

Seminar

Probing Membrane-Assisted Protein-Protein Interactions

Ayyalusamy Ramamoorthy

MagLab – NHMFL, FSU, FL

Molecular interactions at the cell membrane interface play vital roles on the pathomechanisms of various diseases including infection and aging related diseases. Therefore, high-resolution investigation of membrane-associated molecular events would be useful for biomedical applications. However, despite the recent developments in structural biology, probing dynamic protein-protein and protein-membrane interactions continues to pose tremendous challenges to most biophysical techniques. A major area of research in my group has been focused on the development of approaches to study the dynamic structural interactions between membrane bound proteins that are implicated in the pathology of many diseases. My lecture will focus on the approaches developed to overcome the major challenges related two such examples. Strategies to study the dynamic structures of these challenging systems and electron transfer mechanism related to cytochrome-P450's enzymatic function will be presented in the first half of my talk. In the second-half of my presentation, structures of early intermediates of amyloid peptides, mechanisms of amyloid-induced membrane disruption, and amyloid inhibition by small molecule compounds will be discussed.

Tuesday, Dec 10th 2024

16:00 Hrs (Tea / Coffee 15:45 Hrs)

Seminar Hall, TIFRH