

## **Seminar**

### **Collective Heterogeneity of Mitochondrial Potential during Contact Inhibition of Proliferation and Its Biophysical Origin**

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In the epithelium, cell density and proliferation are interconnected through contact inhibition of proliferation (CIP). CIP progresses through three stages with increasing number density: free growing, pre-epithelial transition, and post-epithelial transition. The changes in metabolism associated with CIP still remain unclear. By measuring mitochondrial membrane potential at different cell densities, we reveal a heterogeneous metabolic landscape that varies across these CIP stages. Especially, during the pre-transition stage, we observe multicellular clusters with varying mitochondrial potentials, termed Collective Heterogeneity. Such a self-emerging pattern can have critical consequences on the spatiotemporal evolution of epithelial form and function. In the talk, I'll discuss the biophysical origin of Collective Heterogeneity in mitochondrial potential.

***Tuesday, May 28<sup>th</sup> 2024***

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

***Auditorium, TIFR-H***