



Dr. Jyotirmoy Banerjee

Assistant Professor | National Brain Research Centre (NBRC)

Biography

Dr. Jyotirmoy Banerjee is currently an Assistant Professor at the National Brain Research Centre (NBRC), Manesar. He is heading the Epilepsy Neurobiology Lab at Centre of Excellence for Epilepsy, a Department of Biotechnology (Govt. of India) funded collaborative project between NBRC and All India Institute of Medical Sciences (AIIMS), New Delhi.

His primary interests are cellular and molecular neuroscience. He is specifically investigating the abnormal synaptic transmission associated with drug-resistant epilepsy at the single neuron level. He wants to address the molecular mechanisms that leads to the generation of complex epileptogenic networks using a systems biology approach.

He has previously worked at School of Medicine, University of Maryland, Baltimore, USA and Ranbaxy Research Laboratories, Gurgaon, India. He has published over 20 research articles in peer-reviewed journals.

Abstract on the Topic of the Presentation

Investigating the changes associated with the development of diseased state in human brain is complex. Epilepsy is one such disorder which is associated with a complicated functioning of neuronal network, but understanding the genesis of epileptic state still remains a challenge for neuroscientists across the world. Centre of Excellence for Epilepsy, a collaborative project between All India Institute of Medical Sciences (AIIMS), New Delhi and National Brain Research Centre (NBRC), Manesar, India funded by Department of Biotechnology, Ministry of Science & Technology (Govt. of India) is a unique facility being developed in India where a premiere medical science institute is collaborating with a dedicated neuroscience research center.

NKN is playing a crucial role in connecting the two institutes for by helping in sensitive data sharing. The data obtained from advanced magnetoencephalography (MEG) set up, installed at NBRC, when used along with conventional magnetic resonance imaging (MRI), positron emission tomography (PET) and electro-corticography (ECoG) helps increase the accuracy of localization of epileptogenic zone, thereby enhancing the surgical outcome. Using bedside-back-to-bench approach the targeted tissues resected during epilepsy surgery were used to study the molecular mechanisms leading to the genesis of epileptogenic networks.