



Department of Psychology
The University of Hong Kong

香港大學心理學系

Departmental Seminar

Translating Affective Neural Signatures into Clinical Applications

3:00 p.m. – 4:00 p.m. | June 12, 2025 (Thursday)

Room 814, The Jockey Club Tower | Centennial Campus | The University of Hong Kong



Professor Feng Zhou

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Abstract

Predictive modeling is increasingly utilized in affective neuroscience, yet the specificity and real-world applicability of neuroimaging biomarkers may be overestimated. In this talk, I will discuss how nonspecific arousal can contribute to the limited specificity of affective biomarkers and present an approach to enhance their precision. I will also demonstrate that affective signatures derived from controlled tasks can have real-world utility, such as distinguishing emotion-related disorders from healthy controls using task-free resting-state fMRI. Notably, the effectiveness of these signatures depends on the choice of brain features, with connectivity-based metrics generally outperforming activation-based measures. Additionally, predictive models provide insights into the neural basis of emotional processes, revealing that emotional representations are distributed across brain networks, with certain regions/pathways selectively encoding positive or negative experiences. Collectively, these findings underscore the potential of predictive models in real-world, task-free contexts, while highlighting the importance of appropriate feature selection and careful control of confounding factors.

About the Speaker

Dr. Feng Zhou is a professor in the Faculty of Psychology at Southwest University. He earned his Ph.D. in Biomedical Engineering under the supervision of Benjamin Becker at the University of Electronic Science and Technology of China. Dr. Zhou's research focuses on the neural underpinnings and modulation of human emotion, aiming to translate these insights into more effective diagnostic and therapeutic approaches for emotion-related disorders. His work integrates fMRI, computational modeling, and machine learning approaches. He has published as (co-)first or corresponding author in leading journals including *Nature Communications* (2 papers), *Nature Human Behaviour*, *Biological Psychiatry*, *eLife*, and *PLOS Biology*.

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

<https://hku.zoom.us/j/6985555998?pwd=V05yTGJWNTlzaZd2OFZ0Q3FRReHVkdz09>

Meeting ID: 698 555 5998 | Password: Psyc

~All are Welcome~

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