

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

Title: Organic transistor based on high-k dielectric material and the circuit application

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Date: 4 May, 2021 (Tuesday)

Time: 11:00 a.m. (Hong Kong Time)

Zoom meeting: 1) Link to join the meeting:

<https://hku.zoom.us/j/2136375326?pwd=emlSS1FKckJXSW1SZIN0UTl6TDJSQT09>

2) Meeting ID: 213 637 5326

3) Password: UH44ZT

Abstract:

The research of high-k dielectric material has been a promising direction to achieve low transistor threshold voltage. The low transistor operating voltage caused by low threshold voltage can not only decrease the power consumption, but also provide the possibility of low voltage application. This study demonstrates a design of high-k based bottom gate top contact organic transistor, the high-k dielectric material is based on anodization based aluminium oxide, and the inverter circuit application based on the high-k dielectric transistor is explored. The goal is to achieve transistor performance of low threshold voltage and small subthreshold swing, and explore the inverter circuit application based on the fabricated transistor. Compared with the low-k dielectric material based transistor, the high-k based transistor showed low threshold voltage and small subthreshold swing as expected. In this presentation, the fabrication method of transistor and inverter will be briefly introduced, and the transistor and inverter performance will be presented, the following optimized strategies will also be discussed.

ALL INTERESTED ARE WELCOME

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

Research area: Advanced Materials