

KASTURBA MEDICAL COLLEGE MANIPAL

(A constituent unit of MAHE, Manipal)

RESEARCH TALK SERIES 2022

Different flavors of Hox mediated neural stem cell death.



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Biosketch: Rohit Joshi obtained his Ph.D. in Life Sciences from NCBS-Bangalore with Gaiti Hasan. Subsequently he moved to laboratory of Richard Mann at Columbia University-NY for his postdoctoral research, where he studied the molecular basis of Hox specificity. Rohit joined CDFD as a Group Leader and studies the role of Hox genes in Anterior-Posterior axis determination during Drosophila central nervous system patterning and development.

Talk Abstract: Two major characteristic features of bilaterian organisms are the head to tail axis and a complex central nervous system. The Hox family of transcription factors, which are expressed segmentally along the head to tail axis, plays a critical role in determining both of these features. One of the ways by which Hox factors do this is by mediating differential programmed cell death of the neural stem cells along this axis of the developing central nervous system, thereby regulating the numerical diversity of the neurons generated along this axis. Our studies with a subpopulation of neural stem cells in the abdominal and terminal region of the Drosophila larval central nervous system highlights that region-specific Hox-dependent cell death of neural stem cells in these regions utilizes common molecular players (Hox, Grh, and Notch) but seems to have evolved different molecular strategies to pattern the developing central nervous system.



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3:00-4:00 PM