



## PDE Seminar

# Long time evolution of a pair of 2D viscous point vortices

**Prof. Ping Zhang**

President, Academy of Mathematics and Systems  
Science, The Chinese Academy of Sciences

### Abstract

In this talk, I shall present our recent studies on the long-time evolution of two point vortices under the evolution of 2D Navier–Stokes equations. Starting from initial data given by a pair of Dirac measures, we derive an asymptotic expansion for the vorticity over time scales significantly longer than the advection time, yet shorter than the diffusion time. Our analysis reveals how the vortex centers evolve and how the solution deviates from a simple superposition of Oseen vortices, which in particular generalizes the previous result of Dolce and Gallay [ arXiv:2407.13562]. and provides a refined description of metastable vortex dynamics in the small viscosity regime.

Date: February 26, 2026 (Thursday)
Time: 4:00 pm – 5:00 pm
Venue: Room 210, Run Run Shaw Building, HKU

*All are welcome*