

Abstract Submitted
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Hydrodynamics and Rheology of Active Liquid Crystals ZHENLU CUI, Fayetteville State University — Active liquid crystals such as swimming bacteria, active gels and assemblies of motors and filaments are active complex fluids. Such systems differ from their passive counterparts in that particles absorb energy and generate motion. They are interesting from a more fundamental perspective as their dynamic phenomena are both physically fascinating and potentially of great biological significance. In this talk, I will present a continuum model for active liquid crystals and analyze the behavior of a suspension subjected to a weak Poiseuille flow. Hydrodynamics, stability and rheology will also be discussed.

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