National Neuroscience Institute
SingHealth

SingHealth DukeNUS ACADEMIC MEDICAL CENTRE
National Neuroscience Research Institute Singapore

NEUROSCIENCE & BEHAVIOURAL DISORDERS

NNRIS Bench to Bedside Seminar Series

Date: **25 September 2020 (Friday)**

Time: **12:00pm – 1:00pm**

Zoom Details: https://nus-sg.zoom.us/j/95657350193?pwd=UzhBakFrTW1FYkU4TzZNUVh1elY2dz09
Meeting ID: 956 5735 0193
Password: 471503

Note: Please rename your login name to include your institute to facilitate admission

Host: **Assoc Prof Hyunsoo Shawn Je**
Neuroscience & Behavioural Disorders Programme, Duke-NUS

NEURAL CIRCUIT ANALYSIS USING AN INTERSECTIONAL SPLIT INTEIN-MEDIATED SPLIT-CRE RECOMBINASE SYSTEM

Ms Audrey Khoo
PhD Candidate
Neuroscience & Behavioural Disorders Programme
Duke-NUS Medical School

Abstract:
The defining features of a neuron are its functional and anatomical connections in the brain to direct animal behaviour. Current approaches unfortunately do not sufficiently allow the study of specific neuronal populations. Here, we developed a novel intersectional split intein-mediated split-Cre recombinase system that can selectively label long-range GABAergic neurons, which is an inaccessible population of neurons using conventional transgenic mice.

Biography:
Audrey completed her undergraduate studies in Psychology and Music at the University of New South Wales. She is currently in her final year of her PhD in Assoc Prof Hyunsoo Shawn Je's lab at Duke-NUS Medical School.

TARGETING AN ION CHANNEL FOR VASCULAR PROTECTION AND NEUROPROTECTION IN NEUROLOGICAL DISEASES

Assoc Prof Liao Ping, MD, PhD
Assistant Director
Basic and Translational Research
National Neuroscience Institute

Abstract:
Hypoxia is a common pathological feature in many neurological diseases. Over the past years, Dr Liao Ping's lab has been working on the alteration of ion channel functions following hypoxia in neurological disorders. One particular ion channel TRPM4 turns out to be key in such pathological process. Upon hypoxia attack, TRPM4 activity is enhanced by hypoxia-related environmental changes, and its expression is further upregulated. Vascular endothelial cells and neurons suffer from TRPM4 hyperactivity. In this presentation, I will discuss on how we use a novel way of blocking TRPM4 with a channel specific antibody, and its therapeutic effect in stroke, head injury, and vascular dementia etc.

Biography:
A/Prof Liao Ping obtained his medical degree in China and practiced as a neurosurgeon before he moved to Singapore for his PhD study in NUS. Currently, A/Prof Liao is the Assistant Director for Basic and Translational Research at National Neuroscience Institute. He is also a Clinician Scientist and Principal Investigator in NNI, leading the Calcium Signalling Laboratory. The lab is working on ion channels in neurological diseases such as stroke, head injury, with a focus on vascular protection and neuroprotection.

All are welcome. No registration is required.