

Seminar

Hydrodynamic interactions of motors in fluid membranes

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We investigate a model to explore the hydrodynamic interactions of motors in fluid membranes. The membrane is modelled as a monolayer of viscous fluid, surrounded by external solvents of different viscosities. The in-plane 2D fluid flows sourced by these motors are modelled as point defects, such as vortices and force dipoles. We will also explore the effects of membrane curvature and topology on the flows sourced by these motors. We will understand the hydrodynamic interactions between them and discover interesting regimes of coordinated activity, global rotation and aggregate formation in the fluid membrane interface. These will be supplemented by simple simulations.

Thursday, Dec 15th 2022

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TIFR-H