THE UNIVERSITY OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

Online

Title: **Layer-by-layer self-assembly of oppositely charged polyelectrolytes and molecules: Fabricate Janus membrane on the interface of Aqueous two phases system (ATPS) in one pot**

Speaker: **Mr. Feipeng Chen (PhD candidate)**
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Date: **27 April, 2021 (Tuesday)**

Time: **10:00 a.m.**

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

https://hku.zoom.com.cn/j/95558245160?pwd=UHhkc2FnS1psODhlRXh5U3krQVRTQT09

2) Meeting ID: 955 5824 5160

3) Password: 114915

Abstract:
Cellular membrane possesses selective ions transport facilitating many physiological reactions due to asymmetric charge distribution on extracellular side and cytoplasm side. This inspires researchers to fabricate such Janus membrane using lots of advanced techniques with applications in many fields. However, current technologies are always complicated and not applicable on more complex and heterogeneous surfaces, which commonly appears in biological system. Thus, we resolved this problem and developed a new layer-by-layer (LbL) self-assembly method by electrostatic interaction. This method was demonstrated with an example of assembling Janus membrane on the interface of Aqueous two phases system (ATPS) using oppositely charged polyelectrolytes and molecules in one pot. The behind mechanism and interesting properties of Janus membranes will be illustrated. More potential applications facilitated by this general applied self-assembly method can be explored, like catalysis, optics, energy storage and biomedicine.

ALL INTERESTED ARE WELCOME
For further information, please contact Prof. A. Shum at 3917 7904.

Research areas: Advanced Materials and Thermofluids