Symposium

2025年9月26日(金) 16:30 ~ 18:00 Session Room 8 (Meeting Room 1)

[Symposium 54] Sharing of Impactful Research Findings from Highly Cited Researchers in the field of Psychiatry, Psychology, and Neuroscience in Asia

Moderator: Roger Ho (National University of Singapore), Toshiaki A. Furukawa (Kyoto University)

[SY-54-05] Precision Psychiatry in Practice: Leveraging fNIRS and Machine Learning for Scalable Diagnostic Biomarkers

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キーワード：Precision Psychiatry、Functional near-infrared spectroscopy、Machine learning、Biomarkers

Psychiatry continues to face a critical gap in the availability of definitive, objective biomarkers for diagnosis, prognosis, and treatment stratification. Functional near-infrared spectroscopy (fNIRS), a portable and non-invasive neuroimaging modality, holds promise in addressing this need, particularly when combined with machine learning techniques. In this presentation, I will share findings from our research leveraging fNIRS to differentiate between major psychiatric conditions, including depression, bipolar disorder, and borderline personality disorder. I will demonstrate how machine learning models can enhance diagnostic accuracy and offer potential for predicting treatment responses. Furthermore, I will explore the integration of fNIRS data with other omics-based biomarkers to further refine diagnostic precision. Crucially, this approach may be particularly valuable in low-resource settings, where access to psychiatric expertise is limited, enabling earlier detection and timely intervention. This work marks a meaningful step toward scalable, data-driven solutions that advance the vision of precision psychiatry.