**THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY**

# Department of Mathematics

# SEMINAR ON PDE

# The singular set in the Stefan problem

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### Abstract

The Stefan problem, dating back to the XIXth century, is probably the most classical and important free boundary problem. The regularity of free boundaries in the Stefan problem was developed in the groundbreaking paper (Caffarelli, Acta Math. 1977). The main result therein establishes that the free boundary is $C^\infty$ in space and time, outside a certain set of singular points. The fine understanding of singularities is of central importance in a number of areas related to nonlinear PDEs and Geometric Analysis. In particular, a major question in such a context is to establish estimates for the size of the singular set. The goal of this talk is to present some new results in this direction for the Stefan problem. This is a joint work with A. Figalli and J. Serra.

**Date: 7 October 2022 (Friday)**

**Time: 4:00pm**

**Zoom Meeting:** https://hkust.zoom.us/j/99651193566 **(Passcode: 615823)**

*All are Welcome!*