Department of Psychology
The University of Hong Kong
香港大學心理學系

Departmental Seminar

A neuroAI Approach to Understand Biological Visual Learning

2:30 p.m. – 3:30 p.m. │ July 18, 2025 (Friday)
Room 814, The Jockey Club Tower│ Centennial Campus │ The University of Hong Kong

Professor Ru-Yuan Zhang

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Abstract

The ultimate goal of artificial intelligence is to equip machines with human-like cognitive functions. The last decade has witnessed the rapid progress in AI research. In contrast, it still remains largely unknown how humans learn to acquire diverse forms of cognitive abilities, such as vision, audition, and language. The emerging neuroAI approach not only sheds new light into the neurocomputational mechanisms of human cognition but also provides promising insights into brain-like algorithms. In this talk, I will focus on the neurocomputational mechanisms of visual learning in biological visual systems. By combining neural network modeling and various neuroscientific methods, we aim to uncover several important questions in biological visual learning, including robust representations associated with learning and human visual continual learning.

About the Speaker

Dr. Ru-Yuan Zhang is currently the principal investigator of the Cognitive Computational Neuroscience and Brain Imaging Group at the School of Psychology, Shanghai Jiao Tong University, and the Shanghai Mental Health Center, affiliated with the School of Medicine, Shanghai Jiao Tong University. Dr. Zhang has been conducting interdisciplinary research at the intersection of brain science and brain-inspired artificial intelligence. His work integrates psychophysics, Bayesian models, deep learning, neural modulation, and neuroimaging to investigate the neural computational mechanisms of both the human brain and artificial intelligence. His work has been published in prestigious journals such as Nature Human Behaviour, AMPPS, PNAS, eLife, J Neurosci, and PLoS Computational Biology. Dr. Zhang's research on brain-inspired computing has also been presented at top machine learning conferences, including ICML and IJCAI. Dr. Zhang serves as an active reviewer for neuroscience journals such as eLife and Cerebral Cortex, as well as leading machine learning conferences such as ICML, NeurIPS, IJCAI, ICLR, and CVPR. In addition, Dr. Zhang is an area chair for ICML 2025, and NeurIPS 2024/2025. Dr. Zhang has received multiple honors, including nominations for the Shanghai Pujiang Talent Program, Shanghai Overseas High-Level Talent, the Shanghai Science and Technology Youth 35 Leaders Program, and the 2024 World Artificial Intelligence Conference Outstanding Young Researcher Paper Nomination (ranked second).

Zoom Meeting (For participants who couldn't attend the Seminar in person)

https://hku.zoom.us/j/6985555998?pwd=V05yTGJWNTlzazd2OFZ0Q3FReHVkdz09
Meeting ID: 698 555 5998│Password: Psyc

~All are Welcome~

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