

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

**Title:** AeCoM: An Aerial Continuum Manipulator with Precise Kinematic Modeling for Variable Loading and Tendon-slacking Prevention

**Speaker:** Mr. Rui Peng (PhD candidate)  
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**Date:** 25 April, 2022 (Monday)

**Time:** 2:00 p.m. (Hong Kong Time)

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

<https://hku.zoom.us/j/94882556865?pwd=bGlrTnhqaS9Gd29hc2tVU0lBVlBmQT09>

2) Meeting ID: 948 8255 6865

3) Password: 268025

**Abstract:**

Aerial robotic systems have raised emerging interests in recent years. A novel aerial manipulator system that is significantly different from conventional aerial discrete manipulators, is proposed: An Aerial Continuum Manipulator (AeCoM). The AeCoM compactly integrates a quadrotor with a tendon-driven continuum robotic manipulator. Due to the compact design and the payload bearing ability of tendon-driven continuum robotic arms, the proposed system solved the conflict between payload capacity and dexterity lying in conventional aerial manipulators. The detailed design of the system is presented and extensive experimental validations have been performed to validate the system self-initialization, payload capacity, precise kinematic modeling with variable end-effector (EE) loadings during aerial grasping and tendon-slacking prevention. The experimental results demonstrate that the proposed novel aerial continuum manipulator system solves the constraints in conventional aerial manipulators and has more potential applications in clustered environments.

**ALL INTERESTED ARE WELCOME**

For further information, please contact Dr. P. Lu at 3910 2548.

**Research area: Robotics and Control**