

## **Seminar**

### **Intracellular Motors and Membranes during Pathogen Infection**

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We frequently encounter pathogens in our day-to-day life. These pathogens are phagocytosed by immune cells, where the pathogen is ingested into a phagosome and transported to the lysosomes for degradation. I will begin by briefly discussing about my post-doctorate work that deals with studying microtubule based motors - Kinesin and Dynein and understanding how they drive phagosome motion towards the lysosomes. My future research aims at understanding how cellular organelles help with phagosome maturation in immune cells. During maturation, phagosomes are known to interact with several organelles for acquisition of various signalling molecules for pathogen degradation. Thus, phagosome maturation is a multi-organellar process where a variety of organelles work together to ensure killing of the pathogen. Often times, these processes are hijacked by the pathogen to cause an active infection. Broadly, I aim to understand how macrophages orchestrate these inter-organellar functions to achieve a successful degradation event. In particular, I will probe into studying interactions of Endoplasmic Reticulum (ER) and mitochondria with maturing phagosomes and study how these interactions may be altered in various diseased states, making cells more susceptible to infection.

***Monday, July 11<sup>th</sup> 2022***

***04:00 PM (Tea/Coffee at 3:45 PM)***

***Auditorium, TIFR-H***