**Tata Institute of Fundamental Research**
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

# Seminar

## Development of a Drosophila toolkit to discover polyphosphate functions in metazoans

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### TIFR, Hyderabad

This talk will focus on development of a toolkit for polyphosphate detection and depletion. It has been more than fifty years since we know about the existence of an inorganic phosphate polymer, polyphosphate, in all life forms. However, only recently have we begun to understand the biological function of polyphosphates. For the investigation of biological and molecular functions of polyphosphates in multicellular organisms, there is a need for the development of tools for the detection and manipulation of polyphosphates in a genetically tractable model organism. In this work, we have created a fly toolkit to detect, visualise, and genetically deplete polyphosphate levels. We also created a FRET-based sensor to facilitate studies of polyphosphate dynamics in live cells. Using these tools, we uncovered the function of polyphosphates in the development and haemolymph clotting in flies. Our work also shows that the function of polyphosphates is conserved between flies and humans. I will discuss some of these findings in my talk.

***Wednesday, Feb 14th 2024***

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

***Seminar Hall, TIFR-Hs***