



Department of Psychology
The University of Hong Kong

香港大學心理學系

Departmental Seminar

Dopamine and Spatial Working Memory in Prefrontal Network

12:30 p.m. – 1:30 p.m. | October 21, 2022 (Friday)

Rm 813, 8/F, The Jockey Club Tower | Centennial Campus | The University of Hong Kong



Prof. Hoi-Chung Leung

Professor

Department of Psychology

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Abstract

Working memory, the ability to temporarily hold and manipulate information for task completion, depends on a network of prefrontal, posterior parietal and subcortical areas. The functions of these regions are modulated by dopamine, a neuromodulator. Prior neuroimaging studies showed that the prefrontal network is modulated by working memory load, item priority, and updating/manipulation demands. Dopamine depletion contributes to poor working memory performances in both human and non-human primates. Recent advances in computational modeling provide a framework to model working memory, dopamine, and prefrontal activity. In this talk, I will describe our findings of prefrontal network functions in healthy young adults and special populations including major depression and children. I will also discuss spatial working memory error patterns, computational modeling, and Parkinson's disease as a possible dopamine model.

About the Speaker

Dr. Leung is a cognitive neuroscientist who studies the neural basis of short-term memory and cognitive control of behavior in healthy adults and special populations (e.g., Parkinson's disease, major depression) using neuroimaging and eye tracking approaches. As an undergraduate, she studied bioengineering at the University of Illinois at Urbana-Champaign. She completed her Ph.D. in Neurophysiology at Northwestern University and was a postdoctoral fellow at Yale Medical School before moving to Stony Brook, New York. She is currently a Professor and the Co-Director of the Integrative Neuroscience PhD program in the Department of Psychology at SUNY Stony Brook University.

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

<https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEIdEwdz09>

Meeting ID: 395 155 0048 | Password: psyc



~All are Welcome~

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