Spreading phenomena and convergence to traveling waves of reaction-diffusion systems

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１５：００－１７：１５
場所：東京理科大学　神楽坂キャンパス
８号館５階８５２教室＆オンライン（Zoom）

The aim of this talk is to study the asymptotic behavior of solutions for some reaction-diffusion systems.

(1) By an entire solution, we mean a solution of the reaction-diffusion system which is guaranteed to exist for all real-time in the whole Euclidean space. We establish a Liouville-type theorem for the entire solutions of reaction-diffusion systems. Several examples of spreading processes from ecology and epidemiology will be discussed to demonstrate the uses of this Liouville-type theorem.

(2) The convergence to a traveling front of reaction-diffusion systems such as predator-prey models will be presented. Our method is general and universal in the sense that it works well for waves in a wide range of reaction-diffusion systems with equal diffusivities. Several examples from ecology and epidemiology will be discussed to illustrate the applications.

This is the joint work with Jong-Shenq Guo (Tamkang University), Thomas Giletti (Institut Èlie Cartan de Lorraine), Arnaud Ducrot (Universitè Le Havre Normandie), Amy Poh Ai-Ling (University of Tokyo), and Yu-Shuo Chen (Tamkang University).

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