

# Crossing the Disciplinary Boundaries of Physics (Bohr-100 Centennial Celebrations)

Contribution ID: 48

Type: **not specified**

## Broken symmetries in living matter

*Friday, August 11, 2023 10:20 AM (50 minutes)*

Active processes in living systems create a novel class of nonequilibrium matter composed of many interacting components that individually consume energy and collectively generate motion or mechanical stress. In this talk, I will discuss experimental tools and conceptual frameworks we develop to uncover laws governing fluctuations, order, and self-organization in systems in which individual components break time reversal symmetry. I will describe how such frameworks provide powerful insight into dynamics of nonequilibrium living systems across scales, from the emergence of thermodynamic arrow of time to spatiotemporal organization of signaling protein patterns and discovery of odd elasticity.

**Presenter:** FAKHRI, Nikta (MIT)