

Laboratory for Industrial and Applied Mathematics

LIAM Distinguished Lecture Series

A Delayed Reaction-Diffusion Equation with Free Boundary

Professor Jian Fang, Harbin Institute of Technology

Tuesday, February 19, 2019

12:00pm – 1:00pm

LIAM Lab Kinsmen 277

Abstract: Incorporating time delay and Stefan type free boundary into reaction-diffusion equation yields a compatible condition, which guarantees the well-posedness of the initial value problem. Further, under a KPP type setting we establish a dichotomy on propagation or vanishing. When propagation happens, the spreading speed is shown to exist and it is determined nonlinearly by a delay-induced nonlocal elliptic problem in half line. This talk is based on a joint work with Dr. Ningkui Sun.

Speaker: Jian Fang received his PhD degree from Harbin Institute of Technology (HIT) and Memorial University of Newfoundland in 2010. He was a postdoctoral fellow at York University's Laboratory for Industrial and Applied Mathematics (2011-2013), a Postdoctoral Researcher at Ecole des Hautes Etudes en Sciences Sociales (2013-2015). He is currently a Full Professor and the Vice Dean (international collaboration), Mathematics, HIT. He is an expert in mathematical biology and dynamical systems involving spatial diffusion and temporal delay.

