iHealthtech Seminar

25 FEB, WED, 4:00 PM–5:00 PM

NUS, College of Design and Engineering, Building E7, Level 3, Seminar Room 3

Dr Chris Easthope Awai

**Chief Scientific Officer, Lake Lucerne Institute (LLUI)
& Director, Data Analytics & Rehabilitation Technology (DART) Lab,
Switzerland**

AI in Rehabilitation: Optimising Rehabilitation through Multimodal Modelling in Clinical Practice

Hosted by: Prof Lim Chwee Teck, iHealthtech Director

Rehabilitation represents a growing challenge for healthcare systems worldwide, driven by population aging, increasing stroke incidence, and workforce constraints. Stroke alone accounts for a substantial proportion of disability-adjusted life years globally, while rehabilitation outcomes remain highly heterogeneous across patients. Improving efficiency and effectiveness therefore requires approaches that move beyond static protocols toward individualized, data-driven care. Computational neurorehabilitation offers a pathway toward precision rehabilitation by leveraging multimodal data and predictive models to tailor interventions. However, its clinical adoption has been limited by fragmented data infrastructures, low interoperability, and insufficient integration of clinicians into model development and use. In this talk, I describe how embedding a learning health system within routine neurorehabilitation practice can address these barriers.

Building on our work at DART, we present HealthCore, a clinically embedded learning health system that integrates multimodal data capture, secure computation, and clinician-centered visualization across the rehabilitation care pathway. Deployed in stroke rehabilitation, this infrastructure enables continuous data collection from wearables, digital assessments, robotics, and electronic health records, while supporting iterative clinician-machine earning collaboration.

I will discuss core design principles, empirical findings from real-world deployment, and how such learning health systems can bridge the gap between computational models and clinical decision-making, contributing to scalable and equitable precision rehabilitation.

Speaker biography:

Dr Chris Easthope Awai is Chief Scientific Officer and Group Leader at Lake Lucerne Institute and holds lecturing and project management positions at ETH Zurich, University of Zurich, and other higher education institutions. His research interests lie at the intersection of health, data, and technology. He leads multidisciplinary research teams focused on translating advanced sensing, analytics, and AI into real-world clinical and organisational impact. His work spans digital health, rehabilitation technology, and data analytics, with an emphasis on building sustainable, high-performance research and innovation ecosystems to facilitate lab-to-life transfers.

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