

Dr. Jian Fang

Harbin Institute of Technology

China

Jian Fang is a professor at Harbin Institute of Technology, China. He obtained his Bachelor degree from Dalian University of Technology in 2005 and Ph.D. from Harbin Institute of Technology in 2011, with a joint doctoral training in Memorial University of Newfoundland from 2007 to 2010. He was a post-doc in York University and EHESS Paris from 2011 to 2015. His research interests are mainly in reaction-diffusion equations, delay differential equations and monotone dynamical systems.

Title: A delay-induced nonlocal problem with free boundary

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.