

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

Title: Low-cost Retina-like Robotic Lidars Based on Incommensurable Scanning

Speaker: Mr. Zheng Liu (PhD candidate)
Department of Mechanical Engineering
The University of Hong Kong
Hong Kong

Date: 23 April, 2021 (Friday)

Time: 10:30 a.m.

Zoom Link: 1) Link to join the meeting:

<https://hku.zoom.us/j/94468716896?pwd=bThxT1RqU2FhcXhvdkhUWVZVLy9wdz09>

2) Meeting ID: 944 6871 6896

3) Password: 968915

Abstract:

High performance lidars are essential in autonomous robots such as self-driving cars, automated ground vehicles and intelligent machines. Traditional mechanical scanning lidars offer superior performance in autonomous vehicles, but the potential mass application is limited by the inherent manufacturing difficulty. We propose a robotic lidar sensor based on incommensurable scanning that allows straightforward mass production and adoption in autonomous robots. Some unique features are additionally permitted by this incommensurable scanning. Similar to the fovea in human retina, this lidar features a peaked central angular density, enabling in applications that prefers eye-like attention. The incommensurable scanning method of this lidar could also provide a much higher resolution than conventional lidars which is beneficial in robotic applications such as sensor calibration. Examples making use of these advantageous features are demonstrated.

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. F. Zhang at 3917 7909.

Research area: Robotics and Control