

PROGRAM

AKL – INTERNATIONAL LASER TECHNOLOGY CONGRESS

APRIL 27 - 29, 2016 IN AACHEN

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AKL'16

INTERNATIONAL LASER
TECHNOLOGY CONGRESS

WELCOME



SPONSORS AND EXHIBITORS AKL'16



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Are you looking for a forum where users, manufacturers and developers can intensively exchange ideas on the current state and perspectives of laser technology? Do you appreciate it when you can network with technology suppliers and customers to develop new strategies for your research, products or services and when you can directly profit from their experience in this sector? Then you have found the right event, the AKL'16.

For the eleventh time, laser manufacturers and laser users from various branches will meet at the biannual International Laser Technology Congress AKL. Featuring over 600 participants, over 80 speakers and 50 sponsors, the AKL has established itself as the leading forum for applied laser technology in Germany. Supporting organizations include the European Commission, the European Photonics Industry Consortium EPIC, the Arbeitskreis Lasertechnik e.V., the European Laser Institute, OptecNet as well as industrial associations such as SPECTARIS, VDA, VDMA and VDI.

Join us and profit from AKL's international character thanks to its simultaneous translations in German and English. In addition, you can use the congress surroundings to find out more about the newest technological breakthroughs in over 80 live presentations of the Fraunhofer ILT.

We look forward to seeing you in Aachen!

Prof. Dr. rer. nat. Reinhart Poprawe
Director of the Fraunhofer Institute for Laser Technology ILT



INFORMATION, INSPIRATION, NETWORKING

AKL'16 – Laser Technology Conference

The AKL'16 Laser Technology Conference provides a comprehensive overview of current developments in laser materials processing in macro and micro areas and in laser beam development. Moreover, it offers laser manufacturers and users an ideal platform to intensively exchange ideas and experience.

Sponsors' Exhibition

Noteworthy companies from laser engineering show innovative products and processes, encompassing all aspects of laser technology, to interested congress participants.

Technology Business Day

The Technology Business Day is directed at leading managers and marketing directors who want specific information on the status and perspectives in the European, American and Asian laser markets.

Seminar Laser Technology ABC's

You have little or no experience in how laser technology can be used? Then you can obtain the foundations on how lasers work and where they can be applied in the Seminar Laser Technology ABC's.

Forum "Process Control" and Forum "Laser Additive Manufacturing"

If you would like to delve deeper into Process Control or Laser Additive Manufacturing, you can get a comprehensive overview on state of the art and current developments in two separate forums, as well as useful contacts to designated experts.

Conference Language

Lectures are presented in English and German with simultaneous interpreting.

PROGRAM STRUCTURE

AKL'16 – INTERNATIONAL LASER TECHNOLOGY CONGRESS

APRIL 27-29, 2016

WEDNESDAY

Seminar Laser Technology ABC's

Forum Process Control

Technology Business Day

Forum Laser Additive Manufacturing

Sponsors' Exhibition with 50 sponsors

Dinner with presentation of the "Innovation Award Laser Technology 2016"

THURSDAY

Gerd Herziger Session

- Perspectives and Challenges for Laser Technology
- Digital Photonic Production

Laser Material Processing – Macro

- Selective Laser Melting

Laser Material Processing – Micro

- Micro Structuring

Laser Beam Sources

- Solid State and Fiber Lasers

Laser Technology Live

- Over 80 Live presentations at Fraunhofer ILT & Application Center

FRIDAY

Laser Material Processing – Macro

- Cutting (EU-Project "HALO")
- Welding
- Laser Material Deposition

Laser Material Processing – Micro

- Micro Joining
- Ultrafast Lasers - Applications
- Polishing and Thin Film Processing

Laser Beam Sources

- Ultrafast Lasers – Beam Sources
- Lasers with Tailored Wavelengths
- Diode Lasers

Outlook

- Prof. Reinhard Poprawe

Sponsors' Exhibition with 50 sponsors

Opening Reception

of the "Innovation Center DPP"

PROGRAM

APRIL 27-29, 2016

WEDNESDAY, APRIL 27, 2016

FORUM – Laser Additive Manufacturing

from 9.00 Check-in and Coffee Reception

- Room K1
- 10.00** Chairman: Dr. Johannes Witzel, Fraunhofer ILT, Aachen (D)
Status and Aspects of SLM and LMD Manufacturing Processes
Dr. Wilhelm Meiners, Fraunhofer ILT, Aachen (D)
- 10.30** **Production and Testing of Additively Manufactured (SLM) Ni-based Gas Turbine Components**
Julius Schurb, General Electric (Switzerland) GmbH, Birr (CH)
- 11.00** **Comparison between LBM and EBM Production Systems**
Stéphane Abed, Poly-Shape SAS, Salon de Provence (F)
- 11.30** **Combined Powder and Process Development for Economic Serial Additive Manufacturing**
Dr. Simon Höges, GKN Sinter Metals Engineering GmbH, Radevormwald (D)
- 12.00** **Lunch – Visit of the Sponsors' Exhibition**
- Chairman: Dr. Wilhelm Meiners, Fraunhofer ILT, Aachen (D)
- 14.00** **High Speed Laser Metal Deposition of Large Rods for Wear and Corrosion Applications**
Ernst Dijkstra, TOPCLAD B.V., Lelystad (NL)
- 14.30** **Hybrid Manufacturing of Turbine Components via Laser Metal Deposition and Adaptive Repair**
Volker Böhm, HAMUEL Maschinenbau GmbH & Co. KG, Meeder (D)
- 15.00** **Manufacturing of Large Components for the Aviation Using LMD**
Prof. Xin Lin, NWP University, Xi'an, Shaanxi (CN)
- 15.30** **Coffee Break – Visit of the Sponsors' Exhibition**
- 16.30** **Exploring New Frontiers in Metals Additive Manufacturing: From Electron Beams to Lasers**
Jorge Mireles, University of Texas, El Paso (USA)
- 17.00** **New to the LAM Community? Networking Helps Along! Presentation of the Aachen Networks ACAM and ICTM**
• Dr. Johannes Witzel, Fraunhofer ILT (D)
• Torsten Moll, Fraunhofer IPT, Aachen (D)

EVENING EVENT

19.00 - 23.00 **Dinner with Presentation of the "Innovation Award Laser Technology 2016"**
Doors open 18.15
in the Coronation Hall of Aachen's Town Hall

WEDNESDAY, APRIL 27, 2016

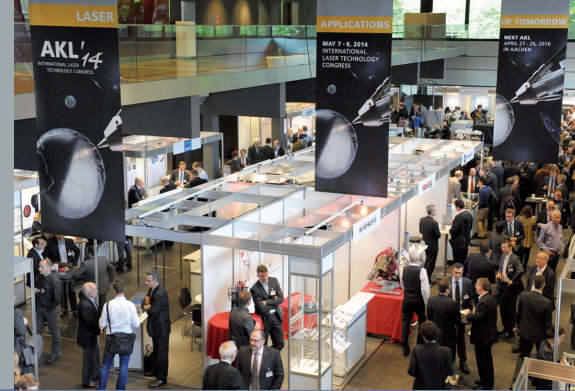
FORUM – Process Control

from 9.00 Check-in and Coffee Reception

- Room K2
- 10.00** Chairman: Peter Abels, Fraunhofer ILT, Aachen (D)
Process Monitoring and Control in Laser Material Processing – State of the Art and Outlook
Peter Abels, Fraunhofer ILT, Aachen (D)
- 10.30** **Advantages of Online Beam Monitoring during Laser Production – Monitoring the Tool rather than the Result**
Dr. Reinhard Kramer, PRIMES GmbH, Pfungstadt (D)
- 11.00** **Closed Loop Control of Deep Penetration Welding and Further Potential of Low Coherence Interferometry**
Dr. Markus Kogel-Hollacher, Precitec Optronik GmbH, Neu-Isenburg (D)
- 11.30** **Process Monitoring in Automotive Production – Challenges and Benefits**
Christoph Franz, Scansonic MI GmbH, Berlin (D)
- 12.00** **Lunch – Visit of the Sponsors' Exhibition**
- 14.00** **In-Situ Sensor Concept to Ensure the Process Quality for Laser Beam Remote Welding of Aluminium**
Dr. Jan-Philipp Weberpals, Audi AG, Neckarsulm (D)
- 14.30** **Process Control in Industrial Applications**
Wouter Zweers, AWL Technik B.V., Harderwijk (NL)
- 15.00** **Uncooled High Speed Mid Infrared Cameras for Process Monitoring of Laser Welding**
Dr. Germán Vergara Ogando, New Infrared Technologies, Ltd., Madrid (ES)
- 15.30** **Coffee Break – Visit of the Sponsors' Exhibition**
- 16.30** **Active Thermography for Quality Control of Laser Welded Metals and Laser Processed Fiber Reinforced Plastic Materials**
Dr. Christian Sraibr, edevis GmbH, Stuttgart (D)
- 17.00** **Process Monitoring while Welding of Cu Components in Electronics Manufacturing**
Dr. Jens Geddicke, Hella KGaA Hueck & Co., Hamm (D)

EVENING EVENT

19.00 - 23.00 **Dinner with Presentation of the "Innovation Award Laser Technology 2016"**
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PROGRAM

WEDNESDAY, APRIL 27, 2016

SEMINAR LASER TECHNOLOGY ABC'S

from 11.30 Check-in and Light Refreshments

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

12.30 How does Laser Materials Processing Work?

Markus Rütering, Laserline GmbH, Mülheim-Kärlich (D)

13.00 Which Laser for which Application?

Dr. Alexander Knitsch, TRUMPF Laser- und Systemtechnik GmbH, Ditzingen (D)

13.30 Where is Laser Technology Applied in Industrial Practice?

Dr. Peter Kallage, ROFIN-SINAR Laser GmbH, Hamburg (D)

14.00 How is Laser Technology Supporting Industry 4.0?

Christian Hinke, RWTH Aachen University – Chair of Laser Technology LLT, Aachen (D)

14.30 Coffee Break – Visit of the Sponsors' Exhibition

15.30 Monitoring and Controlling of Laser Manufacturing Processes

Dr. Otto Märten, PRIMES GmbH, Pfungstadt (D)

16.00 When is Laser Shaping More Profitable Compared to Traditional Techniques?

Michael Kluge, Coherent (Deutschland) GmbH, Dieburg (D)

16.30 What are the Current Developments in Laser Technology?

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

17.00 Panel Discussion: What Should Users Pay Attention to When Introducing Laser Technology into Their Processes?

EVENING EVENT

19.00 - 23.00 Dinner with Presentation of the "Innovation Award Laser Technology 2016"

Doors open 18.15 in the Coronation Hall of Aachen's Town Hall



WEDNESDAY, APRIL 27, 2016

TECHNOLOGY BUSINESS DAY

from 11.30 Check-in and Light Refreshments

Room Brüssel **Laser Markets in Europe, America and Asia**
Chairman: Prof. Peter Loosen, Fraunhofer ILT, Aachen (D)

12.30 Status Quo and Perspectives of the European Laser Market and the Development of the World Market

Klaus Löffler, TRUMPF Lasertechnik GmbH, Ditzingen (D) / AG Laser-VDMA, Frankfurt (D)

13.00 The Latest Economic Turbulences in China and its Impact on Laser and Photonics Industry

Dr. Bo Gu, Bos Photonics, Boston (USA)

13.30 Status Quo and Perspectives of the Laser Markets in the US and South America

- David A. Belforte, Belforte Associates, Sturbridge (USA)
- Dr. Ronald D. Schaeffer, Photo Machining, Pelham (USA)

14.00 Status Quo and Perspectives of the Laser Market in Japan
Dr. Kunihiko Washio, Paradigm Laser Research Limited, Machida Tokio (JP)

14.30 Coffee Break – Visit of the Sponsors' Exhibition

Room Brüssel **Trends of Laser Processing in the Electronic, Aircraft and Metalworking Industries**

15.30 Metal Processing with Lasers – Trends from a UK Job Shop Point of View

Prof. John Powell, Luleå University of Technology, Lulea (SE) and Laser Expertise Ltd., Nottingham (UK)

16.00 Potential and Challenges for Laser Based Additive Manufacturing in Aero Engine

Dr. Dan Roth-Fagaraseanu, Rolls-Royce Deutschland Ltd. & Co. KG, Blankenfelde-Mahlow (D)

16.30 Precision Machining with Laser in the Automotive Industry – A Comparison of Techniques to Conventional Technologies
Dr. Thomas Kiedrowski, Robert Bosch GmbH, Schwieberdingen (D)

17.00 Laser Application in Micro-Electronics
Dr. Dirk Müller, Coherent Inc., Santa Clara (USA)

EVENING EVENT

19.00 - 23.00 Dinner with Presentation of the "Innovation Award Laser Technology 2016"

Doors open 18.15 in the Coronation Hall of Aachen's Town Hall

PROGRAM

THURSDAY, APRIL 28, 2016

AKL'16 – Laser Technology Conference

Over 80 experts from research and industry will bring you up to date on the current trends in laser technology. Whether you are active in the automotive or aerospace industry, electrical or power engineering, mechanical engineering and microtechnology – you will get firsthand know-how and practice-relevant suggestions at the AKL'16. Just visit the lectures, the sponsors exhibition and our live demonstrations.

MAIN TOPICS

Gerd Herziger Session

- Perspectives and Challenges for Laser Technology
- Digital Photonic Production

Laser Beam Sources

- Solid State and Fiber Lasers
- Ultrafast Lasers – Beam Sources
- Lasers with Tailored Wavelengths
- Diode Lasers

Laser Material Processing – Macro

- Selective Laser Melting
- Cutting
- Welding
- Laser Material Deposition

Laser Material Processing – Micro

- Micro Structuring
- Micro Joining
- Ultrafast Lasers – Applications
- Polishing and Thin Film Processing

Laser Technology Live

Over 80 Live presentations will take place at Fraunhofer Institute for Laser Technology ILT and companies of the Application Center.



THURSDAY, APRIL 28, 2016

AKL'16 – LASER TECHNOLOGY CONFERENCE

from 8.00 Check-in and Coffee Reception

Room Berlin **Gerd Herziger Session – Perspectives and Challenges for Laser Technology**
Chairman: Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)

8.30 **Welcome**

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

8.40 **Lightweight Technologies in Automotive and Aerospace Industry**
Dr. E.h. Peter Leibinger, TRUMPF GmbH + Co. KG, Ditzingen (D)

8.55 **Individualization of Products in the Areas of Consumer Goods and Medical Technology**
Dr. Armin Renneisen, ROFIN-SINAR Laser GmbH, Bergkirchen (D)

9.10 **Smart Electronic Products in Household, Communications, Entertainment and Mobility**
Dr. Mark Sobey, Coherent Inc., Santa Clara (USA)

9.25 **Miniaturization within Medical Technology and Life Science for Minimally Invasive Diagnostics and Therapies**
Mike Böttger, JENOPTIK AG, Jena (D)

9.40 **Panel Discussion with Speakers: Challenges and Trends in Laser Technology**

10.40 **Coffee Break – Visit of the Sponsors' Exhibition**

Gerd Herziger Session – Digital Photonic Production
Chairman: Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)

11.10 **Digital Photonic Production and Industry 4.0 – Trends and Structural Implementation in Aachen**

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

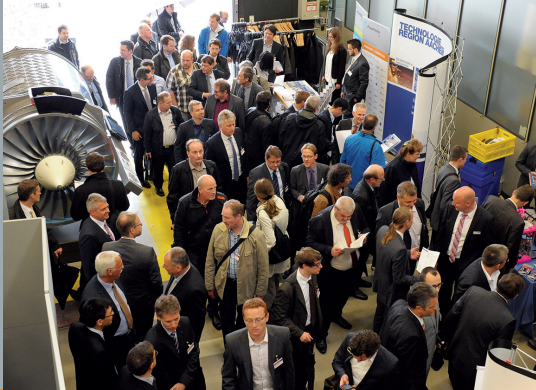
11.40 **Industrialization of Additive Manufacturing for Space-Parts – Hurdles and Challenges**
Dr. Steffen Beyer, Airbus DS GmbH, München (D)

12.00 **Current and Future Overview on Ultrafast Lasers in Microelectronics Industrial Applications**
Dr. Nam Seong Kim, EO Technics Co. Ltd., Anyang (KR)

12.20 **Panel Discussion with Speakers**

12.30 **Lunch – Visit of the Sponsors' Exhibition**

PROGRAM
SESSIONS 1 - 3 PARALLEL



THURSDAY, APRIL 28, 2016

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AKL'16 – LASER TECHNOLOGY CONFERENCE

Room Berlin	① Session 1: Laser Material Processing – Macro
	Selective Laser Melting Chairman: Dr. Konrad Wissenbach, Fraunhofer ILT, Aachen (D)
14.00	Additive Manufacturing of Medical Products Adem Aksu, Karl Leibinger Medizintechnik GmbH & Co. KG, Mülheim (D)
14.30	Additive Manufacturing for High Pressure Hydraulic Valve Manifolds Alexander Altmann, Liebherr- Aerospace Lindenberg GmbH, Lindenberg (D)
15.00	Selective Laser Melting of Magnesium Alloys Lucas Jauer, Fraunhofer ILT, Aachen (D)
15.30	Coffee Break – Visit of the Sponsors’ Exhibition
16.00	Shuttle Transfer to Fraunhofer ILT

LASER TECHNOLOGY LIVE

16.30	Laser Technology Live at Fraunhofer ILT
19.30	Shuttle Transfer to Photonics Cluster

EVENING EVENT

20.00	Opening Reception of the Innovation Center Doors open 19.30 Digital Photonic Production at Photonics Cluster
22.00 - 23.30	Shuttle Transfer to City Center

Room Brüssel	② Session 2: Laser Material Processing – Micro
	Micro Structuring Chairman: Christian Fornaroli, Fraunhofer ILT, Aachen (D)
14.00	Process Analytics of Laser Ablation Processes Dr. Arnold Gillner, Fraunhofer ILT, Aachen (D)
14.30	Importance of Micro Structure to Improve the Molding Process in Terms of Speed and Quality Jean-Jose Paccaud, GF Machining Solutions, Meyrin (CH)
15.00	Laser Filamentation of Glass and Other Transparent, Brittle Materials: Fundamentals, Laser Concepts and Applications Dr. Roland Mayerhofer, ROFIN-BAASEL Lasertech GmbH & Co. KG, Starnberg (D)
15.30	Coffee Break – Visit of the Sponsors’ Exhibition
16.00	Shuttle Transfer to Fraunhofer ILT

LASER TECHNOLOGY LIVE

16.30	Laser Technology Live at Fraunhofer ILT
19.30	Shuttle Transfer to Photonics Cluster

EVENING EVENT

20.00	Opening Reception of the Innovation Center Doors open 19.30 Digital Photonic Production at Photonics Cluster
22.00 - 23.30	Shuttle Transfer to City Center

Room Lissabon	③ Session 3: Laser Beam Sources
	Solid State and Fiber Lasers Chairman: Hans-Dieter Hoffmann, Fraunhofer ILT, Aachen (D)
14.00	Solid-State and Fiber Lasers for Industrial Use: Status & Prospects Hans-Dieter Hoffmann, Fraunhofer ILT, Aachen (D)
14.30	Multi-Core Fiber Lasers with High Performance and High Efficiency Andreas Siewert, IPG Laser GmbH, Burbach (D)
15.00	Short- and Ultrashort Pulsed INNOSLAB Lasers in Selected Industrial Applications Dr. Keming Du, EdgeWave GmbH, Würselen (D)
15.30	Coffee Break – Visit of the Sponsors’ Exhibition
16.00	Shuttle Transfer to Fraunhofer ILT

LASER TECHNOLOGY LIVE

16.30	Laser Technology Live at Fraunhofer ILT
19.30	Shuttle Transfer to Photonics Cluster

EVENING EVENT

20.00	Opening Reception of the Innovation Center Doors open 19.30 Digital Photonic Production at Photonics Cluster
22.00 - 23.30	Shuttle Transfer to City Center

LASER TECHNOLOGY LIVE AT FRAUNHOFER ILT

The laser infrastructure of the Fraunhofer ILT sets international standards. Researchers of the Fraunhofer ILT and Chairs of the RWTH Aachen University will demonstrate the newest laser technology developments of their applied research on the Fraunhofer ILT premise.

You may find a list of the current presentations on our website:
www.lasercongress.org

PROGRAM

SESSIONS 1 - 3 PARALLEL

FRIDAY, APRIL 29, 2016

Room Berlin	① Session 1: Laser Material Processing – Macro
	Cutting Advances in Process Adapted Beam Shaping (EU-HALO) Chairman: Prof. Wolfgang Schulz, Fraunhofer ILT, Aachen (D)
8.30	Adaptable Lasers for Cutting Sheet Metal, Glass and Silicon • Prof. Wolfgang Schulz, Fraunhofer ILT, Aachen (D) • Prof. Andy Clarkson, ORC – University of Southampton (UK)
9.00	Cutting Brittle Material • Lara Bauer, TRUMPF Laser GmbH, Schramberg (D) • Dr. Bernold Richerzhagen, SYNOVA S.A., Ecublens (CH)
9.30	Cutting Sheet Metal • Dr. Tobias Häcker, TRUMPF Werkzeugmaschinen GmbH + Co. KG, Ditzingen (D) • Prof. Alexander Kaplan, LTU, Lulea (SE)
10.00	Coffee Break – Visit of the Sponsors' Exhibition
	Laser Welding Chairman: Dr. Dirk Petring, Fraunhofer ILT, Aachen (D)
11.00	Welding of Martensitic and High-Carbon Steel Grades in Hot-Strip Lines Christian Dornscheidt, SMS Group GmbH, Hilden (D)
11.30	Laser Beam Welding of High Strength and Ultra-High Strength Steels – Properties and Challenges Stefan Lindner, Outokumpu Nirosta GmbH, Krefeld (D)
12.00	New Approaches in High-Speed Videography for a Closer View inside the Laser Welding Process Prof. Michael Schmidt, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen (D)
12.30	Lunch – Visit of the Sponsors' Exhibition
	Laser Material Deposition Chairman: Dr. Andres Gasser, Fraunhofer ILT, Aachen (D)
14.30	LMD and SLM in Additive Manufacturing – A Technology Comparison Moritz Alkhayat, Fraunhofer ILT, Aachen (D)
15.00	LMD Coatings for Boiler Pressure Components Scott Poeppel, Joining Technologies Inc., East Granby (USA)
15.30	AM Processes at GKN – Methods for Product Development, New Manufacturing and Repair Peter Jonsson, GKN Aerospace Engine Systems Sweden, Trollhättan (S)
16.00	Outlook Room Berlin Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)
16.30	End of the Lectures

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 Plastic to Metal Automotive Seat Structures Dr. Geert Verhaeghe, Faurecia Autositze GmbH, 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 Substrates Dr. Malte Schulz-Ruhtenberg, LPKF Laser & Electronics AG, Garbsen (D)
12.00	Present Status and Trends of Femtosecond Laser Processing in Next Generation Displays, AMOLED Manufacturing Industry Prof. Sung-Hak Cho, KIMM Korea Inst. of Machinery & Material, Daejeon (KR)
12.30	Lunch – Visit of the Sponsors' Exhibition
	Polishing and Thin Film Processing Chairman: Dr. Jochen Stollenwerk, 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 Hendrik Steinmetz, Feha LaserTec GmbH, Bitterfeld-Wolfen (D)
15.30	Adapted Intensity Distribution by Free-Form Optics for Laser Surface Treatment Rainer Klar, 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 Dr. Roland Mayerhofer, ROFIN-BAASEL Lasertech GmbH & Co. KG, Starnberg (D)
11.30	Cutting Edge Fiber Laser Technology around 2 µm Dr. Shibin 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 Performance and Efficiency of High Power Diode Lasers 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

PHOTONICS CLUSTER

WWW.DIGITAL-PHOTONIC-PRODUCTION.DE

Innovation Center Digital Photonic Production

The RWTH Aachen University has created one of the largest technology-oriented research landscapes in Europe: the RWTH Aachen Campus.

On this campus, the university has planned a total of 19 subject-specific research clusters including the "Photonics Cluster". A building funded by private investors – the "Innovation Center Digital Photonic Production DPP" – will soon provide space for the cluster to conduct joint research activities of science and industry.

The Innovation Center DPP is home to the "Research Campus Digital Photonic Production DPP", a new form of long-term and systematic cooperation between the RWTH Aachen University, the Fraunhofer-Gesellschaft and the industry. This center has been funded by the German Federal Ministry for Education and Research. This form of cooperation aims to pool various resources for common application-oriented basic research.

In the Research Campus DPP, scientists will explore new methods and basic physical effects on how light can be used as a tool for the industrial production of the future.

Main Topics

- Direct Photonic Production
- Femto Photonic Production
- Nano Photonic Production

Services to Partners from the Business World

- Joint research under one roof
- Sharing facilities and equipment
- Possibility of doctoral research

The 7,000 m² of floor space of the "Innovation Center Digital Photonic Production" can be used from March 1, 2016. Much of the space has already been rented to research institutions and industry partners. Currently there are about 500 m² of office and laboratory space still available for cooperation partners from the economy.

Cooperation Partners (as of December 2015)

- 25 partners from industry
- 5 partners from science
- Approximately 100 employees

Around the Building

- Total space: 7,050 m²
- Office units: 18 - 400 m²
- Laboratory units: 40 - 145 m²
- Meeting rooms
- Open-plan office space
- Investor: ante4C GmbH
- Architect: KPF (Kohn Pedersen Fox Associates)

Contact

Dipl.-Phys. Christian Hinke
Telephone +49 241 8906-352
christian.hinke@digital-photonic-production.de
www.digital-photonic-production.de

On April 28, 2016, we would like to invite you to inaugurate the "Innovation Center Digital Photonic Production" in the Photonics Cluster together with us! The event begins at 20:00 h.



GENERAL INFORMATION

On-Site Check-in: Eurogress Main Entrance
Monheimsallee 48, 52062 Aachen

LOCATIONS AND OPENING HOURS

Forum "Laser Additive Manufacturing"

Wednesday, April 27, 2016, 10.00 - 17.30 h
Check-in starting at 9.00 h

Forum "Process Control"

Wednesday, April 27, 2016, 10.00 - 17.30 h
Check-in starting at 9.00 h

Seminar Laser Technology ABC's

Wednesday, April 27, 2016, 12.30 - 17.30 h
Check-in starting at 11.30 h

Technology Business Day

Wednesday, April 27, 2016, 12.30 - 17.30 h
Check-in starting at 11.30 h

AKL'16 – Laser Technology Conference

Thursday, April 28, 2016, 8.30 - 16.00 h
Friday, April 29, 2016, 8.30 - 16.30 h
Check-in April 28/29, 2016 starting at 8.00 h

Laser Technology Live

Thursday, April 28, 2016 from 16.30 - 19.30 h
Fraunhofer Institute for Laser Technology ILT
Steinbachstraße 15, 52074 Aachen

Shuttle Transfer on April 28, 2016

Eurogress – Fraunhofer ILT: 16.00 - 16.30 h
Fraunhofer ILT – Photonics Cluster: 19.30 - 20.00 h
Photonics Cluster – City Center: 22.00 - 23.30 h

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Sponsors' Exhibition

Wednesday, April 27, 2016, 12.00 - 17.00 h
Thursday, April 28, 2016, 10.30 - 16.00 h
Friday, April 29, 2016, 10.00 - 16.00 h
Foyer Hall Europa and Brüssel at the Eurogress

Awards Ceremony with Dinner

Registration necessary (fee required)
Wednesday, April 27, 2016
19.00 - 23.00 h (Doors open 18.15 h)
Coronation Hall / Town Hall, Markt, 52062 Aachen

Opening Reception of the "Innovation Center Digital Photonic Production"

Thursday, April 28, 2016
20.00 - 23.00 h (Doors open 19.30 h)
Photonics Cluster, Campus-Boulevard 79, 52074 Aachen

Conference Language

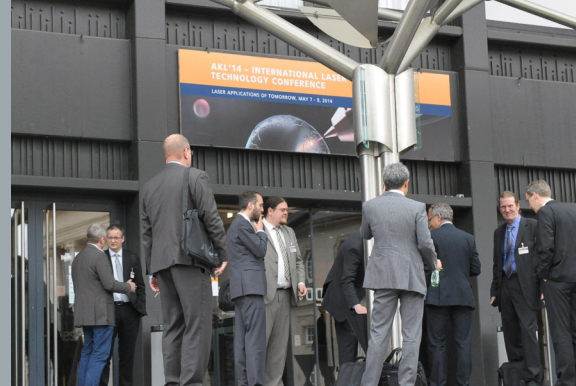
Lectures are presented in English and German with simultaneous interpreting.

Parking Garages

Near the conference locations:

- Eurogress: Parking Garage Eurogress, Monheimsallee (fee required)
- Coronation Hall / Town Hall: Parking Garages Mostardstraße and Büchel (fee required)

For further information regarding parking possibilities in Aachen, please visit: www.apag.de (in German)



GENERAL INFORMATION

Early Bird Registration! Special discounted registration fees until March 14, 2016.

PARTICIPATION CONDITIONS

Registration Fee

The registration fee includes conference proceedings, lunch or light refreshments, coffee breaks on the booked conference day as well as the shuttle service to the Live Presentations of the Fraunhofer ILT.

Early Bird Registration

Those booking by March 14, 2016 will be able to take advantage of a 10 % Early Bird Discount on conference fees.

Seminar Laser Technology ABC's – April 27, 2016

- 290 EUR / 261 EUR (Early Bird Registration)
- 232 EUR (Member*)

Technology Business Day – April 27, 2016

- 370 EUR / 333 EUR (Early Bird Registration)
- 296 EUR (Member*)

Forum "Laser Additive Manufacturing" – April 27, 2016

- 490 EUR / 441 EUR (Early Bird Registration)
- 392 EUR (Member*)

Forum "Process Control" – April 27, 2016

- 490 EUR / 441 EUR (Early Bird Registration)
- 392 EUR (Member*)

PARTICIPATION CONDITIONS

AKL'16 – Laser Technology Conference (Day 1) – April 28, 2016

- 590 EUR / 531 EUR (Early Bird Registration)
- 472 EUR (Member*)

AKL'16 – Laser Technology Conference (Day 2) – April 29, 2016

- 590 EUR / 531 EUR (Early Bird Registration)
- 472 EUR (Member*)

Awards Ceremony on April 27, 2016

Dinner with presentation of the "Innovation Award Laser Technology 2016"

- 120 EUR/Person (plus 19 % VAT)
- 120 EUR/Accompanying Person (plus 19 % VAT)

* Discounts Member

As a member of Arbeitskreis Lasertechnik AKL e.V., the European Laser Institute ELI e.V. or a scientific organization (universities, institutes of technology, Fraunhofer Institutes and research facilities), you are entitled to a discount of 20 % on conference fees as long as you book by March 14, 2016.

Registration

To register please use the form provided online at www.lasercongress.org. Once you have signed up you will receive a confirmation of participation as well as your invoice, which can be settled either by credit card (VISA, MasterCard) or by bank transfer.

Registration Deadline April 14, 2016.

Program subject to minor changes.

GENERAL INFORMATION

Early Bird Registration! Special discounted registration fees until March 14, 2016.

INFOS

PARTICIPATION CONDITIONS

WWW.LASERCONGRESS.ORG

On-Site Check-In

You will receive your name badge, the conference proceedings as well as the admission ticket for the evening event you have booked. Please wear your badge to all conference sessions and events.

Cancellations

Cancellations of participation must be submitted in writing. Those who cancel by March 31, 2016 will be reimbursed the attendance fee minus an administration charge of 90 EUR. Cancellations after this date will incur the full attendance fee. Should this happen, you will be sent a summary of the conference proceedings. We welcome a substitute participant instead. In this case, please provide us with the name of the substitute participant via e-mail to: akl@lasercongress.org.

Organization

Fraunhofer Institute for Laser Technology ILT
Steinbachstraße 15
52074 Aachen, Germany
www.ilt.fraunhofer.de
Phone +49 241 8906-0
Fax +49 241 8906-121

Organization AKL'16

Dipl.-Betw. Silke Boehr
Phone +49 241 8906-122
akl@lasercongress.org
www.lasercongress.org

Hotels

A certain contingent of hotel rooms with special negotiated prices have been reserved for the participants of AKL'16 and are valid for bookings from April 26 - 29, 2016. We strongly suggest that you make your reservations early in one of the following hotels (Keyword: AKL'16):

- Pullman Quellenhof Aachen *****
- Novotel Aachen City *****
- Aquis Grana - City Hotel *****
- Leonardo Hotel Aachen *****
- Mercure Hotel Aachen am Dom *****
- Ibis Styles Aachen City **

For further information please visit: www.lasercongress.org.

Conference Locations



WWW.LASERCONGRESS.ORG

Organization

Fraunhofer Institute for Laser Technology ILT
Steinbachstraße 15, 52074 Aachen, Germany
www.ilt.fraunhofer.de

Contact

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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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