

INVITATION

May 04th - May 05th 2022

9th European Seminar on Precision Optics Manufacturing





WELCOME

9th European Seminar on Precision Optics Manufacturing



EUROPEAN UNION
Investing in our Future
European Regional
Development Fund

9th European Seminar on Precision Optics Manufacturing, May 4th - 5th 2022
Deggendorf Institute of Technology
Technology Campus Teisnach Optics, Germany

Main topics

- Manufacturing and measurement of optics from mm- to m-range and optical systems: Processes for grinding, polishing, centering, assembly, handling, surface modification, cleaning and coating of optics
- Standards in optics manufacturing. Design of optics, error budgeting, fusion of optical and mechanical design, strategies for optical design within mechanical tolerances. Optical design SW: experiences, current developments, license models & alternatives
- Advanced and next generation technologies in high precision manufacturing: Ultraprecision machining, kinetic abrasive polishing, additive manufacturing, molding, new and special materials, next generation of giant optics manufacturing and testing
- Smart fusion of manufacturing and measurement of optics: Lessons learned in industry and research institutes in environment, media control, process stability, measurement, data handling and data mining
- Internet of things: Data handling and security within the value chain from optical design to manufacturing process, optical systems and their integrity and vulnerabilities

Conference language:

English

We are looking forward to meeting you at the 8th European Seminar on Precision Optics Manufacturing.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Peter Sperber".

Prof. Dr. Peter Sperber

A handwritten signature in blue ink, appearing to read "Gerald Fütterer".

Prof. Dr. Gerald Fütterer



PROGRAM, 1ST DAY

9th European Seminar on Precision Optics Manufacturing

Chairs: Dr. Oliver Föhnle, OST Eastern Switzerland University of Applied Sciences
Prof. Dr. Gerald Fütterer, DIT
Prof. Dr. Ing. Christine Wünsche, DIT

1ST DAY, WEDNESDAY, MAY 4TH 2022

9:30 SESSION 1 - MANUFACTURING OPTICS 1

- 1 **Minimizing polishing times in asphere production by ultra-precision grinding**
Armin Rumpel, SwissOptic AG, CH
- 2 **Impact of different types of water as lubricants on roughness and contamination of bound abrasive ground heavy flint glass surfaces**
Christoph Gerhard, HAWK - FH Hildesheim/Holzminden/Göttingen, D
- 3 **Fully automated centering and bonding of lenses for high-quality objectives**
Lisa Kempa, Trioptics GmbH, D

10:30 BREAK (15 MIN)

10:45 SESSION 2 - COATING AND SMART PROCESSES

- 4 **Environmentally stable iridium mirror coatings for the infrared spectral range**
Thorsten Döhring, Technische Hochschule Aschaffenburg, D
- 5 **Surface defects in the production of optical coatings**
Lars Mechold, Laser Components Germany GmbH, D
- 6 **Interconnected sensors for the analysis of electrochemical and mechanochemical processes**
Michael Benisch, Deggendorf Institute of Technology, D

11:45 LUNCH



PROGRAM, 1ST DAY

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13:00 SESSION 3 - ADVANCED PROCESSES 1

7 **Direct manufacturing of micro lens arrays via laser-ablation and -polishing**
Martin Kahle, ifw Jena - Günter-Köhler-Institut für Fügetechnik und Werkstoffprüfung GmbH, D

8 **2.5D & 3D micro-structures with Maskless Laser Lithography: Grayscale lithography & Two-photon Polymerization applied to Micro Optic.**
Dominique Collé, Heidelberg Instruments, D

9 **Atmospheric Plasma Jet used as polishing tool for optical glasses**
Heike Müller, Leibniz Institute of Surface Engineering, D

14:00 BREAK (15 MIN)

14:15 SESSION 4 - MEASUREMENT

10 **Precision measurement of large optics up to 850 mm in diameter by use of a scanning point multi-wavelength interferometer**
Marc Wendel, Ametek GmbH, D

11 **Centering measurement on aspheres - also double-sided**
Engelbert Hofbauer, HOFBAUER OPTIK Mess- & Prüftechnik, D

14:45 END OF DAY ONE



PROGRAM, 2ND DAY

9th European Seminar on Precision Optics Manufacturing

2ND DAY, THURSDAY, MAY 5TH 2022

9:00 SESSION 5 - ADVANCED PROCESSES 2

12 **Mesoscale surface patterning by ring-shaped lithography for single and array optical elements**

Maria Knoblich, University of Applied Sciences Jena, D

13 **Investigation on process stability of laser beam figuring for nanometre structuring and correction on fused silica**

Emrah Uluz, Fraunhofer-Institute for Laser Technology ILT, D

14 **Magnetorheological Finishing Enables High Precision Freeform Space Optics**

Jean Pierre Lormeau, QED Technologies International Inc, FR / USA

10:00 BREAK (15 MIN)

10:15 SESSION 5 - MANUFACTURING OPTICS 2

15 **3D printed flexible workpiece mount for conventional polishing**

Simon Killinger, Degendorf Institute of Technology, D

16 **Investigations on the influence of process vibrations in CNC grinding processes on the surface quality of fused silica components**

Sebastian Henkel, Ernst-Abbe-Hochschule Jena, D

17 **Differences and effects of two machine concepts on the manufacturing process of aspherical lenses**

Rafael Hild, OptoTech Optikmaschinen GmbH, D

11:15 **End of the Seminar**



INFORMATION

9th European Seminar on Precision Optics Manufacturing

Registration

<https://survey.th-deg.de/index.php/558844?lang=en>

Fee for

- Authors 275 EUR, excluding VAT if applicable
- Digital participation 150 EUR, excluding VAT if applicable
- All participants will have access to all publications. The presentations of the speakers can only be obtained from them.

Zoom links

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|-------------------|---|---------------------------|
| Technique Check 1 | https://th-deg-de.zoom.us/j/87944503342 | 03.05.2022, 10:00 - 11:00 |
| Technique Check 2 | https://th-deg-de.zoom.us/j/87631536686 | 03.05.2022, 13:00 - 14:00 |
| POM Day 1 | https://th-deg-de.zoom.us/j/85151552891 | 04.05.2022, 09:30 - 14:15 |
| POM Day 2 | https://th-deg-de.zoom.us/j/84936857882 | 05.05.2022, 09:00 - 11:00 |

Organisation

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Seminar contact

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