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

Brown Bag Lunchtime Seminar (Via Zoom)

(Theme: Cognition and Neuroscience)

The Predictive Brain and Psychopathology

12:30 p.m. – 1:30 p.m. | March 19, 2021 (Friday)

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Abstract

Clinical neuroscience and psychiatric research increasingly acknowledge the important roles of prediction in psychopathology including anxiety, hallucination and apathy. Currently, transdiagnostic neuroimaging studies have found that common disruption of key large-scale brain networks including the frontoparietal network (FPN), the default mode network (DMN) and the salience network (SN) were manifested widely across autism, anxiety disorders, and schizophrenia. However, it still remains unsolved whether there are common cognitive mechanisms in relation to these shared alterations of large-scale brain networks. Through several studies, I exploited functional Magnetic Resonance Imaging (fMRI) measures including brain activation, functional connectivity and dynamic brain networks to examine putative common neurocognitive mechanisms across the prevalent symptoms of anxiety, apathy, and hallucinations, with an emphasis on the role of prediction. Based on our findings, I propose a hypothesis of a common neurocognitive mechanism across anxiety, hallucination and apathy: the predictive brain model. Core brain networks, including the SN, FPN and DMN underlie the common process and peripheral brain regions are involved in specific cognitive elements during prediction of uncertain threats in anxiety, auditory stimuli in hallucinations and motivational drive in apathy. Our studies provide enhanced understanding of brain network organization during predictive processing underlying symptoms in psychiatric disorders, and may aid the development of more effective diagnostic and treatment strategies.

About the speaker

Dr. Haiyang is currently a postdoc researcher in Dr. Xiaoqing Hu's lab at HKU. By extending the studies during his phd, his recent research interests focus on computational psychiatry. Especially, He is exploring the computational mechanisms of memory, reinforcement learning and their interaction, as well as the disruption of these computations in psychopathology by combining fMRI/EEG, cognitive tasks with modeling approaches including hierarchical bayesian models and artificial neural network models.

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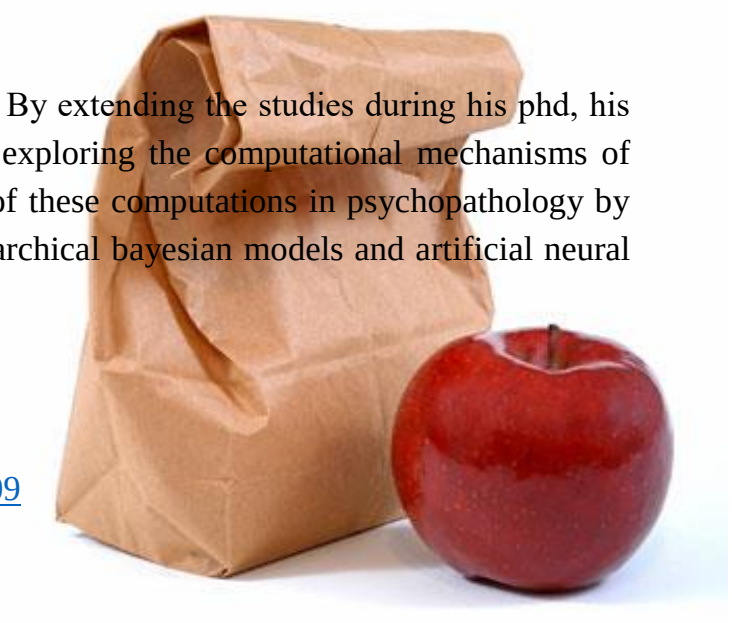

Zoom Meeting

https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEdlEwdz09
Meeting ID: 395 155 0048
Password: psyc

~All are Welcome~

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