Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Seminar

Changing Shapes and Decorating Cells: Formation of the Inner Ear

Raj Ladher

TIFR-NCBS, Bangalore

The specialisation and organisation of cells to form organs that effectively carry out functions vital to life is a fascinating problem. We investigate the formation of the inner ear as a model for cellular and tissue level differentiation. The inner ear is a complex structure that is actually generated from a relatively simple group of cells. These cells should have become skin, yet receive a series of instructions that change their potential, and change their shape. Over time, a subset of these cells form inner ear hair cells. These are the sensors of the vertebrate inner ear, converting the mechanical vibrations associated with sound and balance into electrochemical impulses that are sent to the brain and possess sub-cellular adaptations in the form of fine hair-like protrusions from the top of the cell, that enable the sensitive and precise detection of these vibrations. We are interested in understanding how shape change in these cells is coordinated, and the mechanisms that are directing their specialisation.

Wednesday, May 8th 2019

4:00 PM (Tea/Coffee at 3:30 PM)

Auditorium, TIFR-H