



## NNRIS Bench to Bedside Seminar Series

**Date:** 26 February 2021 (Friday)  
**Time:** 12:00pm – 1:00pm

**Zoom Details:** <https://ihis.zoom.us/j/92658438792?pwd=dFhCeXdEVXZLU28xYlIIMaURnSTNodz09>  
**Meeting ID:** 926 5843 8792  
**Passcode:** 861221

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

**Moderator:** Assoc Prof LIAO Ping  
National Neuroscience Institute

### NEUROPROTECTIVE MITOCHONDRIAL UNFOLDED PROTEIN RESPONSE (MTUPR) ACTIVATORS FOR PD THERAPY

**Dr Zhou Zhi Dong**  
Associate Principal Investigator  
Translational Therapeutics Laboratory  
NNI



#### **Abstract:**

PD is an incurable neurodegenerative disorder and no drugs can alleviate the progressive dopamine neurodegeneration in PD. The dysfunction of mitochondria can be the common PD pathogenesis. We identify that the protective mtUPR signaling is impaired in PD brains. Furthermore, we find neuroprotective mtUPR activators, which can protect against stresses induced DA neurodegeneration in our PD models. Our current findings provide the basis for future development of new anti-PD drugs and therapies.

#### **Biography:**

*Dr Zhou graduated as a medical doctor in 1991 and had 5 years of postgraduate clinical training in China. He acquired Ph.D from Chinese Academy of Science (CAS) in 2003 and started research career in Singapore on Parkinson's disease (PD) before joining PD translational research team at NNI. Currently he is an Associate Principal Investigator at NNI and an Assistant Professor in NBD, Duke-NUS, while continuing his research focus on PD, especially at anti-PD therapies and agents.*

### DOPAMINE INDEPENDENCE OF AN ACUTE SELF-STIMULATION PHENOTYPE IN DROSOPHILA MELANOGASTER

**Mr Mai Yishan**  
PhD Student  
Claridge –Chang Lab  
Duke-NUS Medical School



#### **Abstract:**

The dopamine (DA) system is involved in valence, i.e. the assessment of stimuli as positive (appetitive) or negative (aversive), which is a function often disrupted in psychiatric disorders. However, how dopaminergic neurons (DANs) mediate valence is not well understood. We examine self-stimulation of DANs in fruit flies using a real-time place-preference-like paradigm and find that flies will self-stimulate a population of DANs thought to mediate appetitive learning, implying that activation of these DANs is a neural substrate for positive valence. We further show that DA is not required for self-stimulation, and posit that a yet-to-be-identified co-transmitter mediates self-stimulation.

#### **Biography:**

*Mai Yishan is a third-year PhD student in the Claridge-Chang lab at Duke-NUS Medical School. Yishan obtained a B.Sc in Neuroscience at the University of California, Los Angeles in 2015. He then worked as a Research Assistant at the Lieber Institute for Brain Development until starting doctoral studies in 2018. His primary interest is in exploring the neural underpinnings of psychiatric illnesses.*