NUS National University of Singapore | Department of Anatomy
Yong Loo Lin School of Medicine

NUHS National University Health System

RECRUITMENT VISIT : TEACHING SEMINAR

Synaptic transmission and plasticity

"A major mechanism by which the neural activity generated by an experience modifies brain function is via modifications of synaptic transmission; that is, synaptic plasticity.", Robert C Malenka said. A synapse is a structure that permits a neuron (or nerve cell) to pass an electrical or chemical signal to another neuron or to the target effector cell. Synaptic transmission is the process to complete the pass the pulse and synaptic plasticity is the basis of information storage in brain. In this class, you will learn mechanism of synaptic transmission and synaptic plasticity including neuronal transmitters, receptors and ion channels. In addition, you will understand how scientist study them by electrophysiology.

ABOUT THE SPEAKER

Currently, I am a senior research fellow in Dr. Long-Jun Wu Lab in Department of Neurology at Mayo Clinic. I obtained my PhD in Physiology in June 2012 from Sun Yat-sen University. Then I joined Dr. Mark Mattson's laboratory at National Institute on Aging and took a five-year postdoctoral training (2012-2017) that studying how exercise and intermittent fasting benefit neurodegenerative diseases. In 2017, I joined Dr. Long-Jun Wu's lab at Mayo Clinic, studying microglial dynamics in health and neurodegeneration by using in vivo two-photon imaging system.

In sum, my research experiences are: 1) Microglial dynamics in awake mice and the molecular mechanism (Liu, et al., Nature Neurosci., 2019); 2) The molecular mechanism of intermittent fasting ameliorating Alzheimer's disease (Liu, et al., Nature Commun., 2019; 3) The differential role of microglia in spinal cord and hippocampus of chronic pain (Liu et al., J Neurosci. 2017). My expertise for neuroscience includes *in vivo* two-photon imaging of microglia and neuronal network activity and patch clamp electrophysiology in vitro and vivo.

Wednesday
4 December 2019
10.30 am to 11.30 am
Seminar Room, MD10
Level 2, Anatomy Museum

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Address enquiries Dr Hu Qidong at 66013730 or Ms Nuramalina Binte Abdul Ghani at 65163200. All are welcome.