



Department of Psychology  
The University of Hong Kong

香港大學心理學系

## Workshop

### Advanced Topics of Hierarchical Bayesian Computational Modeling

10:00am to 11:30am | November 27, 2025 (Thursday)

Rm 1103 & 1104, 11/F, The Jockey Club Tower | Centennial Campus | The University of Hong Kong



#### Prof. Lei Zhang

Associate Professor

Centre for Human Brain Health

School of Psychology

University of Birmingham

#### Abstract

In this workshop, I will discuss in-depth topics of constructing hierarchical Bayesian models accommodating various research designs, from group comparisons, repeated measurement (e.g., within-subjects design), to full factorial design. I will also discuss model optimisation, in particular, reparameterisation, for slightly more complex models such as the combined reinforcement learning drift-diffusion model (RLDDM). During the interactive Q&A session, participants are welcome to bring their own models for discussion.

#### About the Speaker

Prof. Lei Zhang is an Associate Professor at the Centre for Human Brain Health, School of Psychology, University of Birmingham. He directs the Adaptive Learning Psychology & Neuroscience (ALPN) Lab, where he addresses the fundamental question of the “adaptive brain” by studying the cognitive, computational, and neurobiological basis of social learning and decision-making in healthy individuals and in psychiatric disorders. Dr. Zhang received multiple international recognitions, including the Credibility Prizes from the British Neuroscience Association and the Rising Star Award from the Association for Psychological Science. He is an Editorial Board Member for Communications Biology and PLOS Mental Health, and has served as a reviewing expert for multiple journals and international research funding agencies.

#### Prerequisite

For participants who will participate in the workshop, please have RStudio and RStan package installed on your computer.

~All are Welcome~

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