



Department of Psychology
The University of Hong Kong

香港大學心理學系

Departmental Seminar (Via Zoom)

Dynamic and Non-linear Relationships between Neurophysiological Markers and Psychological States: Towards Real-world Applications

2:00 p.m. – 3:00 p.m. | January 12, 2023 (Thursday)



Dr. Alvin LEE

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Abstract

Biomarker research in the area of psychology has largely been focusing on furthering our understanding of the neurobiological underpinnings of the mind and behaviour through a static and “snapshot” approach. However, the dynamic and non-linear changes over time as well as environmental influences are often not taken into consideration, which is an important intermediary step prior to the real-world applications of biomarkers. To this end, the first series of studies examined potential electrophysiological markers of various psychological states and traits, such as mental fatigue, impulsivity, anxiety, and depression. The subsequent series of studies focused on how some of these electrophysiological markers can be used to track and monitor dynamic and non-linear changes in mental fatigue over time. Beyond the laboratory, there is an abundance of opportunities to start exploring novel applications of biomarkers. For instance, computational algorithms could be used to monitor mental fatigue in various settings, such as sports, schools, and workplaces. In doing so, the findings may also feed back into fundamental research, facilitating the theorisation of how our brain works in varying environments.

About the Speaker

Research Assistant Professor Alvin Lee is a cognitive neuroscientist at Nanyang Technological University. In 2020, he obtained his PhD from the School of Psychological Science, University of Western Australia. His PhD research involved the investigation of the neurobiological underpinnings of internalising and externalising symptoms in children and adults. Thereafter, he joined Nanyang Technological University as a research fellow, examining the psychophysiological effects of soundscape on mental fatigue. He adopts a wide variety of methods, ranging from electroencephalogram, electrocardiogram, skin conductance, field testing, virtual reality, simulators, and computerised cognitive tasks. His research interests include biological psychology, cognitive psychology, developmental psychology, and human factors.

Zoom Meeting

<https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEEdlEwdz09>

Meeting ID: 395 155 0048 | Password: psyc



~All are Welcome~

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