

Seminar

Passive particle on a fluctuating diffusive surface

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I consider the long time behavior of a passive particle evolving on a one-dimensional surface that fluctuates diffusively (Edwards-Wilkinson type dynamics). If the particle has no drift, the main question is about its fluctuations. This problem turns out to be very much puzzling: the correlations of the environment decay slowly in time but their effect on the behavior of the particle is hard to predict. I will present a heuristic theory, supported by numerical results, that leads to predictions for the fluctuations of the walker as well as its differential mobility, i.e. the response to an infinitesimal external force. This may provide some new perspective on the issue of clustering in active matter.

Tuesday, Sep 12th 2017

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

Auditorium, TIFR-H (FReT-B)