



SEMINAR

Title: Central Fabrication Laboratory- Technical sharing session – Versatile plasma etching processes: diamond, SiC and III-V

Date: 18 March, 2026 (Wednesday)

Time: 2:00pm - 3:30pm

Venue: Room 7-34, Haking Wong Building, HKU

**Speaker: Dr. Benjamin Freyer
SENTECH Instruments GmbH**

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.

Plasma etching plays a central role in the fabrication of advanced electronic, photonic, and quantum devices, particularly when processing demanding materials such as diamond, silicon carbide (SiC), and III-V semiconductors. These materials exhibit high chemical stability, extreme hardness, or sensitive surface chemistries, making well controlled plasma processes essential for achieving reproducible and high-quality results.

This seminar provides an overview of plasma etching approaches that are highly suitable for these materials and discusses the underlying physical and chemical mechanisms. For diamond we present isotropic and anisotropic etching techniques which can be combined to process unique features. SiC benefits from fluorine rich chemistries and stable ion energy control that support anisotropic profiles and smooth surfaces. III-V compounds, in

contrast, require etching conditions that minimize surface damage and roughness to achieve excellent optoelectronic properties.

Biography:



Dr. Benjamin Freyer, International sales manager of SENTECH Instruments GmbH. He studied Physics at the University of Potsdam and received his PhD from the Faculty of Mathematics and Natural Sciences at Humboldt University of Berlin. He has 10+ years' experience at SENTECH.

ALL INTERESTED ARE WELCOME

**For further information, please contact
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