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Aachen Polymer Optics Days

The production of optical components is subject to high accuracy requirements. In-depth knowledge of materials and processes is necessary to make production precise and efficient. This concerns not only the actual molding process, but also the upstream and downstream steps in the entire process chain. The Aachen Polymer Optics Days conference addresses all relevant issues in optical plastics manufacturing – from material selection and replication to metrological characterization and the optical system.

About

- Top-class lectures by experts from industry and research
- Accompanying industrial exhibition
- Tour of the test benches in the institutes
- Joint evening event
- Networking with speakers, exhibitors and participants

Topics

- New and conventional materials
- Tool and mold making for optical applications
- Replication technologies
- Metrology / Quality / Digitization
- Optical systems

Location

Das Liebig, Liebigstraße 19, 52070 Aachen, Germany

Conference program and registration

Check out the presentation program on our website and register online: www.ipt.fraunhofer.de/apod

Participation fee

930 € (regular), 830 € (early bird until April 28, 2024)

Supported by

ARBURG · 3DAG · INNOLITE TAILORED MOLDS AND OPTICS · optence networking in photonics · Photron · SCHNEIDER Fascination for Innovation · via optic

Organization

- Fraunhofer Institute for Production Technology IPT

Cooperation partners

- Fraunhofer Institute for Laser Technology ILT
- Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts at RWTH Aachen University

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PROGRAM

AACHEN POLYMER OPTICS DAYS

INTERNATIONAL CONFERENCE
JUNE 19–20, 2024 IN AACHEN

Fraunhofer

INSTITUTE FOR PLASTICS PROCESSING in Industry and Craft at RWTH Aachen University

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DAY 1, JUNE 19, 2024

from 7:45 **Registration**

8:45 **Welcome**
Prof. Christian Hopmann,
Institute for Plastics Processing (IKV) in Industry and Craft at RWTH Aachen University, Germany

9:00 **Key Note: Material and manufacturing challenges for polymer optics in augmented and virtual reality settings**
Kurt Jenkins, Meta Platforms Inc., USA

Session I: Materials for optics manufacturing

9:30 **Optical material selection: yesterday – today – tomorrow**
Klaus Vamberszky, Zumtobel Lighting GmbH, Austria

10:00 **Maximum transmission, minimum emission – material solutions for sustainable lighting**
Simon Bölle, Covestro Deutschland AG, Germany

10:30 **Coffee break**

11:00 **New almost zero birefringent thermoplastic resin**
Yotaka Tada, Asahi Kasei Corporation, Japan

11:30 **Microoptics on polymer substrates – a new trend emerging?**
Melanie Rupp, Panacol-Elosol GmbH, Germany

12:00 **Lunch**

Session II: Mold and tool making for optical components

13:00 **Machining technology for cutting-edge molds in polymer optic industry**
Dr. Shinichi Inoue, Makino GmbH, Germany

13:30 **Metaoptics: from lenses to optical module solutions**
Niklas Hansson, NIL Technology (NILT), Denmark

14:00 **Function follows form – new horizons for nano-engraving on free-form surfaces**
Dr. Veronica Savu, Morphotonix S.à.r.l., Switzerland

Institute tours

14:45 **Shuttle to the Fraunhofer IPT, Fraunhofer ILT and Institute for Plastics Processing (IKV) at RWTH Aachen University**

17:30 **Champagne reception and hall tour**
at Innolite GmbH, Aachen

19:00 **Dinner at Halle 60**
Metzgerstraße 60, 52070 Aachen

DAY 2, JUNE 20, 2024

Session III: Replication of optical components

8:30 **Process chain assessment through FMEAs**
Rolf-Uwe Müller, ARBURG GmbH + Co KG, Germany

9:00 **Reflowable micro lens array diffuser for super-wide-angle light distribution**
Hirotaka Tsujii, NALUX CO., LTD, Japan

9:30 **The continuous manufacture of precision optical products 1 meter wide**
Robert Pricone, The Boeing Company, USA

10:00 **Functional coatings for optics**
Holger Wilde, GBneuhaus GmbH, Germany

10:30 **Coffee break**

Session IV: Quality management of optical components

11:00 **Form measurement of aspheric and free form polymer lenses**
Dr. Andreas Beutler, Mahr GmbH, Germany

11:30 **Dual-sided metrology of molded aspheric lenses**
Jordan Hall, Opto-Alignment Technology Inc., USA

12:00 **Advanced metrology of molded optics – form, inner centration and geometrical features**
Dr. Marc Wendel, Ametek GmbH, Germany

12:30 **Multilayer lenses – validating and developing solutions using simulation**
Cristoph Hinse, SimpaTec GmbH, Germany

13:00 **Lunch**

Session V: Optical systems

14:00 **Optical components in laser projection systems for smart glasses**
Dr. Hans Georg Schlager,
Bosch Sensortec GmbH, Germany

14:30 **Modern intraocular lens technology**
Dr. Benjamin Schreiber,
Carl-Zeiss-Meditec AG, Germany

15:00 **Coffee break**

15:30 **Principles and applications of birefringence measurement in polymers**
Laurent Fabre, Photron Deutschland GmbH, Germany

16:00 **Optical systems in concept product manufacturing: learnings from the speed factory environment**
Dr. Robert Fader, Sick AG, Germany

16:30 **End of the conference**