

Seminar

The Hidden World Inside Your Muscles: From Subcellular Structures to Whole-Body Strength and Health

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Skeletal muscle undergoes extensive metabolic and structural changes over the lifespan, but the mechanisms underlying the determination of muscle type-specific organellar configuration remain unclear. My research in *Drosophila* discovered that fly muscles exhibit distinct metabolic types and that evolutionarily conserved factors regulate fibre-type-specific mitochondrial networks. We identified a novel mediator of sarcomere branching and demonstrated that mitochondrial positioning affects sarcomere size. Additionally, we found that the morphology of mitochondrial ER contacts (MERCs) is modulated in response to stress in both *Drosophila* and mouse skeletal muscle. These findings substantially advance our understanding of muscle physiology and highlight the utility of *Drosophila* as a model for complex subcellular organisation.

Tuesday, Oct 31st 2023

4:00 PM (Tea / Coffee 3.45 PM)

Auditorium, TIFR-H