

# Exclusive Workshop at IKTS LiteScope AFM-in-SEM

“Pushing the Boundaries of Semiconductor  
Failure Analysis and Material Characterisation”

11 September 2025

## Venue

Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Dresden

## Programme

**12:30 – 13:00**

Welcome & Introduction  
Overview of the program and group  
assignments

**13:00 – 15:00**

Interactive Morning Session - Group Rotations  
(Part I), attendees will be divided into three  
groups rotating through:

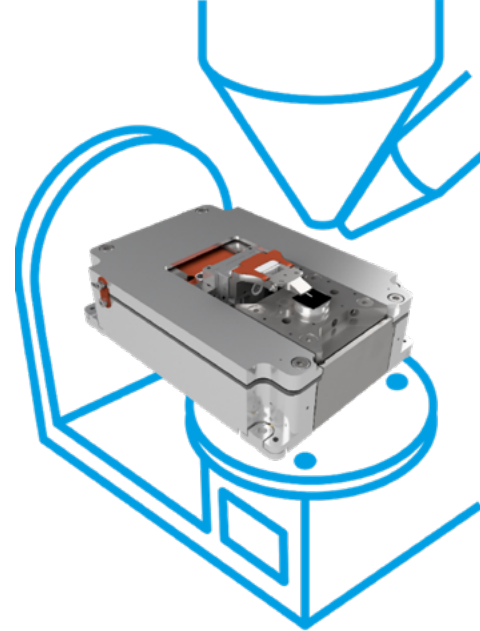
- LiteScope Technology & Applications  
Presentation “In-situ correlative microscopy  
for semiconductor failure analysis & material  
characterization”
- Guided Tour of Fraunhofer IKTS Facilities
- Live Demonstration of LiteScope in SEM,  
“Live demonstration of in-situ sample prep-  
aration using FIB and subsequent local  
conductivity mapping by conductive AFM”

**15:00 – 15:30**

Coffee Break & Snack  
Networking and informal discussion

## Organiser

Physical Electronics GmbH, in cooperation with  
the Fraunhofer IKTS  
and the company NenoVision



**15:30 – 16:30**

Interactive Afternoon Session – Group Rotations  
(Part II), continuation of the rotation sessions

**16:30 – 17:00**

Feedback & Wrap-Up Discussion  
Exchange insights, Q&A, and closing remarks

**From 19:00**

Informal Networking Dinner  
Join us in Dresden for relaxed conversations and  
community building

## Why attend?

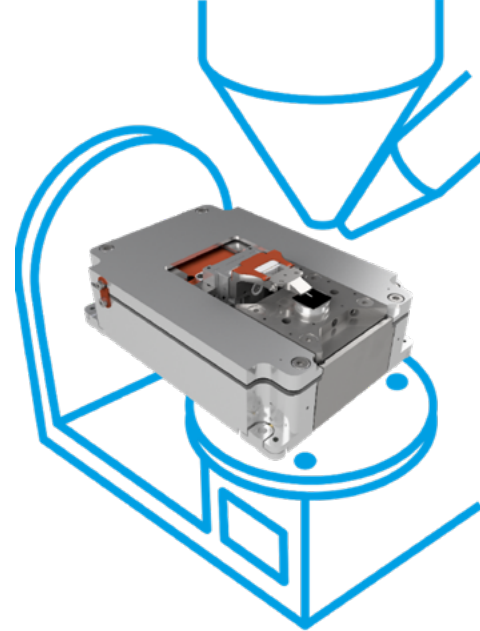
- ✓ Gain insights into AFM-in-SEM and in-situ microscopy from leading experts
- ✓ Experience a live hands-on demonstration focused on semiconductor failure analysis workflows
- ✓ Explore new applications and research opportunities with LiteScope (AFM-in-SEM)



# Why LiteScope?

LiteScope is an innovative AFM-in-SEM tool, built for researchers pushing the limits of material science. Through its correlative CPEM mode, it enables simultaneous acquisition of morphological, electrical, mechanical, and magnetic data, directly inside your existing SEM environment.

Designed for both academic labs and industrial R&D, LiteScope enhances existing workflows while revealing hidden behaviors in devices and materials, previously impossible to discover with traditional tools. From failure analysis of semiconductor devices to battery materials characterization, LiteScope AFM-in-SEM continues to reveal what others can't.



## In-situ microscopy

In-situ microscopy refers to the technique of observing and analyzing materials or samples in their native environment without removing or altering them during the measurement process. This method is critical for R&D as it provides real-time, undisturbed observations, enabling accurate studies of dynamic processes such as reactions, phase transitions, or failure mechanisms in materials.

## Application Areas

### Semiconductors

Improve your semiconductor failure analysis by integrating in-situ, site-specific electrical and topographical characterization, enabling precise dopant profiling and conductivity mapping at the nanoscale.

### Battery Materials

Enhance your battery research by performing in-situ correlative analysis of cathodes, providing detailed insights into material degradation, cycling effects, and interparticle connectivity, all while preventing contamination.

### Material Science

Advance your material science research by uncovering structural, mechanical, and electrical properties of nanowires, thin films, metal alloys, ceramics, and composites, enabling better material design and quality assurance.