



NEUROSCIENCE AND PHYSIOLOGY SEMINAR SERIES

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“Motor Cortex Rotating Waves and their Implications in Motivation, Reinforcement, and Decoding Applications”

Abstract: Coordination of even simple movement requires precise, large-scale communication across brain regions. One way the brain achieves this is through travelling waves, grand wavefronts of spatiotemporal activity that sweep across the cortex which play a role in motor preparation, motivation, and reinforcement. In this talk, I will present new work showcasing how rotating travelling waves organize population-level dynamics in the motor cortex during motivated movement and feedback-based learning. By characterizing how wave characteristics shift between movement initiation and outcome evaluation, we aim to uncover fundamental principles of cortical computation and explore potential applications for the next generation of brain-computer interfaces.



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