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PROGRAM

AKL – INTERNATIONAL LASER TECHNOLOGY CONGRESS

APRIL 27 - 29, 2016 IN AACHEN

Organization

Fraunhofer Institute for Laser Technology ILT
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Supporting Organizations

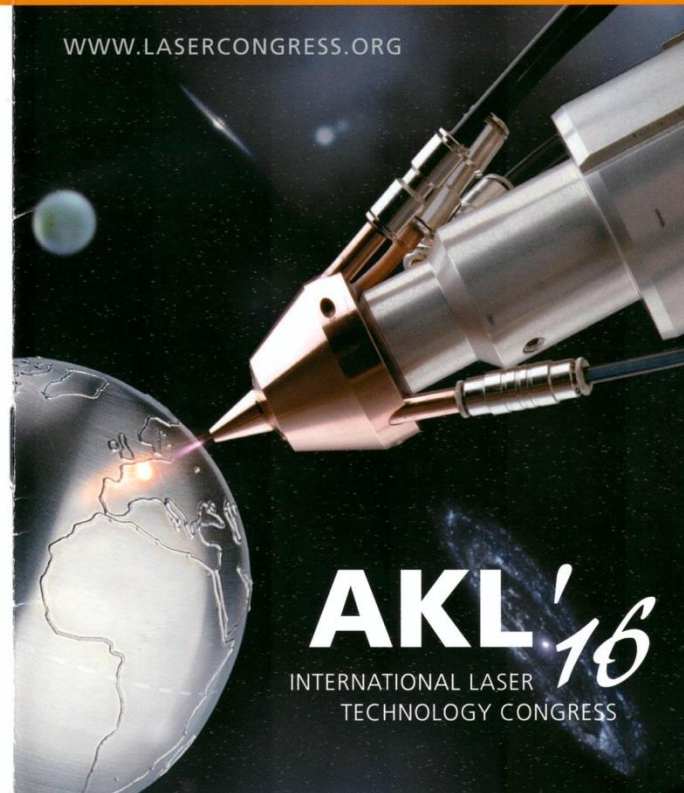
- Arbeitskreis Lasertechnik e.V.
- ELI – European Laser Institute
- EPIC – European Photonics Industry Consortium
- European Commission
- OptecNet – Competence Networks for Optical Technologies
- SPECTARIS – German Industry Association for Optical, Medical and Mechatronical Technologies
- VDA – German Association of the Automotive Industry
- VDI Technology Center
- VDMA – German Engineering Federation

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FRIDAY, APRIL 29, 2016

Room
Brüssel

2 Session 2: Laser Material Processing – Micro

Micro Joining

Chairman: Dr. Alexander Olowinsky, Fraunhofer ILT, Aachen (D)

- 8.30 **An Innovative Joining Process for Thermally Sensitive Components – LIMBO**
Simon Britten, Fraunhofer ILT, Aachen (D)
- 9.00 **Laser Welding + Wirebonding = Laserbonding. A New Joining Process for Applications in Power Electronics and Battery Technology**
Dr. Josef Sedlmair, F&K Delvotec Bondtechnik GmbH, Ottobrunn (D)
- 9.30 **PMJoin – Laser-Based Joining of Metal to Plastic for Automotive Seat Structures**
Dr. Geert Verhaeghe, Faurecia Autositze GmbH & Co. KG, Stadthagen (D)
- 10.00 **Coffee Break – Visit of the Sponsors' Exhibition**

Ultrafast Lasers – Applications

Chairman: Dr. Arnold Gillner, Fraunhofer ILT, Aachen (D)

- 11.00 **High Power Ultrashort Pulsed Lasers in Tool Technology – Productive Processes for Microstructures on Macro Components**
Christian Fornaroli, Fraunhofer ILT, Aachen (D)
- 11.30 **Lasers in the Production of Circuit Carriers**
Dr. Roman Ostholt, LPKF Laser & Electronics AG, Garbsen (D)
- 12.00 **Present Status and Trends of Femtosecond Laser Processing in Next Generation Displays, AMOLED Manufacturing Industry**
Sung-Hak Cho, KIMM Korea Institute of Machinery & Material, Daejeon (KR)
- 12.30 **Lunch – Visit of the Sponsors' Exhibition**

Polishing and Thin Film Processing

Fraunhofer ILT, Aachen (D)

- 14.30 **Laser-based Production of Thin Films for Electronic Applications**
Dr. Christian Vedder, Fraunhofer ILT, Aachen (D)
- 15.00 **Q-switched CO₂ Laser Opens New Opportunities in Laser Material Processing**
Dr. Matthias Busch, Feha LaserTec GmbH, Bitterfeld-Wolfen (D)
- 15.30 **Application – Adapted Intensity Distribution by Free-Form Optics for Laser Surface Treatment**
Dr. Christian Wenzel, INNOLITE GmbH, Aachen (D)

16.00 **Outlook**

Room Berlin Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)

16.30 **End of the Lectures**

FRIDAY, APRIL 29, 2016

Room
Lissabon

3 Session 3: Laser Beam Sources

Ultrafast Lasers – Beam Sources

Chairman: Dr. Peter Rußbüldt, Fraunhofer ILT, Aachen (D)

- 8.30 **Femtosecond Lasers over 100 Watts**
Dr. Clemens Hönninger, Amplitude Systèmes, Pessac (F)
- 9.00 **Kilowatt Ultrafast Disk Laser**
Dr. Dominik Bauer, TRUMPF Laser GmbH, Schramberg (D)
- 9.30 **Fiber Beam Delivery for Ultrafast Lasers – Status Quo and Outlook**
Dr. Björn Wedel, PT Photonic Tools GmbH, Berlin (D)
- 10.00 **Coffee Break – Visit of the Sponsors' Exhibition**

Lasers with Tailored Wavelengths

Chairman: Dr. Bernd Jungbluth, Fraunhofer ILT, Aachen (D)

- 11.00 **High-Power Lasers with Application-Specific Pulse Length and Wavelengths in UV, VIS and NIR**
Peter Genter, ROFIN-SINAR Laser GmbH, Bergkirchen (D)
- 11.30 **Cutting Edge Fiber Laser Technology around 2 µm**
Dr. Shubin Jiang, AdValue Photonics Inc., Tucson (USA)
- 12.00 **Architecture, Performance and Application of High-Power High Repetition Rate UV Laser with Flexible Pulse Control**
Dr. Rajesh S. Patel, Spectra-Physics, Santa Clara (USA)
- 12.30 **Lunch – Visit of the Sponsors' Exhibition**

Diode Lasers

Chairman: Martin Traub, Fraunhofer ILT, Aachen (D)

- 14.30 **Development of the Performance and the Effectiveness of Diode Lasers with Maximum Power**
Volker Krause, Laserline GmbH, Mülheim-Kärlich (D)
- 15.00 **Recent Results and Future Scaling Potential of the T-Bar Design**
Dr. Jens Biesenbach, DILAS Diodenlaser GmbH, Mainz-Hechtsheim (D)
- 15.30 **Laser Scanner – A Crucial Step towards Automated Driving**
Gunnar Busse, VALEO GmbH, Bietigheim-Bissingen (D)

16.00 **Outlook**

Room Berlin Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)

16.30 **End of the Lectures**



Present Status and Trend of Femtosecond Laser Processing in Next Generation Display, AMOLED Manufacturing Industry

Prof. Dr. SUNG HAK CHO

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**Head, Department of Laser & Electron Beam Application
KIMM (Korea Institute of Machinery & Materials)**

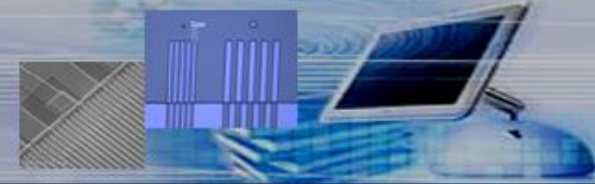


Professor, Korea University of Science and Technology

KIMM URL: <http://www.kimm.re.kr>

www.femto-kimm.kr (UST-KIMM)

Outlines



- Introduction
- KIMM Research Activities – fs laser processing
- Need of laser processing in Manufacturing Industry
 - Display, Semiconductor, Mobile phone, LED TV, Medical Devices
 - AMOLED
- Present status and trend of laser application for display, AMOLED in KOREA
 - fs Laser processing for AMOLED panels
 - fs Laser processing for AMOLED components
 - fs Laser processing for advanced products (VR, Wearable devices, Smart Watch, Tablet PC)
- Future Trends