



**Department of
Mechanical Engineering
The University of Hong Kong**



**Title: Central Fabrication Laboratory- Technical sharing session –
Fundamental principles of plasma technology**

Date: 27 August 2025 (Wednesday)

Time: 10:00 - 11:30

Venue: 7-34, Haking Wong Building, HKU

Speaker: Ray Chen

PVA TePla America, LLC

Language: English

Limited seats available on a first-come first-served basis

Abstract:

The Central Fabrication Laboratory (CFL) is a cutting-edge cleanroom facility located at the University of Hong Kong. Its primary mission is to provide advanced fabrication facilities and expertise to enhance teaching and research activities in micro/nano fabrication. As a leading research laboratory, CFL offers open access not only to University of Hong Kong members but also to local and international institutions, researchers, and companies, with collaborations from the private sector always encouraged. The technical sharing sessions offered by CFL are designed to keep participants updated on the latest micro/nano fabrication techniques and provide valuable networking opportunities with experts from around the world.

In this seminar, the fundamental principles of plasma technology will be introduced, along with a brief overview of recent advancements in plasma systems and

processes. Several key applications—such as surface activation, precision cleaning, etching, and PECVD coating and functionalization—will be showcased to illustrate the versatility of plasma treatments.

An advanced plasma system goes beyond merely being high-tech; it embodies innovative systems, cutting-edge materials, dynamic processes, and expertise. It also signifies well-established organizational structures, an open corporate culture, and a commitment to responsible practices. By harnessing these elements, companies can leverage their innovative strength to gain significant competitive advantages across new application domains—ranging from the semiconductor industry and vacuum technology to material analysis.

A worldwide plasma system technology should be able to integral a broad spectrum of industries, including semiconductor manufacturing, automotive, aerospace, batteries, electronics, food packaging, fuel cells, glass, optics, plastics, space exploration, and biomedical fields. The development of new applications is ongoing, fueling rapid growth in this sector. Plasma technology offers an environmentally friendly and cost-effective alternative to wet chemical processes, making it a vital tool for sustainable innovation across industries.

Biography:

Ray Chen is the Technical Sales representative for PVA TePla America. He has been with PVA TePla in Corona, California, since 2000. Previously, he served as the manager of the R&D lab before transitioning to a sales position. He has extensive experience working with customers on research and surface modification projects, providing plasma treatment solutions for surface decontamination, activation, and PECVD coatings in the semiconductor, life sciences, and electronics industries.

ALL INTERESTED ARE WELCOME

For further information, please contact Mr. YIP P.S. (3910 2637, psanyip@hku.hk)

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