

Students' Annual Seminar

Chemical tools for studying neuroimmune interactions

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The construction and maintenance of the neuronal circuits in the human brain are orchestrated by glial cells (microglia and astrocytes). These circuits are the fundamental units of a functional brain, and they can go bad in certain disease conditions. Currently, the mechanisms and molecules behind the formation and loss of neural circuits are largely unknown. In the first part of my talk, I will demonstrate the important role of phospholipids in synaptic pruning during brain development using a small-molecule-based approach. In the latter half, I will talk about the design and synthesis of two new light-activatable small molecules that can be used to specifically perturb the phenotype and function of microglia and astrocytes at the single-cell level. I will also discuss the potential applications of these molecules in an intricate multi-cellular environment such as the brain.

Friday, Mar 8th 2024

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

CR1, TIFR-H