

**A talk at *Brain Dynamics in Cognition Seminar Series* by Dr. Majid Mohajerani**

The poster features a blue background with a network diagram of a brain. At the top, the title reads: "Mapping the spatio-temporal dynamics of Hippocampal-cortical dynamics in health and Alzheimer's disease". Below the title, a circular portrait of Dr. Majid H. Mohajerani is shown. To the right of the portrait, it says "Host Faculty: Dr. Dipanjan Roy". Below the portrait, the speaker's name and affiliation are listed: "Dr. Majid H. Mohajerani, University of Lethbridge, Canada". The text "in the Brain Dynamics in Cognition series" is positioned to the right of the brain diagram. A large white circle on the right contains the abstract of the talk. At the bottom left, the date and time are given: "22<sup>th</sup> Dec (Tuesday) 7:30pm IST". Below that, a "Join Us:" section provides a meeting link: "https://global.gotomeeting.com/join/585863253". The logo of the National Brain Research Centre (NBRC) is at the bottom left.

**Mapping the spatio-temporal dynamics of Hippocampal-cortical dynamics in health and Alzheimer's disease**

Host Faculty: Dr. Dipanjan Roy

**Dr. Majid H. Mohajerani**  
University of Lethbridge, Canada

in the  
**Brain Dynamics in Cognition series**

In my talk, I will provide new information regarding the interaction of the hippocampus (HPC) and neocortex (NC) during sleep. Although evidence indicates that episodic memories are formed through a functional coupling between hippocampal and cortical network activity, how they interact to subserve a transfer of information is less clear. To provide new insight into HPC and NC's interaction during sleep, we have combined novel imaging technologies with genetic, molecular and electrophysiological techniques to interrogate the cortical circuits at the level of individual synapses and function with millisecond temporal resolution across the entire cortex with information from the hippocampus. Further, I will discuss our effort to monitor how HPC output to NC is altered in the mouse model of Alzheimer's disease.

**22<sup>th</sup> Dec (Tuesday)**  
**7:30pm IST**

**Join Us:**  
<https://global.gotomeeting.com/join/585863253>

National Brain Research Centre  
NBRC

In this talk, Dr. Majid Mohajerani, faculty associated with Canadian Centre for Behavioural Neuroscience, the University of Lethbridge, provided new information regarding the interaction of the hippocampus (HPC) and neocortex (NC) during sleep. Although evidence indicates that episodic memories are formed through a functional coupling between hippocampal and cortical network activity, how they interact to subserve a transfer of information is less clear.

To provide new insight into HPC and NC's interaction during sleep, his team have combined novel imaging technologies with genetic, molecular and electrophysiological techniques to

interrogate the cortical circuits at the level of individual synapses and function with millisecond temporal resolution across the entire cortex with information from the hippocampus. Further, Dr. Mohajerani discussed his effort to monitor how HPC output to NC is altered in the mouse model of Alzheimer's disease.

**Contact details:**

Dr. Dipanjan Roy (Associate Professor and Scientist-IV),  
Brain Connectivity, Dynamics and Cognition Lab;  
E-mail: [dipanjan.nbrc@gov.in](mailto:dipanjan.nbrc@gov.in)