

LadHyX Seminar – November 28th, 10:45

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**From Entangled Polymer-like Worms to Soft Robotic Chains**

Recently, there has been growing interest in studying long, slender living worms due to their unique ability to form highly entangled physical structures and exhibit emergent behaviors. These polymer-like organisms can move and assemble into an active three-dimensional soft entity, known as the "blob," which displays both solid-like and liquid-like properties. The blob can respond to external stimuli, such as oxygen concentration, by moving or changing shape. In this talk, I will illustrate how these living worms provide a fascinating experimental platform for exploring the physics of active, polymer-like entities. The combination of activity, long aspect ratios, and entanglement in these systems gives rise to a wide range of emergent behaviors. By investigating both the individual dynamics and the collective behavior of these worm blobs, we can stimulate further research into the physics of entangled active polymers and potentially inform the development of synthetic topological active matter and bioinspired soft robotic collectives.