THE UNIVERSITY OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

Online

Title: **Electrohydrodynamic 3D nanoprinting of perovskites**

Speaker: **Mr. HU Shiqi (PhD candidate)**
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The University of Hong Kong
Hong Kong

Date: **23 April, 2021 (Friday)**

Time: **3:00 p.m.**

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

https://hku.zoom.us/j/6026204527?pwd=ZE5NZTRxWTY3M3ZkakdJa1Bjc0dEZz09

2) Meeting ID: 602 620 4527

3) Password: 123456

Abstract:
Emerging as a kind of star candidate material, inorganic metal halide perovskites which have quite many outstanding properties such as untroublesome solution production process, higher mobilities of carrier excellent photoluminescence conversion efficiency with narrow bandgap exclusive defect-bearing properties, and large absorption band continually proceed forward in the field of optical and optoelectronic devices. And it is more stable than organic-inorganic halide perovskites. However, how to control the fabrication process, their shape, composition, realizing high resolution as well as the crystallization rate remain challengeable so far, which are crucial and indispensable for

practical and industrial materialization. To solve these problems and make inorganic metal halide perovskites more industrialized, we introduced the electrohydrodynamic(EHD) 3D nanoprinting technique to print perovskites. EHD dispensing has made the delivery of nanosized droplets containing perovskites precursors a practical reality, which made high resolution possible. Also, a special non-contacting method enables on-demand control over shape, placement in 3D printed nanostructures, which made the printing process more stable and induced a sufficient throughput. Last but not least, as far as I am concerned, this is the first attempt to combine electrohydrodynamic jet printing with the 3D printing of perovskites at the nanoscale. We truly believe that our work could provide new ideas about fabricating next-generation 3D printed inorganic metal halide perovskite optoelectronic devices.

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. J.T. Kim at 3917 2637.

Research area: Advanced Materials