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5 Mar 2024 (Tues), 4pm

The Auditorium (Level 1)

Hosted by: Dr YU Fengwei

Wireless communication between neurons allows for modulating behavioral outputs

Dr Kavita BABU

Indian Institute of Science, India

Foraging is important for sustenance of animals. In *Caenorhabditis elegans* it is an amalgam of multiple locomotory movements including forward crawls, turns and reversals. When *C. elegans* are transferred from well-fed conditions to conditions without food, they explore the arena in a localised manner with combinations of movements. Defects in reorientations and/or body wave parameters like amplitude of sinusoidal waves causes inefficient exploration of the environment. This exploration, is reported to be mediated by chemosensory and mechanosensory neurons in coordination with the metabolic status of the organism. However, the underlying neuromodulators of this behaviour remain unclear. We hypothesise that the wireless neuropeptidergic circuit regulates foraging behaviours.



Dr Kavita completed her undergraduate education from India and her PhD with Bill Chia at IMCB, Singapore. Her postdoctoral research was with Josh Kaplan at Massachusetts General Hospital, Boston where she developed an interest in neuropeptidergic signaling in the free-living nematode, *Caenorhabditis elegans*. She currently works at Indian Institute of Science, Bangalore as an Associate Professor at the Centre for Neuroscience.

Recent publications:

1. Pratima Pandey*, Anuradha Singh*, Harjot Kaur, Anindya Ghosh-Roy and Kavita Babu©; Increased dopaminergic neurotransmission results in ethanol dependent sedative behaviors in *Caenorhabditis elegans*. PLoS Genetics 2021 Feb 01; 17(2):e1009346. <https://journals.plos.org/plosgenetics/article?id=10.1371/journal.pgen.1009346>
2. Ashwani Bhardwaj*, Pratima Pandey* and Kavita Babu©; Control of locomotory behavior of *Caenorhabditis elegans* by the immunoglobulin superfamily protein RIG-Genetics 2020 Jan 01; 214(1): 135-45. <https://www.genetics.org/content/214/1/135>
3. Yogesh Dahiya©, Saloni Rose, Shruti Thapliyal, Shivam Bhardwaj, Maruthi Prasad and Kavita Babu©; Differential regulation of innate and learned behavior by CREB1/CRH-1 in *Caenorhabditis elegans*. The Journal of Neuroscience 2019 Oct 02; 39(40): 7934-46. <https://www.jneurosci.org/content/39/40/7934.long>