Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Students' Annual Seminar

Effect of ApoE on tau condensates - Maturation and fibrillation

Vinoth Kumar V

The ApoE ε4 allele is considered a major genetic risk factor for late-onset Alzheimer's disease. The presence of the ApoE ε4 allele has been linked to both increased Aβ deposition and tau pathology. Tau protein normally stabilises microtubules within neurons, but in conditions like Alzheimer's, it undergoes abnormal modifications and forms aggregates, contributing to neuronal damage. Recent studies showed tau biomolecular condensates formed within neurons are known to regulate cellular processes, and their dysregulation may contribute to the pathological aggregation. Here in our work we found that ApoE directly influences the maturation of tau condensate into fibrillar aggregates especially at the condensate interface. Further, observations indicate that ApoE modulates the surface properties of tau condensates thereby influencing its pathological effects. Together our results suggest that ApoE can directly affect pathological tau aggregation by modulating the surface of tau condensates.

Friday, Feb 2nd 2024

14:30 Hrs (Tea / Coffee 14.15 Hrs)

Seminar Hall, TIFR-H