



NNRIS Bench to Bedside Seminar Series

Date: 16 April 2021 (Friday)
Time: 12:00pm – 1:00pm
Zoom Details: <https://ihis.zoom.us/j/91440326710?pwd=ckJvbVBldINDWVWHZXBqUzZnZmpFdz09>
Meeting ID: 914 4032 6710
Passcode: 818360
Note: Please rename your login name to include your institute to facilitate admission
Moderator: Assoc Prof LIAO Ping
National Neuroscience Institute

INTEGRATIVE NEUROIMAGING TOWARD PRECISION MEDICINE OF MOVEMENT DISORDERS

Dr Thomas WELTON
Research Fellow
National Neuroscience Institute



Abstract:

My research at NNI is focused on understanding brain microstructural and connectomic changes in movement disorders using MRI, and how they relate to clinical, genetic and blood biomarkers. In this talk, I will share my most recent findings from studies in Parkinson's disease and essential tremor, using functional MRI, susceptibility mapping and diffusion kurtosis to help understand pathophysiology and to develop novel quantitative imaging-based biomarkers.

Biography:

Dr Welton is an interdisciplinary scientist spanning neuroscience, computer science and medical imaging. He earned his PhD in radiological science from the University of Nottingham in the UK in 2017 and then completed 3 years of postdoctoral training at the University of Sydney. He joined NNI in March 2020, where he has been investigating brain microstructure and connectivity in movement disorders using cutting-edge MRI techniques.

IMPAIRED ENDOCYTIC TRAFFICKING IN PARKINSON'S DISEASE

Dr CAO Mian
Assistant Professor
Neuroscience & Behavioural
Disorders Programme
Duke-NUS Medical School



Abstract:

Parkinson's disease (PD) is the most common neurodegenerative movement disorder. Genetic studies have identified several endocytic trafficking genes in both familial and sporadic PD. We aim to investigate the link between endocytic dysfunction and PD, and address the question why dopamine neurons are selectively degenerated in PD. In this talk, I will present our recent work to study two endocytic proteins PARK20/synaptojanin1 and PARK19/auxilin and their loss-of-function in PD pathogenesis.

Biography:

Dr Cao got his PhD in Biochemistry from the Hong Kong University of Science and Technology in 2009, and was subsequently trained at Yale University as a Postdoctoral Associate in the Department of Cell Biology and Department of Neuroscience. Currently he is an Assistant Professor in the Neuroscience and Behavioural Disorders programme at Duke-NUS Medical School. His research focuses on the functional relationship of Parkinson's disease genes with the endocytic traffic of synaptic vesicles.