





11th European Seminar on Precision Optics Manufacturing, April 23th - 24th 2024 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

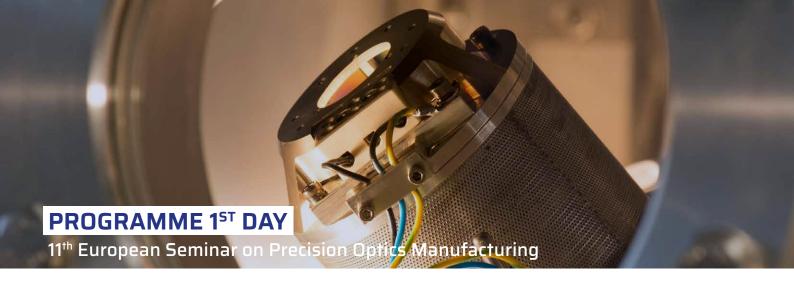
We are looking forward to meeting you at the 11th European Seminar on Precision Optics Manufacturing.

Yours sincerely,

Prof. Dr. Peter Sperber

Prof. Dr. Gerald Fütterer

Gerald Outher



Chairs: Dr. Oliver Fähnle, OST Eastern Switzerland University of Applied Sciences

Prof. Dr. Gerald Fütterer, DIT

Prof. Dr. Ing. Christine Wünsche, DIT

Prof. Dr. Helge Thieß, DIT

1ST DAY, TUESDAY, APRIL 23TH 2024

9:30 CHECK-IN

10:15 WELCOME

10:30 KEYNOTE

On the characterization of ultra-precise X-ray optical elements by means of

ex-situ and at-wave-length metrology

Frank Siewert, Group leader Optical Metrology, Helmholtz Zentrum Berlin, D

11:10 SESSION 1 - METROLOGY

Round-robin test of Subsurface Damage characterization in Zerodur® using

non-destructive optical coherence tomography

Samson Frank, Ernst-Abbe University of Applied Sciences Jena, D

Reticles in autocollimators: change in image quality due to changed

coherence properties

Dr. Gerald Fütterer, Deggendorf Institute of Technology, D

12:00 LUNCH

13:00 SESSION 2 - PLASMA BASED PROCESSES

New Reactive Ion Etching Process with Faraday Cage for Nanostructuring of

Curved Optical Surfaces

P. L. Frenzel, University of Applied Science Zwickau, D

Ultra-precise processing of technical glasses by combining atmospheric pressure

plasma jet and laser

Robert Heinke, Leibniz Institute of Surface Engineering (IOM), D

Characterization of manufacturing-induced microcracks in optical components

Heike Müller, Leibniz Institute of Surface Engineering (IOM), D



Atmospheric pressure dielectric barrier discharge plasma-enhanced optical contact bonding of different types of optical glasses

Josefine Neumann, University of Applied Sciences and Arts Göttingen, D

14:30 COFFEE BREAK

15:30 SESSION 3 - SIMULATION AND APPLICATIONS

Flexibility analysis on precision glass molding by finite element method simulation Carlos Marin Tovar, Fraunhofer Institute of Production Technology IPT, D

Light scattering sensors for in-line roughness and defect assessment of optical components

Marius Wyltschew, Fraunhofer Institute for Applied Optics and Precision Engineering IOF, D

Interferometrical thickness measurement device with nanometer uncertainty Michael Kühnel, SIOS Messtechnik GmbH, D

16:30 LAB TOUR AND POSTER SESSION

18:30 GET2GETHER - BAVARIAN EVENING

2ND DAY, WEDNESDAY, APRIL 24TH 2024

9:00 SESSION 4 - GRINDING

Experimental approach to temperature measurement in the contact zone when grinding brittle-hard materials

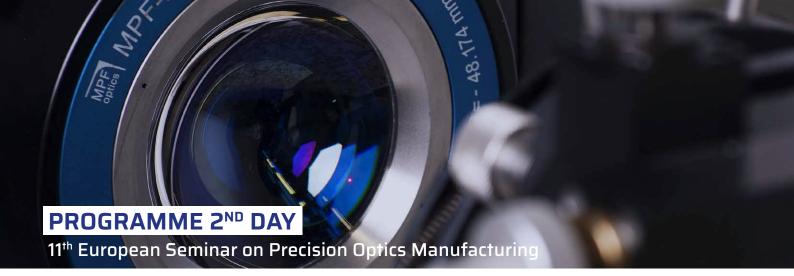
Ghanshyam Babariya, Deggendorf Institute of Technology, D

Optimization of the surface quality of brittle-hard materials in CNC grinding processes based on vibration and topography analyses and the use of machine learning.

Marcel Binder, Ernst-Abbe University of Applied Sciences Jena, D

Opto-Mechanical Design and Assembling of Micro-Optical Component and Systems Dirk Hauschild, Focuslight Inc., D

Cutting Behavior and Surface Defects in Ultra Presision Grinding of Glassy Carbon Kirk Jahnel, Fraunhofer Institute of Production Technology IPT, D



10:30 COFFEE BREAK

11:00 SESSION 5 - POLISHING AND AUTOMATIZATION

Novel laser-based manufacturing chain for wafer-level mini-optics

David Bischof, OST-Ostschweizer Fachhochschule, CH

Impact of Preheating Conditions on Form Daviation During Laser Polishing of N-BK7 Glass

Manuel Jung, Fraunhofer Institute for Laser Technology ILT, D

Superfine magnetic-abrasive polishing Dr.-Ing. Mikalai Khomich, POLIMAG, BLR

Feasibilty of manufacturing microstructures on non-planar surfaces with UV curable resin using a 6-DOF inkjet printing system

Christoph Reck, Aalen University of Applied Sciences, D

Setting up an industrial robot for automated overarm polishing

Simon Killinger, Deggendorf Institute of Technology, D

12:40 LUNCH

13:30 LAB TOUR AND DEMONSTRATION OF THE ROBOT CELL

15:00 END OF THE SEMINAR