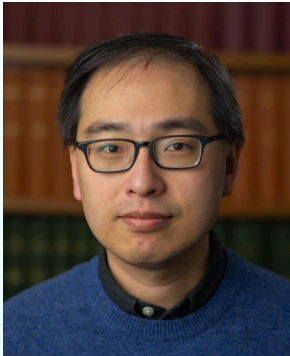




Decoding Behaviour from Neural Signals Across Scales and Modalities



Dr. Teris Tam
Postdoctoral Neuroscientist
University of Oxford

Date : 21 May 2026 (Thursday)
Time : 2:00 pm
Venue : Room 404, William M W Mong Engineering Building, CUHK

Abstract

Neural signals encode rich information about behaviour that can be decoded for disease treatment, prosthetic control, and understanding brain function. In this talk, I will present a decade of work building decoding systems across scales and modalities, from EEG-based brain-computer interfaces for stroke rehabilitation, to real-time motor decoding from peripheral nerve signals for prosthetic hand control, to large-scale neural population analysis with Neuropixels and fibre photometry. I will discuss the engineering challenges of working across these different signal types and what they reveal about designing practical neural decoding systems.

Biography

Dr. Tam received his M.Phil. in Biomedical Engineering from the Hong Kong Polytechnic University in 2013, where he developed EEG-based brain-computer interfaces for stroke rehabilitation under the supervision of Prof. Raymond Tong. Prior to his Ph.D., he completed the Engineering Graduate programme at the Electrical and Mechanical Services Department of the Hong Kong SAR Government, receiving training in medical device regulation and clinical systems management. He completed his Ph.D. in Neural Engineering at the National University of Singapore in 2018. As part of his doctoral research, he worked at the University of Minnesota Twin Cities on the DARPA HAPTIX neuroprosthetics programme, building real-time deep learning systems for decoding motor intent from peripheral nerve signals for prosthetic hand control. As a postdoctoral fellow at the University of Edinburgh, he developed real-time neural decoding tools combining in vivo electrophysiology and virtual reality to study spatial memory. He joined the University of Oxford in 2023 as a Postdoctoral Neuroscientist, where he works on large-scale multi-modal neural data analysis using Neuropixels recordings, fibre photometry and optogenetics as part of the Aligning Science Across Parkinson's initiative.

*** ALL ARE WELCOME ***

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