

Seminar

Understanding the regulation of stem cell homeostasis during development versus disease conditions

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Stem cell and tissue homeostasis is maintained when a fine balance is struck between stemness and differentiation. An imbalance leads to abrogation of homeostasis resulting in a disease scenario. Number of physiological disorders occur due to this imbalance. Our research group is focussing on trying to understand how organismal ageing could impact stem cells at the organ level. In order to answer this question, we genetically modulate the molecular circuitry of ageing in a cell type specific manner spatially in an organ. We have employed the *Drosophila* intestinal epithelia and the hematopoietic system in order to understand how cellular ageing impacts stem cell homeostasis in two diverse stem cell systems. The other thrust area in the lab is to delineate mechanisms underlying a phenomenon called cancer cachexia where there is systemic organ wasting due to factors secreted by the tumour. We are currently investigating if the tumour and hematopoietic system in flies have an active regulatory crosstalk. Our aim is to understand if blood cells have a regulatory role in controlling cachexia.

Monday, Apr 29th 2024

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

Auditorium, TIFR-H