#### The Chinese University of Hong Kong Department of Psychiatry Schedule for September, 2024

<u>Date</u> Sep5	<u>Tir</u> 14:	<u>ne</u> 30-15:30	<u>Activity</u> Research Seminar (MUL) * Quantifying and Modelling the Brain Fluid Dynamics in Healthy Ageing and Preclinical Dementia				<u>Speaker(s)</u> Ms. Zeyan LI Supervisor: Dr. Hanna LU		
			Registration: https://bit.ly/4	<u>fyv5G6</u>					
Sep12	14:	30-16:00	Psychotherapy Case Conference (TPH) *# Understanding Affects and their implications in psychotherapy				Dr. Irene KAM		
	16:	00-17:00	Psychotherapy Supervision (TPH) *#						
Sep19	14:	30-16:30	Quality Assurance Meeting (SH)#/(TPH)#						
Sep26	14:	4:30-16:00	Academic Lecture (MUL) * Can a healthier gut boost your mood?				Dr. Hein Min TUN Associate Professor The Jockey Club School of Public Health and Primary Care The Chinese University of Hong Kong		
			Registration: https://bit.ly/3yUdZ4Z						
Venue:	*Live video	#Closed meeting	@Non-CME Event	MUL Seminar Room, Multi-centre,	TPH Conference Room 1 G/F, Wing D	SH Dining I Ward 74	Room AB	1AL Rm. 1005, Dining Room Ward 1AL, 1/F	

Please contact 2607-6024 two days before hand to arrange presentation equipment.

Tai Po Hospital, Tai Po Hospital

Tai Po, N.T. Tai Po, N.T.

Dept. of Psychiatry Tai Po Hospital

7/F, Shatin Hospital Tai Po, N.T.

Shatin, N.T.

http://www.psychiatry.cuhk.edu.hk



# Research Seminar

Date: 5 Sep 2024 (THU) Time: 14:30 - 15:30 Venue: Zoom

# **Register Now**



**Ms. Zeyan Ll** Supervisor: Dr. Hanna LU

Topic: Quantifying and Modelling the Brain Fluid Dynamics in Healthy Ageing and Preclinical Dementia

### Abstract:

Either healthy or pathological ageing is linked with neuropathological changes that significantly impact brain health and fitness. While a robust monitoring mechanism to detect subtle alterations in the brain is critical, the universally applicable model for early-stage neurodegeneration remains lacking. Our study pioneers a novel computational model integrating numerical simulations aimed at decoding the ageing brain, characterising brain/blood/cerebral spinal fluid (CSF) dynamics. Drawing on multiple network poroelastic theory (MPET), originally described oil-gas reservoirs, we aim to adapt this framework to mirror fluid permeation within the multiscale porous media of the brain parenchyma. Due to the different mechanical properties of the intracranial fluids, four fluid networks (i.e., arterial, capillary, CSF and venous) are adopted, focusing on dynamic parameters such as cerebral blood perfusion (CBF) and CSF clearance rate. Here, the methodology involves reconstructing the computational domain from MRI TI-weighted images, employing TOF-MRA for vasculature depiction; DTI for permeability tensor acquisition; 2D PC and 4D Flow for blood flow capture as inlet conditions. This integrated computational framework combines medical imaging with biophysical equations, thereby assisting clinical decision-making in neuromodulation therapy.

Registration is required. For enquiries, please contact pci-event-app@cuhk.edu.hk or 26076024. Please display the registration name for joining the Zoom lecture.





# **ACADEMIC LECTURE**



# **Dr. Hein Min TUN**

Associate Professor The Jockey Club School of Public Health and Primary Care The Chinese University of Hong Kong

💼 26 Sep 2024 (THU)

**(**)14:30 - 16:00

Seminar Room, Multicentre, Tai Po Hospital & Zoom

## Topic: Can a healthier gut boost your mood?

### **Abstract:**

Amidst a global mental health crisis, the urgency of addressing mental health issues has never been more pressing. Several barriers hinder individuals from seeking treatments for mental health conditions, including poor service quality, low levels of health literacy in mental health, and pervasive stigma and discrimination. These underscore the imperative for novel therapeutic strategies to address the complexities of mental health challenges. The microbiome-gut-brain axis, a dynamic interconnection between the gut microbiota and the brain, has garnered increasing attention for its significant implications on human health and well-being. Recent investigations have highlighted the bidirectional communication pathways within this axis, shedding light on the pivotal role of the gut microbiome in influencing various physiological processes, such as immune function, metabolism, and neural signalling. This emphasizes the far-reaching impact of the gut microbiome on brain function and behaviour. Studies linking disruptions in gut microbial balance to mental health disorders like depression and anxiety have sparked interest in exploring the therapeutic potential of targeting the microbiome-gut-brain axis for mental health interventions. The challenge lies in understanding the complex underlying mechanisms and identifying the true associations of the microbiome within the vast array of gut microbial communities. This seminar will discuss up-to-date knowledge and promising future of microbiometargeted interventions for mental disorders especially depression.

### **Biography:**

Dr. Hein Min TUN is an Associate Professor at the JC School of Public Health and Primary Care, the Chinese University of Hong Kong (CUHK), the Associate Director at Microbiota–I Center (MagIC), and the PI of the System Microbiology and Antimicrobial Resistance (SMART) Lab at Li Ka Shing Institute of Health Sciences, CUHK. In parallel, he is an Adjunct Professor at the Nanjing Medical University, a Visiting Associate Professor at National University of Singapore, and an Honorary Associate Professor at the University of Hong Kong. His research interests range from studies on the mechanistic and functional roles of microbiome in health and diseases to One Health surveillance of antimicrobial-resistant bacteria and resistome. He published more than 100 original research articles in leading international journals. He serves the editorial boards of Cellular and Molecular Life Sciences and Frontiers in Microbiology. Moreover, he has received several international research awards including the Gold Medal at 2021 International Exhibition of Inventions Geneva, Canadian Institute of Health Research (CIHR) Fellowship, and Dik Zwart Award.

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