



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

## **SEMINAR ON PDE**

**Energy method for quantitative analysis of rates of convergence  
to asymptotic profiles for fast diffusion**

By

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### Abstract

In this talk, we shall discuss quantitative analysis of asymptotic behaviors of (possibly sign-changing) solutions to the Cauchy-Dirichlet problem for the fast diffusion equation posed on bounded domains with Sobolev subcritical exponents. More precisely, rates of convergence to non-degenerate asymptotic profiles will be revealed via an energy method. The sharp rate of convergence to positive asymptotic profiles was recently discussed by Bonforte and Figalli (2021, CPAM) based on an entropy method. An alternative proof for their result will also be provided.

**Date : 15 October 2021 (Friday)**

**Time : 9:00am**

**Zoom Meeting : <https://hkust.zoom.us/j/92490076141> (Passcode: 639787)**

*All are Welcome!*