Plasma-Therm Technical Workshop:

Fundamentals of Plasma Processing (Etching and Deposition)

University of Louisville

Shumaker Research Building (RM 139)

2210 S Brook St, Louisville, KY 40208

11 April 2023 -- Tuesday -- 8:00am to 5:30pm

The workshop will focus on the fundamentals of plasma etching and deposition. Lectures will include the basics of plasma reactors and mechanisms for etching and deposition and review state-of-the-art etching and deposition technologies as applied to semiconductors, MEMS, and nanofabrication. Talks will cover compound semiconductor, dielectric, and deep silicon etching as well as PECVD and high-density plasma CVD of silicon-based materials. Fundamental and new ideas for endpoint detection and sample thermal budget management will be presented.

Registration is free, however online pre-registration by 3 April 2023 is requested

http://www.kymultiscale.net/workshop-registration

For general and registration inquiries, please contact:
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Objectives

- Learn the fundamentals of plasma, reactors, and etching mechanisms
- Review current etching technologies for deep silicon etching, compound semiconductors, and dielectrics
- Provide essentials of PECVD and HDPCVD
- Explore the fundamentals and new ideas in endpoint detection
- Understand thermal budget considerations

Continental breakfast and lunch will be provided
Scheduled details and speaker information follows:

Program

08:00 am	Registration (light breakfast courtesy of Plasma-Therm)
08:30 am	Welcome
08:45 am	Basics: Plasma, Reactors, and Etching Mechanisms
10:45 am	Break
11:00 am	Dielectric Etching
12:00 pm	Networking Lunch (hosted by Plasma-Therm)
01:00 pm	Compound Semiconductor Etching
02:00 pm	Deep Reactive Ion Etching of Silicon
02:45 pm	Break
03:00 pm	Endpoint Basics
03:30 pm	Thermal Budget Management
04:00 pm	PECVD and HDP CVD (high density plasma CVD)
05:00 pm	Conclusion (Note: Q&A will be encouraged during the talks)

Speaker Information: David Lishan, Ph.D.

After receiving his undergraduate degree in Chemistry from UC Santa Cruz and Ph.D. from UC Santa Barbara in Solid State Electrical Engineering he has worked and published on a wide range of material, semiconductor, and chemistry R&D projects in the areas of lithography, photochemistry, x-ray mask fabrication, PVD, and plasma processing. During his 24 years at Plasma-Therm, he has had business unit management and worldwide marketing responsibilities as well as managing the development and release of the plasma dicing product. Currently in dual roles as a Principal Scientist and a director in technical marketing, he has recently organized and presented plasma processing workshops at nearly 50 leading institutions throughout the world. His primary focus is on the application of plasma processing for R&D, MEMS, photonics, data storage, power, and compound semiconductor applications. He holds two patents (and one pending) in the area of semiconductor processing and has over 60 publications and conference presentations.