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 Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Joint Geometric Analysis Seminar

(Part of MIST program)

Infinite-time Singularities of Lagrangian Mean Curvature Flow

Dr. Albert Wood
King's College London

Abstract

Special Lagrangian submanifolds are volume-minimising submanifolds of Calabi-Yau manifolds, with important applications to theoretical physics. In a series of papers released two decades ago, Dominic Joyce considers the problem of desingularising special Lagrangian submanifolds in Calabi-Yau manifolds with isolated conical singularities, by gluing in suitable smooth, asymptotically conical special Lagrangians at the singular points. He found that in certain cases, when a topological obstruction vanishes, this desingularisation procedure may be carried out to produce nearby smooth special Lagrangians.

In this talk, I discuss new joint work with Chung-Jun Tsai and Wei-Bo Su of National Taiwan University, which considers the complementary case of 'obstructed' special Lagrangians (where Joyce's result does not hold). We construct examples for which the singular special Lagrangian may be viewed as the infinite-time singularity of a mean curvature flow. These are the first constructed examples of infinite-time singularities of Lagrangian mean curvature flows.

Date: January 29, 2024 (Monday)
 Time: 1:00pm-2:00pm
 Venue: AB1 502a

All are Welcome