

## **Internal Webinar**

### **Phase ordering and critical dynamics in anisotropically driven nonconserved systems**

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Statistical systems exhibit a variety of collective phenomena such as phaseordering and universal critical scaling behaviour at different temperatures. Their manifestations are ubiquitous in nature: flocking of birds, organisation of unicellular organismslike bacteria and critical opalescence are some of them. Among the numerous statisticalsystems, those which are driven away from equilibrium are of particular interest. They areless understood and exhibit behaviours different from the equilibrium ones. Moreover, mostphenomena in nature are non-equilibrium. Over the years researchers have studied severalmodels containing forces that drive the system away from equilibrium. It is well knownthat the underlying symmetries and conservation laws a system respects play a crucialrole in characterising its behaviours. In this talk, we shall consider model A like systems, which do not conserve the order parameter, driven away from equilibrium by anisotropicforce(s). We shall discuss in detail the effects of this force(s) on the collective behaviours ofthe system at different temperatures, namely phase ordering at temperatures close to zeroand universal scaling behaviour at the critical point.

#### **References:**

1. Rajiv G Pereira. Steady states and coarsening in one-dimensional driven Allen-Cahnsystem. Phys. Rev. E 106, 014150 (2022).
2. Rajiv G. Pereira. Critical dynamics of the nonconserved strongly anisotropic permutation symmetric three-vector model. Phys. Rev. E 102, 062150 (2020).

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**10:30AM**

