

PROGRAM

# AKL - INTERNATIONAL LASER TECHNOLOGY CONGRESS

MAY 9 -11, 2012 IN AACHEN



# AKL'12

INTERNATIONAL LASER  
TECHNOLOGY CONGRESS

# SPONSORS AKL'12

Are you interested in a sponsorship of the AKL'12?

Contact: [akl@lasercongress.org](mailto:akl@lasercongress.org)



STATUS: NOVEMBER 2011



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 personal networking of technology suppliers and customers, all to develop new strategies for your area of responsibility and to profit from experience from this sector? Then you have found the right event, the AKL'12.

For the ninth time, laser manufacturers and laser users from various branches will meet at the biannual International Laser Technology Congress AKL. Featuring over 500 participants, around 70 speakers and over 30 sponsors, the AKL has established itself as the leading forum for applied laser technology in Germany. Supporting organizations include European Commission, European Photonics Industry Consortium EPIC, the Arbeitskreis Lasertechnik e.V., European Laser Institute 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 environment of the congress to find out more about the newest technological breakthroughs in over 70 live presentations of the Fraunhofer ILT.

We look forward to seeing you there!

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

# NETWORKING IN AACHEN



AKL'12 - INFORMATION, INSPIRATION, NETWORKING

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The **Laser Technology Conference AKL'12** provides a comprehensive overview of current developments in laser materials processing in the macro and micro areas and the laser beam development. Moreover, it offers laser manufacturers and users an ideal platform to intensively exchange ideas and experience.

At the accompanying **Sponsors' Exhibition**, noteworthy companies from laser engineering show innovative products and processes, encompassing all aspects of laser technology, to interested congress participants.

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.

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 **Laser Technology ABC's** seminar.

The **EU Innovation Forum »Laser Additive Manufacturing (LAM) in Aeronautics and Power Generation«** offers experts from the aeronautics and energy sector the opportunity to exchange information in the area of additive manufacturing.

The **EU Innovation Forum »Perspectives of Polymer Welding with Lasers«** is directed toward manufacturing technologists, material experts, designers and developers who deal with plastics processing in the manufacturing industries.

The **Focus Seminar »Foundations and New Developments in Ultrashort Pulse Laser Technology«** offers laser users from the sectors of micro, solar, medicine and tool technology the opportunity to intensively discuss the current applications and perspectives of the innovative USP lasers.



## Social Program

- Dinner in the sophisticated and historical ambience of the Coronation Hall of Aachen's Town Hall with presentation of the »Innovation Award Laser Technology« on May 9, 2012 [www.innovation-award-laser.org](http://www.innovation-award-laser.org)
- Get-Together on May 10, 2012 at the »Ludwig Forum for International Art«

## Conference Language

- Lectures are presented in English and German with simultaneous interpreting.

# PROGRAM

MAY 9 - 11, 2012

# PROGRAM

WEDNESDAY, MAY 9, 2012

WEDNESDAY, MAY 9, 2012

## EU INNOVATION FORUM 1 - Laser Additive Manufacturing (LAM) in Aeronautics and Power Generation (in English)

from 08:30 Registration and Coffee Reception

- 9:00 Welcome**  
Chairman: Dr. Ingomar Kelbassa, Fraunhofer ILT, Aachen (D)
- 9:15 Opening Speech**  
Tiit Jürimäe, Director Unit Aeronautics, EU Commission
- 9:30 EU Project MERLIN  
Needs and Demands for the Manufacture of Next  
Generation Jet Engine Components - Market Pull**  
Dr. Jeffrey Allen, Rolls Royce plc., Derby (UK)
- 9:45 Laser Additive Manufacturing as a Key Enabler  
for the Manufacture of Next Generation Jet Engine  
Components - Technology Push**  
Dr. Carl Hauser, TWI Technology Centre (Yorkshire) Ltd, Rotherham (UK)
- 10:00 Additive Manufacturing of Turbine Engine Parts  
by Selective Laser Melting**  
Dr. Wilhelm Meiners, Fraunhofer ILT, Aachen (D)
- 10:15 Panel Discussion**
- 10:30 Coffee Break**
- 11:00 Innovation Impact of LAM  
Additive Manufacturing in Turbo-Engine Applications**  
Dr. Andres Gasser, Fraunhofer ILT, Aachen (D)
- 11:30 Laser Metal Deposition for Maintenance, Repair  
and Overhaul at Siemens Power Generation**  
Dr. Dimitrios Thomaidis, Siemens AG, Energy Sector Fossil  
Power Generation Division, Berlin (D)
- 12:00 Laser Based MRO of Compressor and Steam Turbine  
Components at MAN Diesel & Turbo SE**  
Christoph Korbmacher, MAN Diesel & Turbo SE, Oberhausen (D)
- 12:30 Lunch**
- 14:00 Shuttle from Eurogress to Fraunhofer ILT**  
**14:30 Live Presentations at Fraunhofer ILT**  
**16:30 Shuttle back to Eurogress**

**19:00 - 23:00 Dinner with Presentation of the »Innovation Award  
Laser Technology 2012«**  
doors open 18:30  
in the Coronation Hall of Aachen's Town Hall

## EU INNOVATION FORUM 2 - Perspectives of Polymer Welding with Lasers (in English)

NEW!

from 11:30 Registration and Light Refreshments

- Tailored Laser Sources for Polymer Welding**  
Chairman: Dr. Alexander Olowinsky, Fraunhofer ILT, Aachen (D)
- 12:30 POLYBRIGHT Project Overview  
Extending the Process Limits of Laser Polymer Welding  
with London High-brilliance Beam Sources**  
Dr. Alexander Olowinsky, Fraunhofer ILT, Aachen (D)
- 13:00 Beam Shaping and Simultaneous Exposure by Diffractive  
Optical Element in Laser Plastic Welding**  
Dr. Daniel Vogler, Leister Process Technologies AG, Kaegiswil (CH)
- 13:30 Advanced Signal Analysis Method to Evaluate  
the Laser Welding Quality**  
Dr. Giuseppe D'Angelo, Centro Ricerche FIAT, Orbassano (I)
- 14:00 High-brilliance Fiber Laser Sources with  
New NIR Wavelengths**  
Tim Westphäling, IPG Laser GmbH, Burbach (D)
- 14:30 Coffee Break**
- Process Optimization in Polymer Welding**  
Chairman: Dr. Alexander Olowinsky, Fraunhofer ILT, Aachen (D)
- 15:00 Adapted White Color Formulations for Laser Welding  
of Whitegood Components**  
Dr. Sibylle Glaser, TREFFERT GmbH & Co. KG, Bingen (D)
- 15:30 High Resolution Mask Welding by Well Collimated  
Beam from Fiber Laser**  
Ulrich Gubler, Leister Process Technologies AG, Kaegiswil (CH)
- 16:00 M-shaping of Diode Laser Radiation as a Process  
Optimization for Polymer Welding Techniques**  
Frauke Legewie, LIMO Lissotschenko Mikrooptik GmbH,  
Dortmund (D)
- 16:30 Panel Discussion**

## EVENING EVENT

**19:00 - 23:00 Dinner with Presentation of the »Innovation Award  
Laser Technology 2012«**  
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# PROGRAM



WEDNESDAY, MAY 9, 2012

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## SEMINAR LASER TECHNOLOGY ABC'S

**from 11:30 Registration and Light Refreshments**

### **Seminar Laser Technology ABC's - Part A**

Chairman: Dr. Stefan Kaierle, European Laser Institute ELI / LZH Laser Zentrum Hannover e.V., (D)

**12:30 How does Laser Materials Processing Work?**

Dr. Stefan Kaierle, European Laser Institute ELI / LZH Laser Zentrum Hannover e.V., (D)

**13:00 Which Laser for which Application?**

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

**13:30 Where is Laser Technology utilized in Industry?**

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

**14:00 Panel Discussion**

**14:30 Coffee Break**

### **Seminar Laser Technology ABC's - Part B**

Chairman: Dr. Stefan Kaierle, European Laser Institute ELI / LZH Laser Zentrum Hannover e.V., (D)

**15:00 Beam Shaping: Which Optics are used in Laser Material Processing?**

Dr. Björn Wedel, HIGHYAG Lasertechnologie GmbH, Berlin (D)

**15:30 How are Laser Manufacturing Processes Monitored and Controlled?**

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

**16:00 Recent Developments in Laser Technology**

Christian Hinke, PhotonAix e.V., Aachen (D)

**16:30 Panel Discussion**

## EVENING EVENT

**19:00 - 23:00 Dinner with Presentation of the »Innovation Award Laser Technology 2012«**

doors open 18:30

in the Coronation Hall of Aachen's Town Hall

## TECHNOLOGY BUSINESS DAY

**from 11:30 Registration and Light Refreshments**

### **Laser Markets in Europe, USA and China**

Chairman: Prof. Peter Loosen, Fraunhofer ILT, Aachen (D)

**12:30 European and Global Laser Markets**

Dr. Christoph Ullmann, VDMA / Laserline GmbH, (D)

**13:00 Laser Markets in USA**

David A. Belforte, Belforte Associates, Sturbridge (USA)

**13:30 The Chinese Laser Market**

Günther Weinmann, TRUMPF China Co. Ltd., Shanghai (CN)

**14:00 Panel Discussion**

**14:30 Coffee Break**

### **Material Trends and Technological Challenges for Laser Applications**

Chairman: Prof. Peter Loosen, Fraunhofer ILT, Aachen (D)

**15:00 Carbon for Cutting-edge Technologies**

Dr. Martin H. Sommer, SGL CARBON GmbH, Wiesbaden (D)

**15:30 Material Developments in Micro- and Nano Technology**

Prof. Oliver Kraft, Institut für angewandte Materialien, KIT, Karlsruhe (D)

**16:00 Materials for Medical Implants**

Heiko Specht, Heraeus Holding GmbH, Hanau (D)

**16:30 Panel Discussion**

## EVENING EVENT

**19:00 - 23:00 Dinner with Presentation of the »Innovation Award Laser Technology 2012«**

doors open 18:30

in the Coronation Hall of Aachen's Town Hall

# PROGRAM



WEDNESDAY, MAY 9, 2012

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## Focus Seminar - Foundations and New Developments in Ultrashort Pulse Laser Technology

**NEW!**

Ultrashort pulsed lasers (USP) with pulse durations in the ps and fs range have been described by many as the tool of the future wherever high precision plays an essential role. Such applications range from drilling of nozzles and the manufacture of tools via structuring solar cells and the manufacture of medical-technical components all the way to printing technology and the processing of fiber-composite components in lightweight construction. And with the highest quality.

## FOCUS SEMINAR - Foundations and New Developments in Ultrashort Pulse Laser Technology

**from 11:30 Registration and Light Refreshments**

### Basics and New Developments in Ultrashort Pulse Laser Technology

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

- 12:30 Basics in Ultrashort Pulse Laser Technology**  
Dr. Uwe Stute, LZH Laser Zentrum Hannover e.V., Hannover (D)
- 13:00 Ultrafast Laser Processing Using Polygon Scanner Technology**  
Ronny De Loor, NextScan Technology, Silvolde (NL)
- 13:30 Micromachining with sub-ps Lasers: results and progress in health science and industrial applications**  
Dr. Antoine Kevorkian / Rainer Höreth, Teem Photonics S.A., Fachingen (D)
- 14:00 Micro Structuring with Ultra Short Pulse - Ways to Optimize Process Efficiency and Quality**  
Prof. Beat Neuenschwander, Institute for Applied Laser, Photonics & Surface Technologies, Bern (CH)
- 14:30 Coffee Break**

## Basics and New Developments in Ultrashort Pulse Laser Technology

Chairman: Dr. Arnold Gillner, Fraunhofer ILT, Aachen (D)  
Results Presentation of the BMBF joint project PIKOFLOT

- 15:00 High Power Picosecond Lasers for Micro Machining**  
Dr. Ralf Knappe, LUMERA LASER GmbH, Kaiserslautern (D)
- 15:25 Process Development for High-Power Laser Ablation**  
Stephan Eifel, Fraunhofer ILT, Aachen (D)
- 15:45 Machine Development for the Laser Machining with Ultrashort Pulsed Lasers**  
Michael Kuhl, SAUER GmbH Lasertec, Pfronten (D)
- 16:05 3D-micro-structuring of Embossing Cylinders with Ultrashort Pulse Lasers**  
Dr. Stephan Brüning, Schepers GmbH & Co. KG, Vreden (D)
- 16:25 Amplification of Ultrashort Pulses by Innoslab Technology**  
Dr. Keming Du, EdgeWave GmbH, Würselen (D)

## EVENING EVENT

- 19:00 - 23:00 Dinner with Presentation of the »Innovation Award Laser Technology 2012«**  
doors open 18:30  
in the Coronation Hall of Aachen's Town Hall

# PROGRAM



THURSDAY, MAY 10, 2012

THURSDAY, MAY 10, 2012

## Laser Technology Conference AKL'12

Over 70 experts from research and industry will bring you up to date on the current trends in laser technology. In particular, practitioners and strategists from the automotive industry, the aviation and machine construction, electronic and solar technology as well as medical technology can obtain new ideas for their individual applications through practical examples. In professional lectures and discussion forums or at the live demonstrations, experience what is current and relevant for the future in laser technology.

### MAIN TOPICS

#### Gerd Herziger Session

- Laser Solutions for the Industrial Challenges of the 21st Century

#### Laser Beam Sources

- Solid State and Fiber Lasers
- Ultrashort Pulsed Lasers
- Frequency-doubled Lasers
- Diode Lasers

#### Laser Manufacturing Processes in Macro Areas

- Laser Welding and Laser Cutting
- Process Monitoring in Laser Material Processing
- Additive Laser Manufacturing Processes

#### Laser Manufacturing Processes in Micro Areas

- Micro- and Nanostructuring
- Polishing and Thin Film Processes
- Micro Joining
- Micro Drilling

#### Laser Technology Live

Over 70 Live presentations will take place at Fraunhofer Institute for Laser Technology ILT and companies of the Application Center.

## AKL'12 - LASER TECHNOLOGY CONFERENCE

**from 08:00 Registration and Coffee Reception**

**8:30 Welcome**

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

**8:40 Opening Speech**

Dr. Beate Wieland - Ministry of Innovation, Science and Research of North Rhine-Westphalia

**9:00 Challenges and Perspectives of Production Technology in the Automotive Industry**

Dr. Dieter Steegmüller, Daimler AG, Stuttgart (D)

**9:30 The Societal of Laser Technology: Trends and Perspectives**

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

**10:00 Coffee Break - Visit of the Sponsors Exhibition**

**Gerd Herziger Session - Laser Solutions for Industrial Challenges of the 21st Century**

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

**11:00 Dr. Michael Mertin**

Jenoptik AG, Jena (D)

**11:30 Dr. Christian Schmitz**

TRUMPF Laser- und Systemtechnik GmbH, Ditzingen (D)

**12:00 Thorsten Frauenpreiß**

ROFIN-SINAR Laser GmbH, Hamburg (D)

**12:30 Dr. Lutz Aschke**

LIMO Lissotschenko Mikrooptik GmbH, Dortmund (D)

**13:00 Lunch - Visit of the Sponsors Exhibition**

# PROGRAM

## SESSIONS 1 - 3 PARALLEL

THURSDAY, MAY 10, 2012

THURSDAY, MAY 10, 2012



THURSDAY, MAY 10, 2012

### AKL'12 - LASER TECHNOLOGY CONFERENCE

#### 1 Session 1: Laser Material Processing - Macro

##### Welding

Chairman: Dr. Dirk Petring, Fraunhofer ILT, Aachen (D)

- 14:30 **Progress in Laser Welding of Copper**  
Dr. Dirk Herrmann, Wieland-Werke AG, Ulm (D)
- 15:00 **Application of Laser Technologies in the Process Chain of Hot Forming and the Subsequent Processing**  
Stefan Wischmann, ThyssenKrupp Steel Europe, Duisburg (D)
- 15:30 **High Power Laser Applications in Mitsubishi Heavy Industries**  
Dr. Takashi Ishide, Mitsubishi Heavy Industries, Ltd., Hyogo (J)
- 16:00 **Coffee Break - Visit of the Sponsors Exhibition**

#### 1 Session 1: Laser Material Processing - Macro

##### Cutting

Chairman: Prof. Wolfgang Schulz, Fraunhofer ILT, Aachen (D)

- 17:00 **A Commercial and Technical Comparison of Fiber Laser and CO<sub>2</sub> Laser Cutting Machines**  
Dr. John Powell / Prof. Alexander Kaplan, Lulea University of Technology, Lulea (S)
- 17:30 **Laser Applications in Manufacturing of High Strength Body Parts**  
Dr. Steffen Kulp, Volkswagen AG, Wolfsburg (D)
- 18:00 **Precision Cutting Advances by Laser MicroJet**  
Dr. Bernold Richerzhagen, SYNOVA S.A., Ecublens (CH)
- 18:30 **End of Sessions**

#### EVENING EVENT

- 20:00 **Get-Together**  
Open doors 19:30  
at »Ludwig Forum for International Art«

#### 2 Session 2: Laser Material Processing - Micro

##### Micro- and Nano Structuring

Chairman: Dr. Jens Holtkamp, Fraunhofer ILT, Aachen (D)

- 14:30 **Precision Laser Micromachining - The Balance between Speed and Quality**  
Dr. Nadeem Rizvi, Laser Micromachining Ltd., Denbighshire (UK)
- 15:00 **Application Development for Micromachining and Surface Texturing USP Lasers**  
Max Groenendijk, Lightmotif B.V., Enschede (NL)
- 15:30 **Laser in the Thin Film Photovoltaics and Organic Electronics**  
Jörg Jetter, 4JET Technologies GmbH, Alsdorf (D)
- 16:00 **Coffee Break - Visit of the Sponsors Exhibition**

#### 2 Session 2: Laser Material Processing - Micro

##### Polishing and Thin Film Processing

Chairman: Dr. Jochen Stollenwerk, Fraunhofer ILT, Aachen (D)

- 17:00 **Overview on Laser Polishing and Thin Film Processing**  
Dr. Edgar Willenborg, Fraunhofer ILT, Aachen (D)
- 17:30 **Machine Tool for Laser Polishing**  
Thomas Arnold, K.H. Arnold GmbH & Co. KG, Ravensburg (D)
- 18:00 **Laser Based Manufacturing of Coatings for Automotive Applications**  
Jürgen Windrich, Schaeffler KG, Herzogenaurach (D)
- 18:30 **End of Sessions**

#### EVENING EVENT

- 20:00 **Get-Together**  
Open doors 19:30  
at »Ludwig Forum for International Art«

#### 3 Session 3 - Laser Sources

##### Solid State and Fiber Lasers

Chairman: Hans-Dieter Hoffmann, Fraunhofer ILT, Aachen (D)

- 14:30 **High-Performance Fiber Lasers**  
Dr. Stefan Ruppik, ROFIN-SINAR Laser GmbH, Hamburg (D)
- 15:00 **Fiber Lasers based on Beam Quality Converters for Diode Lasers**  
Volker Krause, Laserline GmbH, Mülheim (D)
- 15:30 **Micro Lasers, Inherent Benefits and Limitations**  
Dr. Stefan Spiekermann, InnoLight GmbH, Hannover (D)
- 16:00 **Coffee Break - Visit of the Sponsors Exhibition**

#### 3 Session 3 - Laser Sources

##### Ultrafast Lasers

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

- 17:00 **Ultrafast Lasers with Highest Average Output Powers**  
Dr. Torsten Mans, AMPHOS GmbH, Aachen (D)
- 17:30 **Ultrafast Disk Lasers and Amplifiers**  
Oliver H. Heckl, TRUMPF Laser- und Systemtechnik GmbH, Ditzingen (D)
- 18:00 **Femtosecond Solid State and Fiber Lasers**  
Clemens Hönninger, Amplitude Systèmes, Pessac (F)
- 18:30 **End of Sessions**

#### EVENING EVENT

- 20:00 **Get-Together**  
Open doors 19:30  
at »Ludwig Forum for International Art«

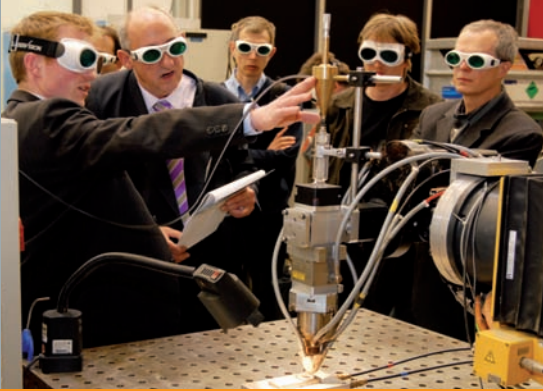
# PROGRAM

## SESSIONS 1 - 3 PARALLEL

FRIDAY, MAY 11, 2012

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FRIDAY, MAY 11, 2012



### AKL'12 - LASER TECHNOLOGY CONFERENCE

<b>from 08:00</b>	<b>Registration and Coffee Reception</b>
	<b>1 Session 1: Laser Material Processing - Macro</b>
	<b>Laser Additive Manufacturing</b> Chairman: Dr. Konrad Wissenbach, Fraunhofer ILT, Aachen (D)
<b>08:30</b>	<b>Additive Manufacturing for Series Production of the Future?</b> Dr. Wilhelm Meiners, Fraunhofer ILT, Aachen (D)
<b>09:00</b>	<b>Aero Engine Parts Made of SLM - Status Quo and Future Potential</b> Thomas Heß, MTU Aero Engines GmbH, München (D)
<b>09:30</b>	<b>Development of Laser Additive Repair Technologies for Compressor BLISK Materials</b> Ian Michtell, Rolls Royce plc, Derby (UK)
<b>10:00</b>	<b>Coffee Break - Visit of the Sponsors Exhibition</b>
	<b>1 Session 1: Laser Material Processing - Macro</b>
	<b>Process Control in Laser Manufacturing</b> Chairman: Peter Abels, Fraunhofer ILT, Aachen (D)
<b>11:00</b>	<b>Industrial Application of Quality Control in Laser Materials Processing: From Lab to Serial Production</b> Dr. Markus Kogel-Hollacher, PRECITEC Optronik GmbH, Rodgau (D)
<b>11:30</b>	<b>Quality Assurance of Laser-Welded Automotive Seat Structures</b> Dr. Geert Verhaeghe, Faurecia Autositze GmbH & Co.KG, Stadthagen (D)
<b>12:00</b>	<b>Process Monitoring in Large Scale Production</b> Eckhard Lessmüller / Christian Truckenbrodt, Lessmüller Lasertechnik GmbH, München (D)
<b>12:30</b>	<b>Outlook</b> Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)

### 2 Session 2: Laser Material Processing - Micro

	<b>Micro Joining</b> Chairman: Dr. Alexander Olowinsky, Fraunhofer ILT, Aachen (D)
<b>08:30</b>	<b>Laser Micro Joining - Processes and Applications in Research and Development</b> Felix Schmitt, Fraunhofer ILT, Aachen (D)
<b>09:00</b>	<b>Laser Soldering in Photovoltaic Production - Non-contact Controlled Soldering Technology</b> Thomas Fischer, teamtechnik Maschinen und Anlagen GmbH, Freiberg (D)
<b>09:30</b>	<b>Laser Micro Welding - Research and Industrial Applications</b> Dr. Henning Hanebuth, Siemens AG, Munich (D)
<b>10:00</b>	<b>Coffee Break - Visit of the Sponsors Exhibition</b>
	<b>2 Session 2: Laser Material Processing - Micro</b>
	<b>Micro Drilling</b> Chairwoman: Claudia Anna Hartmann, Fraunhofer ILT, Aachen (D)
<b>11:00</b>	<b>Modeling and Simulation for Laser Drilling</b> Urs Eppelt, Fraunhofer ILT, Aachen (D)
<b>11:30</b>	<b>Micro Drilling with Fiber Lasers</b> Noémie Dury, ROFIN-LASAG AG, Thun (CH)
<b>12:00</b>	<b>Trepanning Optics for Industrial Laser Micro Machining</b> Florian Lendner, GFH GmbH, Deggendorf (D)
<b>12:30</b>	<b>Outlook</b> Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)

### 3 Session 3 - Laser Sources

	<b>Frequency Converted Lasers</b> Chairman: Dr. Bernd Jungbluth, Fraunhofer ILT, Aachen (D)
<b>08:30</b>	<b>High Power Thin-Disc Lasers with CW Emission in the Green Spectral Range</b> Dr. Ivo Zawischa, TRUMPF Laser- und Systemtechnik GmbH, Ditzingen (D)
<b>09:00</b>	<b>Frequency Converted Short-pulse Lasers and Ultrashort Pulse Lasers with High Output Power</b> Dr. Keming Du, EdgeWave GmbH, Würselen (D)
<b>09:30</b>	<b>Highly Reliable UV-lasers with Picosecond Pulses</b> Dr. Günter Hollemann, Coherent GmbH, Lübeck (D)
<b>10:00</b>	<b>Coffee Break - Visit of the Sponsors Exhibition</b>
	<b>3 Session 3 - Laser Sources</b>
	<b>Diode Lasers</b> Chairman: Martin Traub, Fraunhofer ILT, Aachen (D)
<b>11:00</b>	<b>Cost Efficient Diode Laser Modules of Highest Output Power Delivered by a 100 µm Fiber</b> Dr. Martin Leitner, JENOPTIK Laser GmbH, Jena (D)
<b>11:30</b>	<b>High Power Vertical Cavity Surface Emitting Lasers for Thermal Processing and Pumping of Solid State Lasers</b> Dr. Holger Mönch, Philips Research Laboratories, Aachen (D)
<b>12:00</b>	<b>High Brightness Diode Laser Series Based on Modular and Automated Platform</b> Dr. Jens Biesenbach, DILAS Diodenlaser GmbH, Mainz (D)
<b>12:30</b>	<b>Outlook</b> Prof. Reinhart Poprawe, Fraunhofer ILT, Aachen (D)
<b>from 13:00</b>	<b>Shuttle to Fraunhofer ILT (till 13:45 h)</b>
<b>13:45</b>	<b>Lunch at Fraunhofer ILT (till 14:45 h)</b>

### LASER TECHNOLOGY LIVE

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

**14:30 - 17:30** **Laser Technology Live at Fraunhofer ILT**  
**15:00 - 18:00** **Shuttle to Eurogress**

You may find a list of the actual presentations on our web site: [www.lasercongress.org](http://www.lasercongress.org)

# GENERAL INFORMATION

**On-site Check In:** Eurogress Main Entrance  
Monheimsallee 48, 52062 Aachen



## LOCATIONS AND OPENING HOURS

[WWW.LASERCONGRESS.ORG](http://WWW.LASERCONGRESS.ORG)

### EU Innovation Forums

- **Forum 1** - Laser Additive Manufacturing (LAM)  
in Aeronautics and Power Generation  
Wednesday, May 9, 2012, 09:00 h - 17:00 h
  - **Forum 2** - Perspectives of Polymer Welding with Lasers  
Wednesday, May 9, 2012, 12:30 h - 17:00 h
- On-site Check In: Eurogress Main Entrance  
Registration from 08:30 h

### Seminar Laser Technology ABC's

Wednesday, May 9, 2012, 12:30 h - 17:00 h  
Pullman Quellenhof, Monheimsallee 52, 52062 Aachen  
On-site Check In: Eurogress Main Entrance  
Registration from 11:30 h

### Technology Business Day

Wednesday, May 9, 2012, 12:30 h - 17:00 h  
On-site Check In: Eurogress Main Entrance  
Registration from 11:30 h

### Focus Seminar USP-Technology

Wednesday, May 9, 2012, 12:30 h - 17:00 h  
On-site Check In: Eurogress Main Entrance  
Registration from 11:30 h

### AKL'12 - Laser Technology Conference

Thursday, May 10, 2012, 08:30 h - 18:30 h  
Friday, May 11, 2012, 08:30 h - 13:00 h  
Eurogress Aachen, Monheimsallee 48, 52062 Aachen  
On-site Check In: Eurogress Main Entrance  
Registration May 10/11, 2012 from 8:00 h

### Laser Technology Live

Friday, May 11, 2012 from 14:30 h to 17:30 h  
Fraunhofer Institute for Laser Technology ILT  
Steinbachstraße 15, 52074 Aachen  
Shuttle between Eurogress and Fraunhofer ILT  
13:00 h - 13:45 h and 15:00 h - 18:00 h

### AKL Sponsors Exhibition

Thursday, May 10, 2012, 10:00 h - 18:00 h  
Friday, May 11, 2012, 10:00 h - 13:00 h  
Foyer Europa- and Brussels Hall at the Eurogress

### Awards Ceremony with Dinner

Registration necessary (fee required)  
Wednesday, May 9, 2012  
19:00 h - 23:00 h Uhr (doors open 18:30 h)  
Coronation Hall / Town Hall, Markt, 52062 Aachen

### Get-Together

Thursday, May 10, 2012  
20:00 h - 23:30 h (doors open 19:30 h)  
Ludwig Forum for International Art  
Jülicher Straße 97-109, 52070 Aachen

### Parking Garages

near the conference locations:

- Pullman/Eurogress: Parking Garage Eurogress, Monheimsallee
- Ludwig Forum: Parking at the Museum, Lombardenstraße
- Coronation Hall / Town Hall: Parking Garages Mostardstraße and Büchel

For further information regarding parking possibilities in Aachen please visit: [www.apag.de](http://www.apag.de)

# GENERAL INFORMATION

## Early Bird Registration!

Special discounted registration fees until March 23, 2012.

# INFO

## PARTICIPATION CONDITIONS

WWW.LASERCONGRESS.ORG

### Participation Conditions

The registration fee includes conference proceedings, lunch or light refreshments, coffee breaks on the booked conference day, the participation in the Get-Together on May 10, 2012 at Ludwig Forum for International Art as well as the shuttle service to the Live Presentations of the Fraunhofer ILT.

### Please be aware of the special discounted registration fees for Early Bird Registration by March 23, 2012.

For the Awards Ceremony with presentation of the »Innovation Award Laser Technology« on May 9, 2012 a separate registration (fee required) is necessary.

#### May 9, 2012 - Seminar Laser Technology ABC's

- 210,- EUR / 189,- EUR (Early Bird Registration)
- 168,- EUR (reduced\*)

#### May 9, 2012 - Technology Business Day

- 300,- EUR / 270,- EUR (Early Bird Registration)
- 240,- EUR (reduced\*)

#### May 9, 2012 - EU Innovation Forum 1 - LAM

- 300,- EUR / 270,- EUR (Early Bird Registration)
- 240,- EUR (reduced\*)

#### May 9, 2012 - EU Innovation Forum 2 - Polymer

- 280,- EUR / 252,- EUR (Early Bird Registration)
- 224,- EUR (reduced\*)

#### May 9, 2012 - Focus Seminar USP-Technology

- 280,- EUR / 252,- EUR (Early Bird Registration)
- 224,- EUR (reduced\*)

### May 10, 2012 - AKL'12 Conference (Part 1)

- 520,- EUR / 468,- EUR (Early Bird Registration)
- 416,- EUR (reduced\*)

### May 11, 2012 - AKL'12 Conference (Part 2)

- 470,- EUR / 423,- EUR (Early Bird Registration)
- 376,- EUR (reduced\*)

\* Reduced registration fee for members of AKL e.V., ELI, PhotonAix e.V. and Public Research Institutes till March 23, 2012 the latest.

### Social Program

- Evening Event on May 9, 2012 with dinner and presentation of the »Innovation Award Laser Technology«  
60,- EUR/Person  
60,- EUR/Accompanying Person
- Get-Together on May 10, 2012  
60,- EUR/Accompanying Person

### Registration

Please use the registration form in the internet [www.lasercongress.org](http://www.lasercongress.org). Please be aware of the special discounted registration fees for Early Bird Registration by March 23, 2012. Upon receipt of your application you will receive a confirmation of your attendance as well as an invoice, which can be paid by credit card (VISA, Mastercard) or bank transfer.

### Registration Deadline April 30, 2012.

Program subject to minor changes.

# GENERAL INFORMATION

## Early Bird Registration!

Special discounted registration fees until March 23, 2012.

# INFO

## PARTICIPATION CONDITIONS

[WWW.LASERCONGRESS.ORG](http://WWW.LASERCONGRESS.ORG)

### Registration On-site

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

### Cancellations

Cancellations of participation at the conference are generally ask to be made in writing. In case of cancellation before March 30, 2012 the fee will be refunded less 60,- EUR handling charges. For cancellations received after March 30, 2012 the full fee will be charged. In this case the conference proceedings will be send to you. We also welcome a substitute participant instead.

### Organization

Fraunhofer Institute for Laser Technology ILT  
Steinbachstraße 15  
52074 Aachen, Germany  
[www.ilt.fraunhofer.de](http://www.ilt.fraunhofer.de)  
Phone +49 241 8906-0  
Fax +49 241 8906-121

### Service-Hotline AKL'12

Dipl.-Betrw. Silke Boehr  
Phone +49 241 8906-505  
[akl@lasercongress.org](mailto:akl@lasercongress.org)  
[www.lasercongress.org](http://www.lasercongress.org)

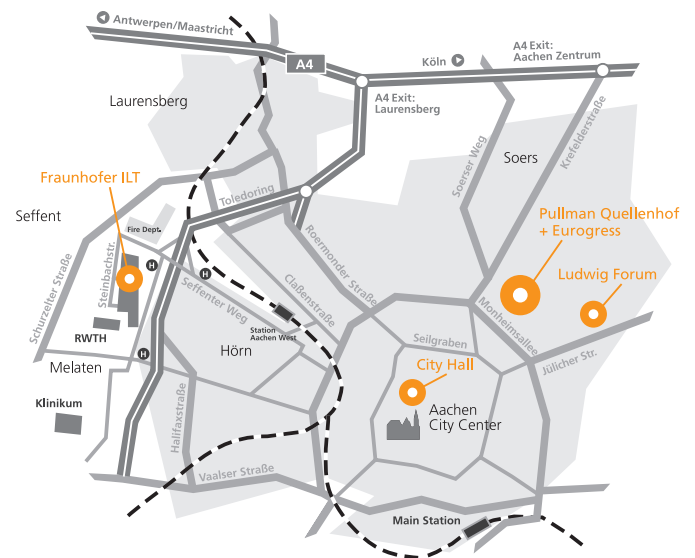
### Hotel and Arrival

A certain contingent of hotel rooms with special negotiated prices have been reserved for the participants of AKL'12 valid for bookings from May 8 - 12, 2012. We strongly suggest to make your reservations early in one of the following hotels:

- Pullman Quellenhof Aachen \*\*\*\*\*
- Novotel Aachen City \*\*\*\*\*
- Aquis Grana - City Hotel \*\*\*\*
- Mercure am Dom \*\*\*
- Ibis Aachen Marschierort \*\*
- Hotel Lousberg Aachen \*\*

For further information please visit: [www.lasercongress.org](http://www.lasercongress.org).

### Conference Locations



## Organization

Fraunhofer Institute for Laser Technology ILT  
Steinbachstraße 15  
52074 Aachen, Germany  
[www.ilt.fraunhofer.de](http://www.ilt.fraunhofer.de)

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## Supporting Organizations

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

## Media Partner