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**Alignment vs noise in self-propelled particles: minimal models for collective motion and their continuous descriptions**

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Two important 1995 papers have marked the birth of collective motion studies in physics: Vicsek et al introduced what could now be described as the “Ising model” of this new subfield. This prompted Toner and Tu to propose a continuum theory of flocks which they showed to give rise to long-range orientational order even in two space dimensions. In this setting, the complexity of most natural instances of collective motion is reduced to the competition between local alignment and noise in interacting self-propelled particles. As I will show, this nevertheless gives rise to important and new physics. In this talk, I will give an update of our current knowledge about the Vicsek model, the Toner-Tu theory, and their relationship. I will also present the emerging picture of universality classes brought about by recent progress in the study of Vicsek-like models together with their continuous descriptions.