THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Infinite time blow-up for the Keller-Segel system in the plane

Prof. Juan Dávila
University of Bath

Abstract

We study the Keller-Segel system in the plane with an initial condition with sufficient decay and critical mass 8π. We find a function u0 with mass 8π such that for any initial condition sufficiently close to u0 and mass 8π, the solution is globally defined and blows up in infinite time. This proves the non-radial stability of the infinite-time blow up for some initial conditions, answering a question by Ghoul and Masmoudi (2018). This is joint work with Manuel del Pino (U. of Bath), Jean Dolbeault (U. Paris Dauphine), Monica Musso (U. of Bath) and Juncheng Wei (UBC).

Date: 30 September 2022 (Friday)

Time: 4:00pm

Zoom Meeting: https://hkust.zoom.us/j/99319651034 (Passcode: 711831)

All are Welcome!