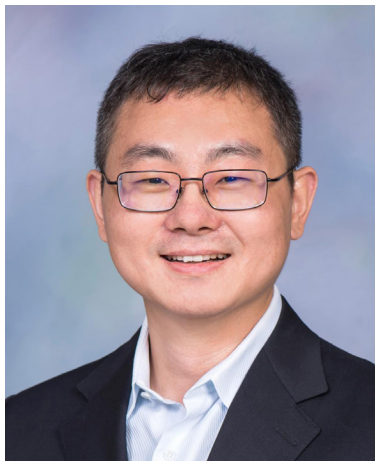


CARNEGIE MELLON UNIVERSITY BME 2020 FALL SEMINAR SERIES

Pushing the limits of intracortical neural recording



PRESENTED BY

Chong Xie

Associate Professor
Electrical and Computer
Engineering and
Neuroengineering
Rice University

SCHEDULE

**Thursday,
December 3, 2020
(10:00 AM-11:00AM)**

The brain is a massively-interconnected and constantly-evolving network of specialized circuits, a systematic understanding of which requires an interface that functions at diverse spatial and temporal scales. Implanted electrodes provide a unique approach to decipher brain circuitry by allowing for time-resolved electrical detection of individual neuron activity. However, scalable and stable neural recording that can track and map a large ensemble of neurons across days, weeks and months remains challenging. We recently demonstrated that ultraflexible, cellular-dimensional neural electrodes afford seamless integration with brain tissue and stable recording of individual neurons for over a year. Building upon this platform, I will also present our recent progress in further decreasing their form factors, and their massive scaling-up of channel count and density in behaving animals. I will finally discuss about our on-going efforts in applying these ultraflexible electrodes in fundamental and translational neurosciences.

