build 2 Annex A, Room A306

Akiko Kaminaga (Kagoshima University)

Title : Microemulsions as reaction-diffusion medium - Diverse reaction-diffusion patterns in the BZ-AOT system

Abstract: The First example of Turing patterns in chemical system was observed in the chlorite-iodide-malonic acid (CIMA) reaction in gel, which should reduce effective diffusivity of activator. To change the diffusivity of chemical species, water-in-oil microemulsions consist of oil, surfactant and water can also serve as reaction-diffusion media for pattern formation. Property of microemulsions can easily modified by changing the composition of microemulsions. In the case of BZ-AOT system, microemulsion in which Belousov-Zhabotinsky (BZ) reaction mixture was dispersed in alkane with the aid of anionic surfactant, aerosol OT (AOT), inhibitor can diffuse faster via the oil phase. Variety of patterns, some of those never observed in homogeneous aqueous system, has been found in this system.
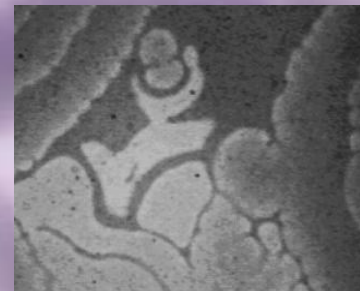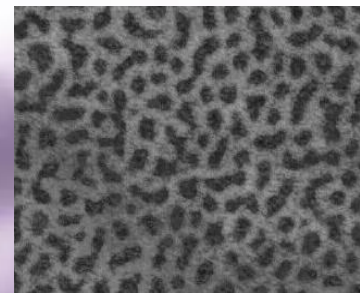
Everyone is welcome to attend the MAS seminar.

Access: 10 minutes on foot from Ikuta St. Odakyu line, Or 10 minutes by bus No. 13「明治大学正門前」, get off at the last stop. See http://www.meiji.ac.jp/koho/campus_guide/ for details.