

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

**Title:** Organic Semiconductors: Opportunities (and Obstacles) for Technological Application

**Speaker:** Dr. Emily G. Bittle  
National Institute of Standards and Technology (NIST)  
Gaithersburg, Maryland  
USA

**Date:** 27 January, 2021 (Wednesday)

**Time:** 10:00 a.m. (Hong Kong Time)

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

<https://hku.zoom.us/j/94902930245?pwd=SXhLY3E0RzZ1NXpqa253cGRBTVZOUT09>

2) Meeting ID: 949 0293 0245

3) Password: 935772

**Abstract:**

Organic light emitting diodes (OLEDs) were introduced into commercial application in the early 2000's and are now used regularly in phone screens and high-end TVs, while organic photovoltaics and transistors have not found the same technological success. In this talk, I will cover some of the fundamental performance and physical reasons that these devices are hindered while OLEDs flourish. Looking to the future, I will discuss the unique physical properties of organic semiconductors that make them suitable for the development of room temperature excitonic devices beyond traditional electronics.

**Biography:**

Emily Bittle is a staff physicist at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD USA. She received her MS and PhD in physics from the University of Kentucky where she studied dynamic charge transport in organic semiconductor transistors using infrared absorption. Since joining NIST in 2013, she has worked on refining understanding of device and charge carrier transport physics in organic semiconductors through advanced electrical measurements. She was awarded the Department of Commerce Bronze Medal Award in 2017 for improving the reliability of a key device measurement in organic electronics. Emily currently serves on the editorial board of Flexible and Printed Electronics (IOP). Her current research interests include device physics, exciton dynamics, and charge transport physics in organic semiconductors.

<https://www.nist.gov/programs-projects/exciton-and-charge-transport-dynamics-organic-semiconductors>

**ALL INTERESTED ARE WELCOME**

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

**Research area: Energy**