



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

## PHD STUDENT SEMINAR

**Boundary Regularity of Solutions to the Fractional Porous  
Medium Type Equation**

By

**Miss Mengyu HUO**

### Abstract

We study the boundary regularity of nonnegative viscosity solutions to fully nonlinear parabolic equations of fractional porous medium-type in bounded domains. We consider the class of nonlocal operators  $\mathcal{L}_* \subset \mathcal{L}_\rho$ , where  $\mathcal{L}_\rho$  is the class defined by Caffarelli and Silvestre. Actually, for fully nonlinear elliptic operator  $I$  with respect to  $\mathcal{L}_*$ , we study the global Hölder regularity of  $u/\text{dist}(x, \partial\Omega)^\delta$ , where  $u$  is a solution to  $\partial_t u - u^\gamma I(u) = 0$  in  $I \times \Omega$ ,  $u = 0$  in  $I \times \Omega^c$ .

**Date : 12 May 2026, Tuesday**

**Time : 2:00pm**

**Venue : Room 5506 (Lifts 25/26)**

*All are Welcome!*