

Departmental Colloquium

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**Friday, December 2, 2016
2:00-3:00pm, HH-3017**

Asymptotic Behaviour and Travelling Waves for Reaction and Diffusion Systems with Nonlocal Delays

Abstract:

In this talk, I will report our recent research on spatial dynamics for reaction and diffusion systems with nonlocal delays. For a class of time-delayed cooperative systems, we establish the existence of spreading speed and its coincidence with the minimum wave speed for monotone traveling waves. For a class of time-delayed competitive-cooperative systems, we obtain the existence and global stability of bistable traveling waves. Our methods involve the monotone semiflows approach, lower and upper solutions, and finite-delay approximations. This talk is based on joint works with Drs. Peixuan Weng and Xiaoqiang Zhao.