

## **Students' Annual Webinar**

### **Characterization of Aggregation of tau protein using ensemble and single-molecule based fluorescence techniques**

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Aggregation of tau, a microtubule-associated protein (MTB), is responsible for several neurodegenerative diseases such as Alzheimer's disease (AD), Pick's disease, etc. Measurement of aggregation kinetics using Thioflavin T fluorescence suggests that aggregation of tau depends on the ratio of tau and heparin. Additionally, aggregation of wild-type tau is delayed with an increase in the concentration of potassium chloride. However, the effect of potassium chloride on the aggregation kinetics of the disease mutant of tau P301L is minimal. Total internal reflection fluorescence microscopy (TIRFM) is used to follow the growth of the fibril. The seeded growth experiments reveal that the disease mutant of tau form long fibrils at lower concentration of tau, however, the fibrils appear smaller at higher concentration of tau. Here the role of heparin in seeded growth is yet to be answered. Further experiments with wild-type and mutant tau will be examined in the near future.

***Thursday, May 26<sup>th</sup> 2022***

***10:30 AM***