

## **Seminar**

### **Regulation of mitochondrial homeostasis during development and disease**

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Dynamic changes in mitochondrial morphology, content, and function are crucial for several developmental processes as well as stress adaptation. However, how cells integrate distinct regulatory processes to achieve context-specific changes in mitochondrial states is poorly understood. In this work, I will discuss the alteration of mitochondrial states in two distinct contexts with insights into the possible causes and consequences of these alterations. In the first part, I will discuss how mitochondrial fission and fusion are coordinated during *Drosophila* spermatogenesis to achieve the division of the large post-meiotic spermatid mitochondria called the Nebenkern. In the second part, I will describe how cells increase mitochondrial biogenesis when faced with mitochondrial stress. Finally, I will give a glimpse into how these results could further our understanding of the regulation of mitochondrial homeostasis.

***Monday, Jul 15<sup>th</sup> 2024***

***14:30 Hrs (Tea / Coffee 14:15 Hrs)***

***Auditorium, TIFR-H***