

Community

Conference Notes

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Preview: LASER World of PHOTONICS 2015

Munich, Germany, June 22–25, 2015

LASER World of PHOTONICS, the international trade fair for the laser and photonics industry, has been held in Munich since 1973. Today, it is probably the biggest event related to the photonics industry and research in the world. Every 2 years, key players and decision makers come to Munich to meet at “the LASER”, as it is called. The fair gives participants from more than 70 countries a complete overview of all topics that pertain to optical technologies in 42 000 square meters of exhibition space within five halls.

In 2013, the trade fair set a new record in the number of exhibitors with 1130 exhibiting companies from 37 countries. At 54%, the share of foreign visitors among the nearly 27 000 industry professionals who attended the

fair was also record breaking. This year, there is reason to expect further growth of the fair.

A number of related events accompany the trade show, most notably the World of Photonics Congress, held from June 21 to 25 in the Congress Center right beside the fairgrounds. There, several German, European, and American societies host almost a dozen conferences and workshops that will be introduced below. Independently, the trade fair offers a comprehensive program of events on the fairgrounds, including three stages with full-day lecture and panel programs, several award ceremonies, and other events.

Getting around the trade show

The fair occupies five halls at the Munich fairgrounds. After arriving through the west entrance, visitors may register for the fair or the congress and then enter the fairgrounds. The fair is separated into several exhibition sectors, as follows:



The entrance “Messe West” is located near the metro station “Messestadt West” (Photograph: Messe München International).

- Hall A2: Imaging, sensors, test and measurement/optical measurement systems
- Halls A2 and A3: Laser systems for production engineering
- Hall B1: Optics/manufacturing technology for optics and optical information and communications
- Hall B2: Biophotonics and medical engineering
- Halls B2 and B3: Lasers and optoelectronics

Messe München International will offer wireless Internet access to visitors attending LASER World of PHOTONICS (connect to *messeWifi*). Bandwidth is up to 1.5 Mbit/s; reception quality and availability may vary. Download volume is limited to 50 MB per user per day.

Special shows on the automotive sector and 3D printing

This year, the fair will offer several special shows. At “**Photonics Applications in the Automotive Sector**” in Hall A3, well-known manufacturers will present the latest application scenarios in the automotive sector. Among other things, there will be an exhibition of the BMW i8, which is the first vehicle to be equipped with the completely new light technology, the laser light. For more information you may visit www.world-of-photonics.com/trade-fair/events/special-shows/special-show-automotive/.

The special show “**3D Printing – Additive Manufacturing**” in Hall A3, booth A3.541, will show the entire production chain, from digital data to customized or complex components, ready for series production and using light as a tool. For more information you may visit www.world-of-photonics.com/trade-fair/events/special-shows/special-show-additive-manufacturing/.

A third special show will be presented in Hall A2.524, entitled “**Photon in Production – Next Generation**”. It will include several live demonstrations, such as “Process acceleration by massless laser beam modulation” and “Laser structuring and joining.” You can find more information at www.world-of-photonics.com/trade-fair/events/special-shows/photons-in-production/.

The application panels

In its three forums, in Halls A2, A3, and B3, LASER World of PHOTONICS 2015 will present a lecture program and panel discussions at an international level. This is

somewhat surprising, as it competes on some points with the co-located congress, which requires a separate registration. The panels will allow applied scientists and industry representatives to report on the latest challenges and solution approaches when using optical technologies. The concrete application sectors will include diagnostics and medical technology, industrial manufacturing, measuring technology, and imaging as well as the latest developments in beam sources.

Each application panel will last 2.5 h and will be rounded out by a Speaker’s Corner, during which audience members can dialog with the speakers directly. In addition, there will be numerous industry presentations. The complete list, including all industry presentations, can be found at http://download.messe-muenchen.de/media_pub/mediacenter/evdb2/exports/laser2015/events_de.pdf.

Below you will find a list of session titles on the three stages (excluding company presentation sessions).

Optical Metrology and Imaging (HALL A2)

22 June	14:40–17:00	Contact-Free 3D Measurement Methods Ranging From Laser-Scanning to Imaging
23 June	10:00–12:20	High-Coherence Metrology From Long-Distance to Nanoscale Dimensions
23 June	14:40–17:00	Terahertz Spectroscopy and Inspection in Industrial Applications

Biophotonics and Medical Applications (Hall B3)

22 June	12:20–14:40	Laser Advanced New Methods for Diagnostics and Therapeutics
22 June	14:40–17:00	Laser Applications and Optical Diagnostics in Ophthalmology
23 June	10:00–12:20	Visions for Future Diagnostics – Infectious Diseases
23 June	12:20–14:40	Innovation and Trends for Laser Solutions in Life Sciences and Bioinstrumentation

Industrial Laser Applications (HALL A3)

22 June	14:40–17:00	Advanced Applications of Ultrashort Pulsed Laser Systems
23 June	10:00–12:20	3D-Printing: Laser-Based Additive Manufacturing for Production of Metal Parts
23 June	14:40–17:00	Ultrafast Laser Beam Deflection and Transportation
24 June	10:00–12:20	Lasers in Microelectronics: The Smart World Approaching
24 June	14:40–17:00	Increased Automotive Efficiency Enabled by Laser Technology
25 June	10:00–12:20	Laser Processing of Glass

Lasers and Optics (HALL B3)

23 June	14:40–17:00	Pico- and Femtosecond Lasers – Status and Prospects
24 June	10:00–12:20	CW (and Long-Pulse) Diode-Pumped Solid State Lasers and Fiber Lasers – Status and Prospects
24 June	14:40–17:00	High-Power Diode Lasers: Edge Emitters and Vertical Emitters – Status and Prospects

Ultrashort Pulse Lasers for High Precision Processing (HALL B3)

23 June	14:40–17:00	Ultrafast Laser Beam Deflection and Transportation
24 June	10:00–12:20	Lasers in Microelectronics: The Smart World Approaching
24 June	14:40–17:00	Increased Automotive Efficiency Enabled by Laser Technology
25 June	10:00–12:20	Laser Processing of Glass (Hall A3)

BMBF Research Alliance “Ultrashort Pulse Lasers for High Precision Processing” (Hall B3)

25 June	09:40–12:20	Laser Sources and Components
25 June	13:25–15:50	System Technologies and Applications

EU-Projects: Driving Innovation by Laser-Based Manufacturing to the Regions of Europe (Hall A2)

25 June	09:40–12:00	Advanced Manufacturing and Photonics for Production
25 June	12:00–15:00	FP7 and H2020 Projects

Awards and ceremonies

International Year of Light. UNESCO has named 2015 the International Year of Light. This topic will be the major theme at the opening of the fair and of the congress

in the Congress Center on Monday morning. Speakers will include Dr. Reinhard Pfeiffer, Deputy CEO, Messe München International; Flavia Schlegel, Assistant Director-General for Natural Sciences, UNESCO; Yanne K. Chembo, ERC Starting Grand Laureate, Centre national de la recherche scientifique (CNRS) Paris, African Physical Society; and Federico Capasso, Harvard University.

Newcomer Award, Green Photonics 2015. The Fraunhofer Society awards the annual “Nachwuchspreis Green Photonics” honor to young researchers from engineering, natural sciences, or economics for outstanding thesis work related to the sustainable use of light. This year’s award ceremony will be arranged by the Fraunhofer IOF. Prizes will be given in three categories: one for Bachelor’s, Master’s, and Diploma theses, one for dissertations, and a third devoted to students from the federal state of Thuringia.

Photo Exhibition, “Light in Science and Technology.” During the opening of the trade show, there will be a photo exhibition organized by OptecNet Deutschland, a national German optics network. The best piece will be recognized in a ceremony on June 23 at 11:00. The winner will receive a GoPro Action camera.

Photonics Awards, STARTUP WORLD. For the first time, LASER World of PHOTONICS will be offering its own marketplace for young up-and-coming companies. The new exhibition area, STARTUP WORLD, is being created in collaboration with Anwendungszentrum GmbH Oberpfaffenhofen (AZO). Another first-time event will be the PHOTONICS Award for outstanding product innovations of new companies in the photonics sector. Besides a general category including all aspects of the optical technologies sector, there is a dedicated prize category for 3D Printing/Additive Manufacturing. The PHOTONICS award recognizes technology startups worldwide that are no more than 5 years old and have at least a prototype of the submitted solution available. The finalists in each category will exhibit their solutions at STARTUP WORLD in Hall B3.

Event	Organizer	Date, Location, Link
“International Year of Light” – Opening of LASER World of PHOTONICS fair and congress	Messe München International, with contributions from UNESCO, National Science Foundation, International Year of Light Steering Committee	Monday, June 22, 09:00–10:45 h, Congress Center Hall 1 www.world-of-photonics.com/trade-fair/events/program-highlights/international-year-of-light/
Newcomer Award Green Photonics 2015	Fraunhofer IOF	Monday, June 22, 13:00–14:00 h, Forum Hall A2 www.greenphotonics.de/de/nachwuchspreis-green-photonics.html
Photo Contest “Light in Science and Technology”	OptecNet	Tuesday, June 23, 13:00–14:00, Forum Hall A2 www.optecnet.de/veranstaltungen/2015/juni/fotowettbewerb_2015/
Photonics Awards, Startup World	Anwendungszentrum GmbH Oberpfaffenhofen (AZO) LASER World of PHOTONICS	Wednesday, June 24, 10:30–12:00 h, Forum Hall A2 www.world-of-photonics.com/trade-fair/for-exhibitors/startup-world/

Last but not the least: do not miss the parties!

Usually, the weather is very nice in Munich at this time of the year, and many people reserve time for a Biergarten visit. Of course, the parties at the fairgrounds are worth a visit, too. On Monday evening, there will be the usual exhibitor reception. Last time, this was a traditional Bavarian evening and a big community meeting and networking opportunity. On Tuesday evening, there will be a number of booth parties, led by the already-legendary event of the local company TOPTICA Photonics AG (Booth B2/103). The conferences at the World of Photonics Congress also host several additional receptions.

The next LASER World of PHOTONICS is scheduled for May 2017. More information will be available at www.laser.de

Preview: World of Photonics Congress 2015

Munich, Germany, June 21–25, 2015

Every 2 years, the international scientific elite in photonics research meet at the World Photonics Congress in Munich. All aspects of research – from fundamental and application-based scientific topics to the latest laser and photonics applications in industry and medicine – are presented and discussed in scientific conferences and at a practice-oriented series of application panels. The World of Photonics Congress is traditionally held in conjunction with the international trade fair LASER World of PHOTONICS. All key players and decision makers come to Munich to meet at the most important marketplace for the photonics industry.

The 40th anniversary of the World of Photonics Congress in 2013 underscored its leading position in the photonics industry's global research community. Approximately 5000 participants gathered information at the six scientific conferences and practice-oriented events program, and more than 2500 lectures dealt with the findings of recent research projects pertaining to light-based technologies.

Five conferences and application panels covering all of photonics

To depict all aspects of optical technologies, the conferences at the World of Photonics Congress are oriented to

the research sector's close proximity to industry, on the one hand, and to photonics applications in the industrial and medical sectors, on the other. Five main conferences are complemented by a number of separate workshops and the application panels in the exhibition halls.

CLEO®/Europe-EQEC 2015. The European Conference on Lasers and Electro-Optics and the European Quantum Electronics Conference (CLEO®/Europe-EQEC) is the largest, most comprehensive, and most prestigious gathering of optics and photonics researchers and engineers in Europe. CLEO®/Europe will showcase the latest developments in a wide range of laser and photonics areas. EQEC, on the other hand, features the fundamentals of quantum optics. CLEO®/Europe-EQEC 2015 is organized by the European Physical Society (EPS), the Optical Society (OSA), and the IEEE Photonics Society. www.cleoeurope.org/

Lasers in Manufacturing (LiM) 2015. LiM focuses on the latest developments as well as future trends in the field of laser material processing, including process engineering, system technology, and process optimization. LiM is organized by the German Scientific Laser Society (WLT). www.wlt.de/lim/

EOS Topical Meetings. The topical meetings organized by the European Optical Society (EOS) focus on the latest trends in the development, manufacture, and testing of optical components and optofluidics and deal with optomechanical and light engineering. In 2015, they include the following conferences:

- EOS Conference on Light Engineering (EOSLE)
- EOS Conference on Optomechanical Engineering (EOSOME)
- 4th EOS Conference on Manufacturing and Testing of Optical Components (EOSMTOC)
- 3rd EOS Conference on Optofluidics (EOSOF)

www.myeos.org/events/

SPIE Optical Metrology. Optical Metrology focuses on the latest research in optical metrology, videometrics, and machine vision, with applications for solving measurement and inspection problems in industrial design and production engineering, vehicle navigation, multimedia technology, architecture, archaeology, and the arts. Optical Metrology is organized by SPIE Europe.

<http://spie.org/x6506.xml>

European Conferences on Biomedical Optics (ECBO). ECBO covers basic science, new technology, and applications in the fields of advanced microscopy, clinical and biomedical spectroscopy, diffuse optical imaging, molecular imaging, optical coherence tomography and other coherence techniques, therapeutic laser applications,

laser-tissue interactions, opto-acoustic methods, and other new biophotonic techniques. The 2015 conference is being organized by SPIE with the support of the OSA.

<http://spie.org/x6140.xml>

Application Panels. The application panels revolve around practical experiences in laser and photonics applications in medical technology and industrial manufacturing. The lectures will cover a wide range of topics and include information about new application sectors and the market potential of laser technology, such as machining lightweight components, additive manufacturing, and ophthalmology. The application panels have been developed by Messe München in close cooperation with the photonics industry and will occur during the forums at the LASER World of PHOTONICS trade fair. For more information, you may refer to the trade show information above.

Workshops and seminars

There will be a number of workshops at the congress and the fairgrounds. They will usually require a separate registration.

12th International Laser Marketplace – Laser Applications in Dialogue. The world's leading trade fair, LASER World of PHOTONICS, is traditionally accompanied by the International Laser Marketplace. Dr. Arnold Mayer (Optech Consulting, Taegerwilten, Switzerland) organizes this seminar, which will be held on June 24 from 13:00 to 17:00. The seminar will give an overview of the market for industrial lasers and their applications. The world's leading experts will present their views on the global marketplace and major regional markets and report on decisive technology trends and their market impact. The seminar typically attracts decision makers from across the laser industry as well as investors.

www.world-of-photonics.com/trade-fair/events/program-highlights/international-laser-marketplace/

How to Communicate High Tech to the Market: PR/Marketing Workshop for Scientists and Startups. This workshop gives hands-on advice regarding how to effectively present high-tech products and technologies to prospective markets. The Optical Society of America (OSA) will manage this first-time event. The presenters, Susanne Hellwage (Hellwage Wissenschaftskommunikation, Jena, Germany) and Andreas Thoß (THOSS Media GmbH, Berlin, Germany), are experienced professionals who will share their knowledge in this half-day workshop. The workshop starts with a small lunch on Wednesday, June 24, at 12:00 in Room B13.

www.osa.org/en-us/meetings/global_calendar/events/how_to_communicate_hightech_to_the_market_marketin/

Preview: 10th International Conference on Optics-Photonics Design and Fabrication, ODF '16

Weingarten, Germany, February 28–March 2, 2016

The 10th International Conference on Optics-Photonics Design and Fabrication (ODF) will be held on February 28 to March 2, 2016, at Hochschule Ravensburg-Weingarten, with optional activities on March 3 and 4 in Oberkochen and Jena. The conference is open for paper submissions until July 31, 2015.

Established in 1998 in Tokyo by the Optical Design Group of today's Optical Society of Japan (OSJ), ODF is an international biannual conference series on optics and photonics design and fabrication.

ODF '16 provides an international forum for original paper presentations and discussions of optics-photonics design and fabrication-related technological and scientific topics, including theory, design, fabrication, testing, and applications.

Weingarten: A 960-year academic tradition

Located in Germany's southwest state of Baden-Württemberg, Weingarten is approximately 20 km north of Lake Constance. It is also close to the borders of Switzerland and Austria and the scenic Alps Mountains. Thanks to its abbey, founded in 1056, Weingarten enjoys a scholastic tradition going back almost 1000 years. Today, this academic spirit is continued by the University of Education of Weingarten and the University of Applied Sciences of Ravensburg-Weingarten, which will host the conference on their historic campuses. In addition, there will be short courses near Lake Constance on February 28.

Events at Carl Zeiss (Oberkochen) and Fraunhofer IOF-(Jena)

In conjunction with the conference, special sessions, visits, and symposia will be offered at some of Germany's most outstanding addresses in optics. On March 3, we will visit Carl Zeiss in Oberkochen, and on March 4, we will

see Fraunhofer IOF's research labs in Jena. Two special events are planned for the evenings: One German dinner reception comes with traditional brass music and original Swabian (schwäbisch) food. Another event will feature an organ concert with classical music, presented on an original Baroque organ of 1737.

Scope of the conference

ODF '16 is an international forum for engineers and scientists in the field of design and fabrication of optical and photonic components to exchange their ideas and achievements with the goal of future mutual progress. The conference covers the following major categories:

Category 1. Optical Design/Simulation (Lens Design, Illumination Simulation, Non-Imaging Optics, Lens Design Theory, Fabrication and Testing, Simulation Software)

Category 2. Optical Components/Devices (Diffractive Optics and Holography, Thin Films, Fiber Optics, Integrated Optoelectronics, Optical Waveguide, Active Optical Components, Optical MEMS, Illumination Optical Components, Polarization Optics, Photonic Crystals, Lasers and Laser Optics, Detectors)

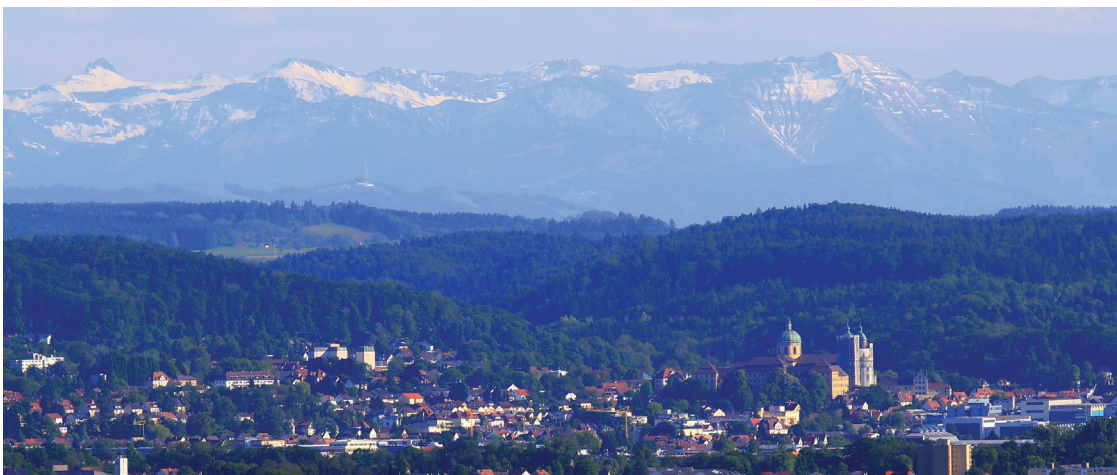
Category 3. Optical Systems (Illumination Optics, Information Optics, Optical Data Storage, Optical Lithography, Microscopy, Displays, Biomedical Optics, Measurement and Sensing, Cameras)

Category 4. New Technologies (Nonlinear Optics, Ultrafast Optics, Metamaterials, Plasmonics, Near-Field Optics, Quantum Optics, Other Future Science and Technology Available to Optics Design and Fabrication)

Special Session "Active Optical Components and Systems"

Partner organizations

ODF '16 is sponsored by the German Society of Applied Optics (DGaO), European Optical Society (EOS), The Japan Society of Applied Physics (JSAP), and The 179th Committee on Photonics Information Systems, Japan Society for the Promotion of Science (JSPS). Further cooperation partners are the International Commission for Optics (ICO), Chinese Optical Society (COS), The International Society for Optical Engineering (SPIE), Taiwan Photonics Society, The Optical Society (OSA), and the Optical Society of Korea (OSK).
www.odf16.de/



Conference location Weingarten with the snow-covered Alps in the background (Copyright: City of Weingarten).