

PHYSICAL MATHEMATICS SEMINAR

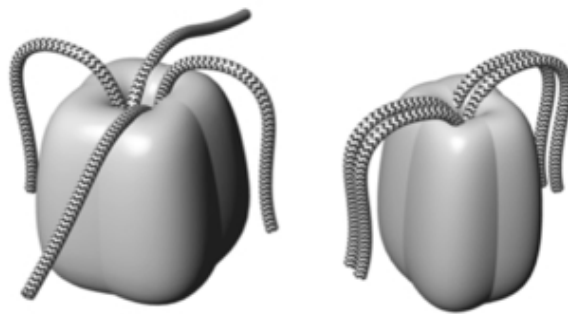
MOTILITY CONTROL IN BIOLOGICAL MICROSWIMMERS

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ABSTRACT:

It is often assumed that biological swimmers conform faithfully to certain stereotypes assigned to them by physicists and mathematicians, when the reality is in fact much more complicated. In this talk we will use a combination of theory, experiments, and robotics, to understand the physical and evolutionary basis of motility control in a number of distinguished organisms. These organisms differ markedly in terms of their size, shape, and arrangement of locomotor appendages, but are united in their use of cilia - the ultimate shape-shifting organelle - to achieve self-propulsion and navigation. We will also discuss how excitable gait transitions mediated by cilia can reveal underlying structure and generate macroscopic flux cycles in the organism's free-swimming behaviour.



TUESDAY, OCTOBER 20, 2020

2:30 PM – 3:30 PM

<http://math.mit.edu/seminars/pms/>

<https://mit.zoom.us/j/97273690529>

Meeting ID: 972 7369 0529