# Department of Economics – Neuroeconomics Seminar

**May 16, 2024 - 15:45 - 16:45**

Lusha Zhu
Mount Sinai

## Structural representation and decision-making in an interconnected world

Social networks shape our beliefs and choices by constraining what information we receive and from whom. Yet the mechanism by which the human brain interacts with networked environments remains unclear. Two computational challenges stand out when we try to learn from interconnected peers. First, information flowing along network connections is typically interdependent and varies in its informativeness, so how does the brain effectively integrate network-derived information? Second, individuals can hardly take into account the topological structure of the entire network when interacting with it. So which social connections are considered and which are ignored, how will the streamlined network representation affect our perception and navigation of the social world? In this talk, I will present a series of recent work that uses computational modeling, fMRI, and graph neural network to investigate social network-related learning and representation. Our finding unifies a variety of seemingly disparate biases in social perception and decision-making, shedding light on the cognitive roots of some important societal conundrums, such as biased social sensing and misinformation propagation.