

Comprehensive Seminar

Mitochondrial Shape and Size: Does It Matter?

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Mitochondria are central to cellular energy homeostasis, metabolism, and intracellular signalling. They exist in a remarkable diversity of shapes and sizes to support distinct biological functions. Imbalances in mitochondrial morphology can alter cellular fate, disrupt developmental processes, and contribute to a wide spectrum of diseases, including neurodegenerative disorders. Most studies investigating mitochondrial morphology have focused on the balance between their fission and fusion. However, recent research has revealed that mitochondrial shape can also be regulated through mechanisms beyond these canonical processes.

In this talk, I will discuss the signaling pathways involved in the context-specific regulation of mitochondrial fission and fusion, highlight additional mechanisms that contribute to mitochondrial architecture, and explain how mitochondrial shape and organization influence cellular function.

Friday, Jun 5th 2026

11:30 Hrs (Tea / Coffee 11:15 Hrs)

Trishul Hall, TIFRH