CMI ANNUAL REVIEW 2026
EXHIBITORS' PARALLEL TALKS
TECHNICAL PROGRAM

PROGRAMME OVERVIEW

11h30

[O1] GenISys GmbH — Optimizing Fabrication of Photonics and Plasmonic Devices
Room 1B – Oral
[W1] ASML Research, ASML Applications — Welcome to ASML
Room AB – Workshop

11h45

[O2] Carl Zeiss, Gloor Instruments AG — Touching the Limits in Optical and Electron Microscopy
Room 1B – Oral

12h00

[O3] Nanoscribe GmbH & Co.KG — Pushing the Limits of 3D Microfabrication: Advances with Nanoscribe
Room 1B – Oral

12h15 LUNCH BREAK

12h45

[W2] GenISys GmbH — Advanced SEM Metrology Applications Using InSPEC
Room AB – Workshop

13h45

[O4] KLA Instruments Group — Thickness-Dependent Stress Evolution in ITO Thin Films
Room 1B – Oral

14h00

[O5] Heidelberg Instruments Mikrotechnologie GmbH — The MLA 150: History, Present and Future of Maskless Aligner Technology
Room 1B – Oral

14h15

[O6] scia Systems GmbH — LN-based PICs: Novel techniques for structuring and yield improvements with ion beam processing
Room 1B – Oral
[W3] Park Systems — Advanced correlative measurement using automated Fx200 AFM
Room AB – Workshop

15h00 COFFEE BREAK

15h30

[O7] FabuBlox Inc. — FabuBlox: From Process Design to Enabling the Next Generation of Intelligent, High-Flexibility Fab Ecosystems
Room 1B – Oral
[W4] ASML Research, ASML Applications — Welcome to ASML
Room AB – Workshop

15h45

[O8] EV Group — Heterogeneous Wafer Bonding
Room 1B – Oral

DETAILED ABSTRACTS

[O1] Optimizing Fabrication of Photonics and Plasmonic Devices: Software Solutions for Lithography and Metrology

D. Titko, A. Peyyety, S. Bauerdick, K. Gieb

GenISys GmbH, Unterhaching (Germany)

We present advanced software solutions tailored to optimize fabrication of photonic and plasmonic devices employing electron beam lithography. These solutions are designed to improve line-edge roughness and shape fidelity of fabricated structures, while providing automated image acquisition, inspection and comprehensive metrology for full process characterization.

[W1] Welcome to ASML

L. Vanherpe[1], J. Beltman[2]

[1] ASML Research, Veldhoven (Netherlands), [2] ASML Applications, Grenoble (France)

Introduction to ASML: Company, Lithography, Products, Technology.

[O2] Touching the limits in optical and electron microscopy

R. Jankele[2], H. Brandenberger[3]

[2] Carl Zeiss CH, Feldbach (Switzerland) and [3] Gloor Instruments, Opfikon (Switzerland)

As structures in semiconductor samples are becoming smaller and smaller, the imaging and analysis side is challenged by physical barriers. New development of Zeiss light microscope and electron microscopy are presented and time constraints – from hardware solution such as new FIB system to software to use AI supported workflows.

[O3] Pushing the Limits of 3D Microfabrication: Advances with Nanoscribe

A. Legant

Nanoscribe GmbH & Co.KG, Eggenstein-Leopoldshafen (Germany)

Nanoscribe's high-precision 3D microfabrication technologies are accelerating innovation across photonics, optics, MEMS and life sciences. This presentation outlines Nanoscribe's latest technological advancements, improved workflows, and industrialization pathways, showing how these developments empower researchers and companies to create high-performance microcomponents with unprecedented precision and throughput.

[W2] Advanced SEM Metrology Applications Using InSPEC

A. Peyyety, D. Titko, S. Bauerdick, K. Gieb
GenISys GmbH, Unterhaching (Germany)

We present here an automated scanning electron microscopy methodology for quantitative characterization of photonic structures and metamaterials. The approach combines layout-based navigation, alignment, and autofocus to enable repeated and large sampling across the wafer. Measurements show high-throughput acquisition, consistent critical dimension (CD) data, and statistical analysis capabilities suitable for photonic structures design, fabrication optimization, and process monitoring.

[O4] Thickness-Dependent Stress Evolution in ITO Thin Films

D. Weill
KLA Instruments Group, Unterhaching (Germany)

Stress control in indium tin oxide (ITO) films is essential for reliable device integration. This presentation reports a quantitative study of thickness-dependent stress in sputtered ITO films, combining wafer-bow measurements with optical and surface metrology to link stress evolution to grain growth and process conditions.

[O5] The MLA 150: History, Present and Future of Maskless Aligner Technology

B. Stender
Heidelberg Instruments Mikrotechnologie GmbH, Heidelberg (Germany)

The MLA 150 has shaped maskless aligner technology for over a decade. This talk reviews its evolution, key innovations, and present-day capabilities, including enhanced resolution, automation, and workflow integration. Looking ahead, we outline future developments that will further expand performance, accessibility, and application versatility in modern microfabrication.

[O6] LN-based PICs: Novel techniques for structuring and yield improvements with ion beam processing

M. Lötsch, R. Metznera
scia Systems GmbH, Chemnitz (Germany)

Lithium niobate photonic integrated circuits require high-quality structuring beyond plasma etching limits. Ion beam etching and trimming enable precise material removal, smooth surfaces, and reduced optical losses. These techniques improve geometry control, yield, and design flexibility. scia Mill 200 and Trim 200 technologies enable advanced structuring strategies, with localized trimming and defect correction improving device uniformity and fabrication yield.

[W3] Advanced correlative measurement using automated Fx200 AFM

M. Lefevre, R. Bourrellier
Park Systems, Orsay (France)

Park Systems AFM solutions enable advanced nanoscale characterization of graphene on Silicon carbide. By integrating KPFM, C-AFM, and sMIM on a single automated platform, users achieve reliable, high-resolution measurements of surface potential, conductivity, and layer structure, accelerating analysis of complex 2D materials and improving productivity in research and device development.

[O7] FabuBlox: From Process Design to Enabling the Next Generation of Intelligent, High-Flexibility Fab Ecosystems

J. Tiepelt

FabuBlox, Inc., Boston, MA (USA)

FabuBlox introduces a unified platform for version-controlled process design and layer stack emulation combined with intelligent fab management. Enhanced by early-stage agentic AI capabilities, FabuBlox streamlines operations, reduces tool downtime, and improves reproducibility in high-flexibility fab environments. This is achieved by standardizing process onboarding, enforcing recipe parameter rules, managing tool capabilities and calibrations, and automating contamination control.

[W4] Welcome to ASML

L. Vanherpe[1], J. Beltman[2]

[1] ASML Research, Veldhoven (Netherlands), [2] ASML Applications, Grenoble (France)

Introduction to ASML: Company, Lithography, Products, Technology.

[O8] Heterogeneous Wafer Bonding

O. Bobenstetter, C. Warmuth

EV Group, Sankt Florian am Inn (Austria)

Wafer bonding has become a foundational technology in modern semiconductor devices, enabling heterogeneous system architectures in which different chips and materials are combined at the wafer level into highly integrated systems. This presentation will focus on plasma-activated fusion bonding, highlighting its process principles and illustrating its applicability through selected use cases. In addition, the presentation will discuss high-vacuum, oxide-free wafer bonding, a technology that enables conductive bond interfaces and is particularly well suited for heterogeneous material integration at low or even room temperature.