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THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Optimal Regularity for the Very Fast Diffusion Equation

By

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Abstract

In this talk, we consider the diffusion equation

$$u_t - \Delta(u^m/m) = 0$$

on a smooth bounded domain for $m < -1$, the so-called very fast diffusion equation. We first study the associated linearized equation, which is a degenerate parabolic equation, and establish its Schauder estimates. Based on these estimates, we then obtain the short-time existence and optimal regularity of solutions to the very fast diffusion equation.

Date : 11 May 2026 (Monday)

Time : 10:00am

Venue : Room 4472 (near Lifts 25/26)

All are Welcome!