

Program

LaP | LOM



- LaP – 7th Conference on Laser Polishing
- LOM – 2nd Conference on Laser-based Optics Manufacturing

September 29–30, 2026 in Aachen, Germany



Joint Conference LaP | LOM 2026

Joint Conference

Once again, the 7th Conference on Laser Polishing LaP will be held in conjunction with the 2nd Conference on Laser-based Optics Manufacturing LOM. We look forward to welcoming you to this groundbreaking event, which brings together leading experts, researchers, and industrialists from the world of laser polishing and laser-based optics manufacturing.

The joint conference combines the latest developments, challenges, and successes in the field of laser polishing with innovative technologies and applications in laser-based optics manufacturing. This combination enables a rich discussion about the synergies between the two fields as well as future opportunities and trends in laser processing.

The conference provides a unique platform to exchange knowledge, present research results and discuss the latest technologies and applications. We cordially invite you to take part in this inspiring event, expand your network and help shape the future of laser polishing and optics manufacturing.

With 70 to 80 participants from different areas of industry and science, LaP has established itself as one of the most important conferences on laser polishing. The LOM expands this event to further applications on laser polishing and laser-based optics manufacturing.

We are looking forward to meeting you at the LaP | LOM joint conference at September 29–30, 2026 in Aachen.

Sincerely,

A handwritten signature in black ink, appearing to read 'Willenborg', with a stylized flourish at the end.

Dr. Edgar Willenborg
Fraunhofer Institute for Laser Technology ILT



Invitation to LaP | LOM 2026

Main Topics

- Laser polishing of metals
(e.g. functional and design surfaces, additively manufactured parts, tools)
- Laser polishing of glass
- Laser-based processes for optics manufacturing
(e. g. SLE, USP ablation)
- Precision shape correction of optical surfaces
- Laser polishing of other materials such as plastics or CVD diamond films
- Laser deburring
- Other related topics
(e. g. metrology, process control)

General Information

The conference will be held in presence at Fraunhofer ILT in Aachen, Germany. The conference language is English.

The conference fee for both LaP | LOM 2026 together will be 550,- € payable on receipt of invoice by attendees as well as speakers.

Early bookers pay only 450,- € until July 31, 2026.

Registration online

Please register online at:
www.ilt.fraunhofer.de/lap-lom

Schedule

- Registration deadline for conference
September 11, 2026
- Early bird registration until
July 31, 2026
- Conference LaP | LOM 2026
September 29–30, 2026



LaP | LOM 2026 – Program Day 1 (Sept. 29, 2026)

8:30

Registration & Coffee Reception

9:00

Session I – Laser Polishing and Deburring of Metals

(Chair: Christian Vedder)

- **Machine tool for laser deburring of metals**

Hansjörg Klotz¹, Moritz Küpper²

¹ Karl H. Arnold Maschinenfabrik, Ravensburg, Germany

² Fraunhofer Institute for Laser Technology ILT, Aachen, Germany

- **Laser polishing for tribological applications**

Sven Linden¹, Merle Reimers²

¹ Fraunhofer Institute for Laser Technology ILT, Aachen, Germany

² Institute for Machine Elements and Systems Engineering, RWTH Aachen University, Germany

- **Investigation of the field emission properties of laser-polished niobium surfaces for SRF applications**

Florian Brockner, Dirk Lützenkirchen-Hecht

FK4 – Physik, Bergische Universität Wuppertal, Germany

10:30

Coffee Break

11:00

Session II – Laser Polishing of Metals and Silicon

(Chair: Dirk Lützenkirchen-Hecht)

- **Multiphysics simulation framework for investigating the effect of surface morphology of laser powder bed parts on molten pool dynamic during laser polishing process**

Hong-Chuong Tran, Duc-Kien Huynh, Mai-Anh Nguyen

Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan

- **Laser polishing and simultaneous nitriding of metallic glasses**

Hu Huang, Jing Hong, Bo Liu, Jingtao Wang, Yongfeng Qian

School of Mechanical and Aerospace Engineering, Jilin University, Changchun, China

- **Laser polishing and recovery of monocrystal silicon optics**

Junfeng Xiao¹, Weiqi Huang², Jianguo Zhang¹, Jianfeng Xu¹

¹ Huazhong University of Science and Technology, China

² Changsha University of Science and Technology, China

LaP | LOM 2026 – Program Day 1 (Sept. 29, 2026)

12:30	Lunch
13:30	Session III – Precision Laser Processing of Diamond and Glass (Chair: Christian Peters) ■ Study on the technology and mechanism of ultrashort laser subtractive polishing of CVD diamonds Bowei Luo¹, Haibing Xiao¹, Yongquan Zhou¹, Mingjun Liu¹, Weichao Zhang², Chufeng He² ¹ School of Intelligent Manufacturing and Equipment, Shenzhen University of Information Technology, China ² Shenzhen Tianjixing Laser Equipment Co., China ■ Diamond X-ray lenses with integrated aberration compensation Frank Seiboth, Wenxin Wang, Ralph Döhrmann, Stephan Botta, Anders Madsen, Christian G. Schroer Deutsches Elektronen Synchrotron DESY, Hamburg, Germany ■ Surface engineering of glass lightguides fabricated by Selective Laser Etching Fahime Ghashghaei, Hans Zappe IMTEK, Department of Microsystems Engineering, University of Freiburg, Germany ■ High precision shape correction of fused silica optics by laser beam figuring Emrah Uluz, Stephan Gräbe Fraunhofer Institute for Laser Technology ILT, Aachen, Germany
15:30	Lab Tour / Coffee Break
18:00	End of Lectures and Lab Tour
18:15	Discuss with the Speakers and Experts (including dinner) at LUCA, Campus-Boulevard 79, Aachen within walking distance from Fraunhofer ILT
22:00	End of Day 1

LaP | LOM 2026 – Program Day 2 (Sept 30, 2026)

8:30	Registration & Coffee Reception
9:00	Session IV – Laser-Based Form Manufacturing and Process Chains I (Chair: Astrid Saßmannshausen) ■ New developments in laser-based optics manufacturing Edgar Willenborg Fraunhofer Institute for Laser Technology ILT, Aachen, Germany ■ Laser-based optics manufacturing on ultra-precision turning machines Karsten Braun Innolite, Aachen, Germany ■ Manufacturing micro-optical elements by selective laser-induced etching – machines and applications Jens Gottmann LightFab, Aachen, Germany
10:30	Coffee Break
11:00	Session V – Laser-Based Form Manufacturing and Process Chains II (Chair: Karsten Braun) ■ Laser processes for shaping optical components – SLE vs. usp laser ablation Astrid Saßmannshausen, Lara Beckmann, Sandra Borzek Fraunhofer Institute for Laser Technology ILT, Aachen, Germany ■ Selective laser etching and CO₂ laser polishing of micro-optics for fibre optic sensors Pubali Pal, Calum Ross Institute of Photonics and Quantum Sciences, Heriot-Watt University, Edinburgh, UK ■ Femtosecond-laser ablative shaping of lens structures in fused silica: from form generation to surface finishing Robert Schmidt Ernst-Abbe-Hochschule Jena, Fachbereich SciTec, Germany
12:30	Lunch
13:30	Session VI – Optics for IFE and FEM simulation of laser polishing (Chair: Manuel Jung) ■ Process transfer function identification for inverse power mapping in deterministic glass machining structures Allison Browar Lawrence Livermore National Laboratory, CA, USA ■ Process engineering and numerical simulation for temperature-controlled laser beam polishing Thomas Schmidt, Andreas Fey, Susanne Kasch Günter-Köhler Institute for Joining Technology and Material Testing, Jena, Germany ■ FEM Simulation of laser polishing of glass Wladislaw Müller, Norbert Pirch Fraunhofer Institute for Laser Technology ILT, Aachen, Germany
15:00	Closing
15:15	End of Conference

Fraunhofer Institute for Laser Technology ILT

The Fraunhofer Institute for Laser Technology ILT is one of the most important development and contract research institutes in laser development and application worldwide. Its activities encompass a wide range of areas such as developing new laser beam sources and components, laser-based metrology, testing technology and industrial laser processes. This includes laser cutting, ablation, drilling, welding and soldering as well as surface treatment, micro processing and additive manufacturing. Furthermore, Fraunhofer ILT develops photonic components and beam sources for quantum technology.

Overall, Fraunhofer ILT is active in the fields of laser plant technology, digitalization, process monitoring and control, simulation and modeling, AI in laser technology and in the entire system technology. We offer feasibility studies, process qualification and laser integration in customized manufacturing lines. The institute focuses on research and development for industrial and societal challenges in the areas of health, safety, communication, production, mobility, energy and environment. Fraunhofer ILT is integrated into the Fraunhofer Gesellschaft.

Organization

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