Abstract for IAS Symposium on Frontiers in Neuroscience (June 16-19, 2025)

Neuron-Glia Interactions in the Pathophysiology of Epilepsy

Chao Yan

Department of Physiology, Nanjing University, China

Email: yanchao@nju.edu.cn

Reactive gliosis is a hallmark of drug-resistant epilepsy but the contributions of glia cells to epilepsy pathophysiology remain poorly understood. This talk will delve into the intricate interactions between neurons and glia cells, focusing on astrocytes and microglia. It will highlight recent advances in our understanding of how lipid metabolism reprogramming in astrocytes influences neuronal activity and how aberrant microglia-mediated synapse pruning drives neuronal hyperexcitability in epilepsy patients.

References:

[1] Z. Chen, X. Zhao, S. Wang, et. al, Nat. Neurosci. (2025).

[2] Z. Chen, S. Wang, X. Zhao, et. al, Nat. Neurosci. (2023).