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Aerospace Engineering, IIT Kharagpur

Mechanical Engineering, NYCU Taiwan

National Yang Ming Chiao Tung University

Topic: **Agile and efficient flight of flapping wing drones**

Speaker: **Dr. Gih-Keong Lau, Professor, Mechanical Engineering, National Yang Ming Chiao Tung University (NYCU), Taiwan**

Date and Time: **10/03/2023, Friday, 12.00 PM to 1:00 PM (Indian Time), 2.30 PM to 3.30PM (Taiwan Time)**

Webinar link: meet.google.com/rtk-pqaa-zah

Hosts: **Prof. Sunil Manohar Dash, IIT Kharagpur, and Prof. Kim Boon Lua, NYCU Taiwan**

Abstract

The aerobatic maneuvers of swifts could be very useful for micro aerial vehicle missions. Rapid arrests and turns would allow flight in cluttered and unstructured spaces. Presented in this talk is a 26-gram flapping wing drone capable of swift-like multimodal flight. Using tail elevation and high thrust, the ornithopter was piloted to hover, fly fast forward (dart), turn aerobically, and dive with smooth transitions. While still more complex than a quadrotor in both hardware, this ornithopter development is worthwhile with the advantages of being very efficient, having high agility, and being quieter and safer with flexible wings.

About the Speaker

Dr. LAU, Gih-Keong is now a professor with the Department of Mechanical Engineering at National Yang Ming Chiao Tung University, Taiwan. He was an assistant professor at Nanyang Technological University, Singapore. Dr. Lau received his Ph.D. degree in Mechanical Engineering from the Delft University of Technology, the Netherlands, in 2007, and the M.Eng. and B.Eng degrees in Mechanical Engineering from Nanyang Technological University in 2000 and 1998 respectively. He had received several awards for serving the university and international professional society. He is a recipient of the 2019 Junior Chair Professor awarded by National Chiao Tung University, Taiwan. He is a recipient of the 2017 MAE Service Award from the School of Mechanical and Aerospace Engineering, Nanyang Technological University. He received Tan Chin Tuan Fellowship in 2015 and was a visiting professor to École Polytechnique Fédérale de Lausanne (EPFL) in June 2015. He is an associate editor at the 2017-2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2017-2019).

Admission is free. All are welcome to attend.