



# Circuit- and frequency-specific mechanisms for guiding

20 March 2024

10:30 a.m. - 11:30 a.m.

## Abstract

Research on the neural basis of low- and high-order cognition has become a significant area due to advancements in neuroscience techniques, computational tools, and its clinical relevance. This is particularly important given the rising prevalence of neurodevelopmental and neuropsychiatric disorders, such as autism spectrum disorder, schizophrenia, depression, and more. The goal of my research is to develop evidence-based treatment strategies to empower the mind/brain using innovative approaches. In this talk, I will introduce the concepts of non-invasive and minimally invasive neuromodulation protocols tailored to specific circuits and frequencies to enhance social-cognitive functioning. By investigating the nuanced information transmission pathways and the natural frequency of individual brains, I will show how this knowledge can guide functional neurosurgery, inspire neuro-translational research and optimize treatment efficiency in clinical trials.

## Speaker



**Dr. Sai Sun** is currently serving as a tenure-track assistant professor at Tohoku University in Japan, a position she has held since 2020. She is also a fellow of the Tohoku Initiative for Fostering Global Researchers for Interdisciplinary Sciences. Prior to this role, she worked as a postdoctoral researcher at the psychophysics and perceptual neuroscience lab led by Prof. Shinsuke Shimojo at the California Institute of Technology from 2017. Dr. Sun got her PhD in Psychology from South China Normal University in Guangzhou. Her research interests lie at the intersection of psychophysics, social-cognitive neuroscience, neuroeconomics, and neuromodulation. In recognition of her contributions to the field, she was honored as a Prominent Researcher at Tohoku University in 2022 and received the Outstanding Young Researcher Award in 2023. Dr. Sun's research is supported by various funding sources including JSPS Kakenhi, the Young Leader Overseas Program, and the Creative Interdisciplinary Program at Tohoku University.

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## Venue

LI-5401, 5/F, Li Dak Sum Yip Yio Chin Academic Building

## ZOOM



To join seminar online, please visit  
<https://cityu.zoom.us/j/6298182794>



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