REGIONAL CENTRE FOR BIOTECHNOLOGY
Seminar series

How do Proteins Fold, Misfold and Aggregate?

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Seminar Room

Proteins are the workhorses of the living systems. For carrying out specific functions, proteins have to fold up correctly. Incorrect folding or protein misfolding can lead to amyloid aggregation and is implicated in a number of neurological disorders such as Alzheimer's, Parkinson and prion diseases. The molecular mechanisms of protein folding, misfolding, aggregation and amyloid fibril formation are poorly understood. Our laboratory at IISER Mohali is actively involved in unraveling the mechanism of aggregation of a diverse class of proteins. Using a diverse array of biophysical techniques, we have embarked upon studies aimed at detecting and characterizing the oligomeric intermediates that serve as precursors to ordered amyloid fibrils. The oligomeric species are of particular interest since they are proposed to be the key toxic agents involved in neurodegeneration. We have recently embarked upon studying conformational properties of amyloidogenic intrinsically disordered proteins (IDPs). I will also discuss our recent results on biologically important amyloidogenic IDPs such as a-synuclein and disordered segment of human prion protein.