



Seminar

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Topic

Numerical Analysis of Surface Fluids and Modelling of Lipid Membranes

Date | Time

17 June 2024 (Monday) | 10:30 am – 11:30 am (HK Time)

Venue:

TU817, Main Campus

Abstract:

In this talk we focus on numerical analysis for systems of PDEs governing the motion of material viscous surfaces, the topic motivated by continuum-based modelling of lateral organization in plasma membranes. We shall consider several systems of fluid and phase-field equations defined on evolving surfaces and discuss some recent results about well-posedness of such problems. We further introduce a computational approach and numerical analysis for the resulting systems of PDEs. The methods are combined to deliver a computationally tractable and thermodynamically consistent model describing the dynamics of a two-phase viscous layer. The talk closes with an illustration of the model capacity to predict lateral ordering in multicomponent vesicles of different lipid compositions.

ALL ARE WELCOME