

Introduction to Neurobiology – II (JNS 203)

Course Coordinators: Drs James Chelliah and Sheeba Vasu

- 1. Navigation by Dr Sachin Deshmukh (3 hours)**
 - Regions of the brain involved in navigation
 - Place cells
 - Memory formation in place cells

- 2. The critical period of neuronal during development (8 hours)**
 - Importance of a critical period of neuronal development
 - Silent synapses
 - NR2B to NR2A switchover
 - GABA as a depolarising neurotransmitter
 - Synaptic plasticity during the critical period
 - Remapping of neuronal connections during and after the critical period of development

- 3. Neurophysiology of brain disorders about the critical period of neuronal development (8 hours)**
 - Autism Spectrum Disorder
 - Intellectual Disability
 - Schizophrenia
 - Epilepsy
 - Discussions on Depression/anxiety

- 4. Neurophysiology of Neurodegenerative diseases (12 hours)**
 - Huntington's Disease
 - Parkinson's Disease
 - Alzheimer's Disease

- 5. Protein homeostasis in CNS by Dr Ravi Manjithaya (3 hours)**
 - Altered autophagy in brain-related diseases

- 6. Neurophysiology of Ageing by Dr Phalguni Alladi (3 hours)**