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**Title:**

***“The role of miRNAs as diagnostic and prognostic biomarkers of brain injury and their potential interaction with cellular prion protein as a modulator of neuroinflammation”***

**Seminar Link:** [meet.google.com/aom-qtru-qxo](https://meet.google.com/aom-qtru-qxo)

**Seminar Host:** Prof. Jayasri Das Sarma

**Time:** 4 PM, 04 August 2021

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**Abstract:** Traumatic brain injury (TBI) is defined as an injury to the brain caused by an external mechanical force. Uncontrolled neuroinflammation is a hallmark of most neurological disorders including TBI. MicroRNAs (miRNAs) are small non-coding RNAs that play a critical role in modulating neuroinflammation via degradation or translational repression of messenger RNAs. The aim of my PhD study was to identify circulating microRNAs as non-invasive biomarkers of TBI. Acutely elevated plasma levels of brain-enriched miRNAs-124-3p, -9-3p and -136-3p were identified as potential diagnostic and prognostic biomarkers of TBI. However, the mechanistic contribution of these miRNAs to neuroinflammation was not fully explored. It has been shown that miRNAs interact with endogenous cellular proteins known to play an important role in neuroinflammation, one of which is the cellular prion protein (PrP<sup>C</sup>) that is abundantly expressed in the central nervous system and known to exhibit cytoprotective and anti-neuroinflammatory properties. Not many studies are currently available to understand the modulation of PrP<sup>C</sup> expression by miRNAs. In this context, my current research focus is to understand the mechanistic aspect of this modulation and its effect on neuroinflammation. For this, my aim is to utilize a well-established mouse hepatitis virus-induced model of acute neuroinflammation and chronic demyelination, to understand the regulatory role of PrP<sup>C</sup> and the nexus between miRNA-PrP<sup>C</sup> interaction in neuroinflammation and neuroimmunity.

Non-IISER Kolkata participants are welcome to attend the seminar by registering through the link: [bit.ly/2P0QMr2](https://bit.ly/2P0QMr2)

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