

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

**Title:** Metallic Nanowire Transparent Conductive Electrode Fabricated by Template-guided Assembly

**Speaker:** Miss Chuwei Liang (PhD candidate)  
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**Date:** 29 April, 2021 (Thursday)

**Time:** 2:00 p.m.

**Zoom Link:** 1) Link to join the meeting:

<https://hku.zoom.us/j/97010351489?pwd=YVdFUjI3SnIBRmhJSkxEWEVYcnFiQT09>

2) Meeting ID: 970 1035 1489

3) Password: 738675

**Abstract:**

Flexible transparent conductors are key components in optoelectronic devices such as transparent displays and foldable screen smartphones. In addition to low sheet resistance and high optical transparency needed for conventional transparent conductors, emerging flexible optoelectronic devices also demand excellent flexibility. Metal nanowire based transparent electrodes have good transparency, conductivity and also flexibility and low cost. In conventional metal nanowire based conductive films, particularly those using metal nanowires, nanowires are dispersed over the whole coating area with random locations and orientation. However, the random dispersion of the metal nanowires may affect the uniformity of optical transparency, electrical conductivity, and mechanical flexibility. In this study, we demonstrate that a template with regular patterns with wettability and morphology contrast can guide the formation of a conductive metal nanowire network. The metal nanowires will be assembled under the guidance of underlying patterns by capillary forces induced at the receding meniscus of the droplet containing nanowires. Ideally, due to the orderly distribution of the metal nanowires, the conductivity, optical properties of the transparent conductive electrode will be improved by this method.

**ALL INTERESTED ARE WELCOME**

For further information, please contact Dr. W.D. Li at 3917 8982.

**Research area: Advanced Materials**