

**DEPARTMENT OF MECHANICAL ENGINEERING****SEMINAR****Online**

Title: Magnetic-Driven 3D Curvilinear Neural Probe for Minimal Invasive Injury

Speaker: Mr. Zou Tao (PhD candidate)
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Date: 26 April, 2022 (Tuesday)

Time: 1:00 p.m. (Hong Kong Time)

Zoom meeting: 1) Link to join the meeting:

<https://us05web.zoom.us/j/82921389818?pwd=SE85OFhTYzFkMzJxY25lT0lVaFMwQT09>

2) Meeting ID: 829 2138 9818

3) Password: 123456

Abstract:

Recording and stimulation of neural circuits in-vivo at the cellular level are essential for us to understand the function of brain and establish a brain-computer interface. Recently, neural probes with multi-function stimulation and large-area coverage have been reported on right materials like silicon. However, when these rigid neural probes go into brain, it will inevitably damage parts of the brain during deep stimulation and long-term recording. In this talk, I will present a new flexible polymer neural probe, based on standard lithography process and 3D printing process. The probe equips with eight closely spaced 30 μm diameter PEDOT:PSS/pHEMA electrodes which can be driven by external gradient magnetic field and go into brain with 3D curvilinear path. The operating mechanism and the fabrication process will also be covered. This neural probe can minimize the risks of brain damage or glial scaring and have great potential for biomedical applications.

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. P.K.L. Chan at 3917 2634.

Research area: Advanced Materials