

## **Seminar**

# **Development of a Drosophila Toolkit to Discover Polyphosphate Functions in Metazoans**

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Over fifty years ago, it was found that an inorganic polymer, polyphosphate (polyP), exists in all organisms across evolution; however, their biological and molecular function needs to be better understood, particularly in multicellular organisms. Currently, we lack sensitive tools for polyP detection and manipulation in multicellular organisms. In this work, we have created fly (*Drosophila*) toolkits to detect, visualise, and deplete polyP levels genetically. Using this, we show that polyP levels are spatial and temporally regulated during development. Further, using the genetic depletion of polyP, we identified the evolutionarily conserved function of polyP in blood and haemolymph clotting. We also identified novel biological functions of polyP, e.g. in the regulation of pupal developmental timing. Overall, we developed an efficient genetic model to interrogate the biological and molecular function of polyP in a multicellular organism. I will highlight some of our findings in my talk.

***Wednesday, Jul 24<sup>th</sup> 2024***

***10:00 Hrs (Tea / Coffee 09:45 Hrs)***

***Auditorium, TIFR-H***