

Department of Mechanical Engineering The University of Hong Kong



# SEMINAR

## Simulation in Academia with COMSOL Multiphysics®: From Multiphysics Fundamentals to Electromagnetic Applications

Date:	April 24, 2025 (Thursday)
Time:	2:30 pm
Venue:	Room CPD-2.45, Centennial Campus, HKU
	(Central Podium Levels-Two (CPD-2, The Jockey Club Tower))
Speaker:	Mr. Jiliang CAI
	Application Engineer

**COMSOL** China

## **Abstract:**

COMSOL Multiphysics® is a general-purpose simulation software, finding applications in various fields of engineering, manufacturing, and scientific research. It offers fully coupled multiphysics and single-physics modeling capabilities, empowering researchers to tackle complex academic and industrial challenges.

This seminar will first introduce the core concepts of multiphysics simulation, emphasizing electromagnetic modeling as a gateway to interdisciplinary studies. We will demonstrate how COMSOL's flexible workflow bridges electromagnetic analysis with mechanical systems, particularly relevant to mechanical engineering research.

Following the theoretical overview, participants will engage in a hands-on workshop featuring a step-by-step simulation modeling tutorial.

All attendees will receive free trial licenses for real-time software exploration. It is recommended to bring a personal computer to install the trail software at the beginning of the seminar. The session will conclude with an open Q&A to address specific research challenges in your projects.

#### **Target Audience:**

Students, faculty, and researchers in mechanical engineering seeking to:

Expand simulation capabilities Validate experimental designs computationally Accelerate R&D cycles through multiphysics modeling

## **Biography:**

Jiliang CAI, Master's degree holder from Shanghai Tech University, possesses extensive experience in numerical simulation and modeling. He has long been engaged in technical support within the fields of power electronics and semiconductors, primarily responsible for providing technical support and customer consultation services in electromagnetics and plasma simulation using COMSOL Multiphysics<sup>®</sup>.

### ALL INTERESTED ARE WELCOME

For further information, please contact Prof. N. Fang at 3917 2639.