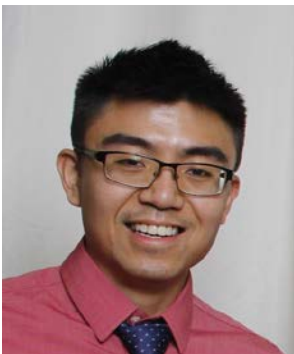




THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
COLLOQUIUM

Symmetry Breaking in Living Active Matter

by



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Date: May 16, 2022 (Monday)

Time: 3:30 - 4:30 p.m.

Join ZOOM Meeting: <https://bit.ly/3JXvSzk>



ALL INTERESTED ARE WELCOME

Abstract

Living matter at all scales has a remarkable capacity to grow, organize, heal and move. This capacity stems from its ability to convert energy at the molecular scale to generate macroscopic organized motion and emergent structures. The field of active matter provides a fundamental framework to dissect the principles underlying such spontaneous organization. In this talk, I will highlight three key aspects. First, I will discuss how time reversal asymmetry characterizes the energy dissipation that drives active matter out of equilibrium. Next, I will show how broken chiral symmetry gives rise to novel emergent material properties such as odd elasticity. Finally, I will discuss how broken spatiotemporal symmetries underlie morphogenetic processes in biological systems. Taken together, these works demonstrate how symmetry breaking processes drive the emergence of complex organization in living matter. More generally, they underline the promise of living matter in the investigation and discovery of fundamental principles in out-of-equilibrium systems.

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