PHYSICAL MATHEMATICS SEMINAR

Active muscle hydraulics

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ABSTRACT:

What limits the rate of contraction in muscle? Molecular (actomyosin) kinetics is often assumed to be rate limiting, but muscle is a soft, wet and active tissue that is spatially and heirarchically organized across multiple scales. I will describe a minimal multiscale model that describes muscle as an active sponge and highlight the presence of active hydraulic oscillations that dictate the fastest rate of contraction along with the emergence of nonreciprocal mechanics. I will finally discuss the consequences of the model for physiology.

TUESDAY, FEBRUARY 15, 2022
2:30 PM – 3:30 PM
Building 2, Room 449

https://math.mit.edu/sites/pms/

Join Zoom Meeting

https://mit.zoom.us/j/95597721876

MIT Covid policies must be adhered to:

- **remember to keep your mask on while inside buildings**
- **eating food is not allowed within lecture rooms**

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