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AACHEN POLYMER OPTICS DAYS
INTERNATIONAL CONFERENCE
APRIL 21–22, 2020



The conference is supported by:



Aachen Polymer Optics Days

The production of optical components and systems is subject to high accuracy requirements. In order to make production precise and efficient, high levels of material and process knowledge are required. This applies to the actual molding process and the upstream and downstream process steps in the entire process chain. The conference Aachen Polymer Optics Days deals with all relevant issues in optical polymer manufacturing – from material selection, replication to metrological characterization and the optical system. The focus of this year's conference will be on:

- **Materials in optics manufacturing**
- **Tool and mold making for optical applications**
- **Injection molded optics**
- **Metrology and optical systems**

The Aachen Polymer Optics Days 2020 provide an excellent networking platform for visitors from industry and research who are interested in participating in a lively exchange of ideas and opinions relating to manufacturing options and potential applications for optical plastic products. The papers presented by experts in their respective subject areas will outline the current developments and trends from a production-oriented point of view, highlighting application-related aspects.

Seize the opportunity offered by this conference as a prestigious industry event to swap ideas with other experts!

In addition to the lecture programme, an accompanying company exhibition as well as a shop floor tour at the hosting research institutes will be offered. On the eve of the first day of the event, there will also be an industrial pitch session moderated by the EPIC photonics consortium.



7.30 **Registration and Coffee**

8.45 **Welcome**

Prof. Dr. Rainer Dahlmann, Institut für Kunststoffverarbeitung IKV

► **Materials in optics manufacturing**

9.00 **New demands and applications for polymer optics in general lighting and automotive lighting**

Dr. Fabian Grote, Covestro Deutschland AG, Germany

9.30 **High heat thermoplastic lens resins for IR sensing applications**

Bernd Grammer, SABIC Innovative Plastics BV, Netherlands

10.00 **Roll-to-Roll manufactured structured foils for interior and exterior applications**

Dr. Sven O. Krabbenborg, BASF Coatings GmbH, Germany

10.30 **Coffee break**

11.00 **High transparent silicone rubber**

Dr. Ulrich Frenzel, WACKER Chemie AG, Germany

11.30 **Physical principles of light scattering plastics using diffuse PMMA**

Arne Schmidt, Röhm GmbH, Germany

12.00 **Lunch**

► **Tool and mold making for optical applications**

13.00 **Improving the accuracy, surface finish and preparation time of molded optics by using 3D corrections with a high-performance Fast Tool Servo**

Andreas Kuchler, AMETEK GmbH, Germany

13.30 **Diamond turned optical structured surfaces – possibilities and limitations**

John L. Allsop, UPS2 Ltd., United Kingdom

14.00 **Transfer of optical micro- and nanostructures to moulding tools by electroforming processes**

Dr. Marek Krehel, 3D AG, Switzerland

14.30 **High volume manufacturing of advanced diffractive optical elements**

Theodor Nielsen, NIL Technology ApS, Denmark

15.00 **Coffee break**

15.30 **Shop floor visit at Fraunhofer ILT, Fraunhofer IPT and IKV**

17.30 **Company Pitch Session moderated by EPIC**

19.00 **Networking Dinner**



▶ Injection molded optics

- 9.00 Production of injection-molded optical components with optically effective microstructures**
Norbert Heyer, KraussMaffei Technologies GmbH, Germany
- 9.30 Innovative tool technology for optical components**
Jonas Beck, Werkzeugbau Siegfried Hofmann GmbH, Germany
- 10.00 Process simulation of multilayer lenses**
Cristoph Hinse, SimpaTec GmbH, Germany

10.30 Coffee break

- 11.00 Requirements for optics in occupational safety using the example of eye and face protection**
Dr. Marco Wacker, Uvex Arbeitsschutz GmbH, Germany
- 11.30 Surface modification of injection moulded LSR optics**
Andreas Schäfert, Wilhelm Weber GmbH & Co. KG, Germany

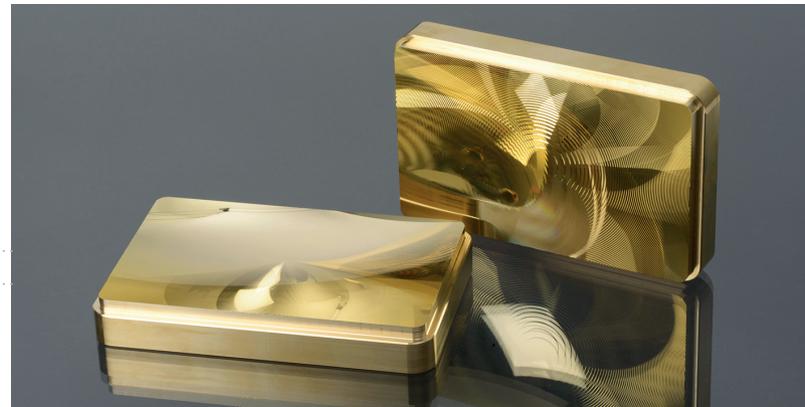
12.00 Lunch

▶ Metrology and optical systems

- 13.00 Transmitted wave front metrology of polymer lenses using a high dynamic range wave front sensor**
Dr. Benoit Wattellier, Phasics S.A., France
- 13.30 Fast and objective measurement of material stresses in polymer optics**
Henning Katte, ilis gmbh, Germany
- 14.00 Shape measurement of polymer optics: challenges and possibilities**
Dr. Andreas Beutler, Mahr GmbH, Germany

14.30 Coffee break

- 15.00 Prototyping platform and pilot line facility for freeform-based product innovation in Flanders**
Heidi Ottevaere, B-Phot, Belgium
- 15.30 Challenges in the design and manufacture of modern lighting systems**
Marco Tscherner, GERG Lighthouse GmbH, Germany
- 16.00 Mass production of high performance optics**
Arseny Alexeev, WaveOptics Ltd., United Kingdom
- 16.30 End of the conference**



Registration

Please register online on:
www.ipt.fraunhofer.de/polymer-optics-days

Conference Languages

The presentations will be held in German and English and interpreted simultaneously.

Conference Venue

Pullman Aachen Quellenhof
Monheimsallee 66, 52062 Aachen, Germany

Company Pitch and Dinner Event

Altes Kurhaus
Komphausbadstraße 19, 52062 Aachen, Germany

Contact

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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

Fraunhofer Institute for Production Technology IPT

The Fraunhofer IPT combines long time knowledge and experience in all areas of production technology. Located in Aachen we offer clients and project partners special and immediately practical solutions for a networked, adaptive production. We understand production not only in individual operations, but consider all production processes and the links between all the elements of the overall process in their entirety.

Fraunhofer Institute for Laser Technology ILT

With more than 540 employees and more than 19,500 m² net floor space, the Fraunhofer Institute for Laser Technology ILT is one of the most important contracting research and development institutes of its sector worldwide. Since over 30 years its experts develop and optimize laser beam sources and laser processes for production, medicine and measurement technology as well as energy and environment.

IKV – Institute for Plastics Processing in Industry and Craft at RWTH Aachen University

IKV – the Institute for Plastics Processing at RWTH Aachen University is the leading research and education institute engaged in the field of plastics processing. With more than 300 staff it is engaged in finding solutions to problems connected with processing, materials technology and part design in the plastics and rubber industries. IKV is run by an Association of Sponsors, which currently has a membership of more than 300 plastics companies from all over the world.



Participation Fee

The participation fee for the conference Aachen Polymer Optics Days 2020 amounts to a total of € 890. This includes € 790 for participation in the conference (free of tax under § 4 UStG) as well as € 100 (incl. 19 % VAT) for participation in the evening event. Please note that the conference participation must be booked together with the evening event.

If you register by February 28, 2020 you will receive an early booking discount of € 100. If you cancel your registration before March 6, 2020 you will only be charged an administrative fee of € 100. After this date you will be charged the full participation fee. For non-participation you can designate a representative person without any additional costs. Please note that the form needs to be signed.

Aachen Polymer Optics Days

International Conference from April 21–22, 2020

- I hereby register for the conference
Aachen Polymer Optics Days from April 21–22, 2020
at a participation fee of € 890 (Early Bird: € 790).

Please fill out and send via fax to +49 241 8904-198 or via e-mail to helen.sophie.kolb@ipt.fraunhofer.de. In case of several registrations please copy this card.

Name* _____
 First name* _____
 Title _____
 Company* _____
 Department _____
 Street/ P.O. box* _____
 Post code/Town/Country* _____
 Phone* _____
 E-Mail* _____
 Signature* _____
 Date* _____

**Compulsary data*

I hereby consent to the storage and processing of my personal details by the organizer of the conference and the cooperation partners. I have read the privacy protection statement under: www.ipt.fraunhofer.de/datenschutz and the terms and conditions under www.ipt.fraunhofer.de/apod20_conditions herewith accept it. Upon request, the organizer will send the data protection declaration and the terms and conditions by post.

- I hereby agree that the Fraunhofer IPT may inform me about its research activities and services by e-mail, post or telephone at regular intervals and free of charge. I have read and accepted the data protection under: www.ipt.fraunhofer.de/en/data_protection.html. I can withdraw my consent at any time and without giving any reason by e-mailing to kontakt@ipt.fraunhofer.de.





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