

FRAUNHOFER INSTITUTE FOR LASER TECHNOLOGY ILT

INVITATION

**LaP 2014**  
**1<sup>ST</sup> CONFERENCE ON LASER POLISHING**  
MAY 6-7, 2014 IN AACHEN, GERMANY



# WELCOME



## 1<sup>ST</sup> CONFERENCE ON LASER POLISHING - LaP 2014

### Scope of the conference

In the last years the number of scientific work groups engaged in laser polishing is continuously increasing. But still laser polishing is a niche. Scientific presentations and publications on laser polishing are spread over different conferences and journals.

Aim of the 1<sup>st</sup> Conference on Laser Polishing is to present scientific and application related results on laser polishing, bring together the people working all over the world on laser polishing, and to promote and stimulate discussions and new cooperation.

### Main topics

- Laser polishing of metals (functional surfaces, tools, dies, design surfaces, ...)
- Laser polishing of glass and laser based processes for manufacturing optical surfaces
- Laser polishing of other materials like ceramics, CVD diamond films, plastics
- Structuring by laser remelting (not structuring by ablation)

### Conference language

The conference language is English.

We are looking forward to meeting you at the 1st Conference on Laser Polishing - LaP 2014.

Sincerely,

A handwritten signature in black ink, appearing to read 'Edgar Willenborg'.

Dr. Edgar Willenborg  
Fraunhofer Institute for Laser Technology ILT

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### USE THE OPPORTUNITY TO ALSO VISIT THE AKL'14

On May 8 to 9 the International Laser Technology Congress - AKL'14 will take place in Aachen. With over 600 participants, around 60 speakers, and 70 live presentations the AKL'14 is one of the largest conferences on lasers and laser material processing. A separate registration is necessary. For further information and conference fees, please visit: [www.lasercongress.org](http://www.lasercongress.org).

# PROGRAM

## MAY 6, 2014



**1<sup>ST</sup> DAY, TUESDAY, MAY 6, 2014**

**11:30 REGISTRATION**

**12:00 LUNCH**

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**13:00 SESSION I**

Chair: Dr. André Temmler

**Welcome and introduction**

Dr. Edgar Willenborg, Fraunhofer ILT, Germany

**Comparative analysis of laser polishing technology implementations**

Dr. Evgueni Bordatchev, NRC of Canada, Canada

**Machine tool and CAM-NC data chain for laser polishing complex shaped tools**

John Flemmer, Fraunhofer ILT, Germany

**Laser edge melting of push belts**

Dr. Thomas Kiedrowski, Robert Bosch GmbH, Germany

**14:45 COFFEE BREAK**

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**15:30 SESSION II**

Chair: Sebastian Heidrich

**An industrial approach of laser polishing with different laser sources,**

Dr. Eneko Ukar, Dept. of Mechanical Engineering, Univ. of Basque Country, Spain

**CO<sub>2</sub> laser beam polishing of fused silica surfaces - process development and optimization**

Dr. Kerstin Hecht, Ernst-Abbe-Fachhochschule Jena, Germany

**Micro-shaping, polishing and damage repair of glass surfaces  
using focused infrared laser beams**

Dr. Manyalibo J. Matthews, Lawrence Livermore National Laboratory, USA

**17:00 COFFEE BREAK**

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**17:15 LAB-TOUR**

Laser polishing lab at Fraunhofer ILT

**18:15 Transfer to hotel**

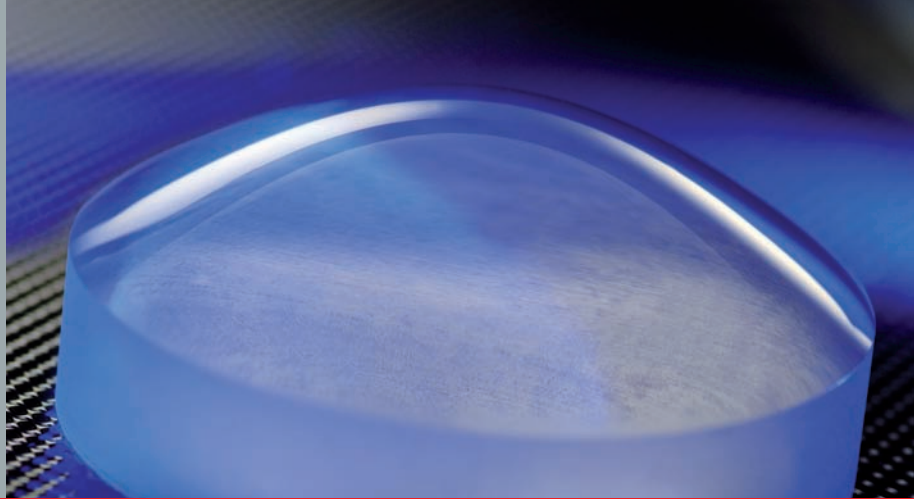
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**20:00 CONFERENCE DINNER AT RATSKELLER**

**23:00 End of first day**

# PROGRAM

MAY 7, 2014



**2<sup>ND</sup> DAY, WEDNESDAY, MAY 7, 2014**

**9.00**

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**SESSION III**

Chair: Dr. Kerstin Hecht

**Usefulness of CO<sub>2</sub> laser to remove scratches on large fused silica optics**

Dr. Philippe Cormont, Optical Fabrication Research Group, CEA CESTA, France

**Laser polishing and form correction of fused silica optics**

Sebastian Heidrich, Fraunhofer ILT, Germany

**Laser polishing: technological developments at National Research Council of Canada**

Dr. Evgueni Bordatchev, NRC of Canada, Canada

**10:30**

**COFFEE BREAK**

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**11:15**

**SESSION IV**

Chair: Dr. Evgueni Bordatchev

**A review of pulsed laser micro-polishing research at the University of Wisconsin-Madison**

Prof. Frank Pfefferkorn, Dept. of Mechanical Engineering, University of Wisconsin-Madison, USA

**Process- and material-induced surface structures during laser polishing**

Christian Nüsser, Fraunhofer ILT, Germany

**Laser polishing for topography management of accelerator cavity surfaces**

Prof. Michael Kelley, College of William & Mary and Thomas Jefferson National Accelerator Facility, USA

**12:45**

**LUNCH**

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**14:15**

**SESSION V**

Chair: Prof. Frank Pfefferkorn

**Laser polishing of aluminum with high energy laser pulses**

Prof. Harald Riegel, Laser Application Center, Aalen University, Germany

**Technology of laser polishing of titanium**

Dr. Victor Petrovskiy, National Nuclear Research University MEPhI, Russia

**Design surfaces by laser remelting**

Dr. André Temmler, Fraunhofer ILT, Germany

**Closing**

Dr. Edgar Willenborg, Fraunhofer ILT, Germany

**16:00**

**End of conference**

1<sup>st</sup> Conference on Laser Polishing – LaP 2014

# INFORMATIONS



## 1<sup>ST</sup> CONFERENCE ON LASER POLISHING - LaP 2014

### Registration

At the end of this invitation you will find the registration form. Please register before March 15, 2014. The conference fee is 250,- Euro payable on invoice by attendees as well as speakers.

### Conference venue

Fraunhofer Institute for Laser Technology ILT  
Steinbachstraße 15, 52074 Aachen, Germany  
Directions can be found at [www.ilt.fraunhofer.de/en/contact/direction.html](http://www.ilt.fraunhofer.de/en/contact/direction.html)

### Schedule

The conference starts on Tuesday May 6, 2014 at 12:00 h and will end on Wednesday May 7 at 16:00 h. On Tuesday evening a conference dinner is scheduled.

### Hotel recommendations

- Aquis Grana City Hotel \*\*\*\*  
Büchel 32 / Buchkremerstraße, 52062 Aachen  
Telefon: +49 241 4430  
E-mail: [reservations@hotel-aquisgrana.com](mailto:reservations@hotel-aquisgrana.com)
- Novotel Aachen City \*\*\*\*  
Peterstraße 66, 52062 Aachen  
Telefon: +49 241 5159-0  
E-mail: [h3557@accor.com](mailto:h3557@accor.com)
- Ibis Aachen Marschierter \*\*  
Friedland Straße 6-8, 52064 Aachen  
Telefon: +49 241 4788-0  
E-mail: [h0967@accor.com](mailto:h0967@accor.com)

# REGISTRATION



REGISTRATION DEADLINE: MARCH 15, 2014

## Registration form

1<sup>st</sup> Conference on Laser Polishing - LaP 2014

May 6 - 7, 2014, Aachen, Germany

Registration deadline: March 15, 2014

**Title** \_\_\_\_\_

**First Name** \_\_\_\_\_

**Surname** \_\_\_\_\_

**Company / Institute** \_\_\_\_\_

**E-mail** \_\_\_\_\_

**Telephone** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I hereby register for the 1<sup>st</sup> Conference on Laser Polishing. The conference fee including conference dinner is 250,- Euro payable on invoice by attendees as well as speakers. I agree on including my data in the participant register and on processing my data for the purpose of event organization.

I will also participate at the conference dinner, 20:00 h, Tuesday, May 6, 2014.

Yes     No

**Date / Signature** \_\_\_\_\_

## Please send the registration form to

Fraunhofer Institute for Laser Technology ILT, Dr. Edgar Willenborg

Steinbachstraße 15, 52074 Aachen, Germany

**Fax:** +49 241 8906-121

**E-mail:** edgar.willenborg@ilt.fraunhofer.de

## CONTACT

### **Organization**

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### **Conference contact**

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