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Community

# Conference Notes

## Review: ODF'14

Itabashi, Tokyo, Japan, February 12–14, 2014

ODF (International Conference on Optics-Photonics Design and Fabrication) is an international forum for engineers and scientists in the field of Optics-Photonics Design and Fabrication to exchange their ideas and achievements with the goal of future mutual progress. This forum has been organized by The Optics Design Group (ODG) of the Optical Society of Japan (OSJ; An affiliate of the Japan Society of Applied Physics) biannually since 1998.

ODG was founded by volunteers from optics companies and universities in Japan as one of the research group of the OSJ in July 1993, for the purpose of increasing interfaces among researchers and contributing to the advancement of R&D in the field of optical science and technology. Five years after its foundation, ODF'98 (the first international conference on Optics Design and Fabrication) was held in Tokyo as a satellite workshop of IODC'98 (International Optics Design Conference) held in Hawaii. Since then, ODF 2000 Tokyo, ODF 2002 Tokyo, ODF'06 Nara, ODF'08 Taipei, ODF'10 Yokohama, and ODF'12 St. Petersburg concluded successfully with the kind support of ODF fans all over the world.

This year, the 9th ODF'14 was held on February 12–14th, 2014 at Itabashi Culture Hall, Tokyo, Japan.

At the opening session, Mr. Takeshi Sakamoto, the mayor of Itabashi City, gave us opening remarks. Itabashi City is one of the leading industrial wards in Tokyo. In particular, the optical industry has played a large part in the history of its development. At its peak in the 1960s, 70% of the optical products exported from Japan came from Itabashi.

The conference covered the following major topical 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

A special session on 'Active optical components and systems' was also held this time in addition to regular sessions.

On the first day of ODF'14, an MOU signing ceremony between the European Optical Society (EOS) and the Japan Society of Applied Physics was held for mutual collaboration. On the second day, a business meeting between Taiwan Optics/Optronics Manufacturers' Association (TOOMA) and Japanese optical companies was held in order to discuss future business opportunities.

The total number of participants was 336 with a strong attendance from Japan (154), Taiwan (105), and 15 other countries. The total number of papers was 206, including three plenary talks, 23 invited speakers, 37 oral, and 143 posters including 26 post-deadline papers.

The number of country-specific papers of ODF'14 is shown in Figure 1. Thanks to the great success of ODF'08 Taipei, many papers were contributed from Taiwan.

Itabashi City strongly supported ODF'14. Itabashi City held many 'Omotenashi' events: Satokagura 'Japanese traditional performing arts', Matsuri-bayashi and shishimai 'Japanese traditional performing arts', experience program 'Tea ceremony', and 'Ikebana' (Japanese flower arrangement). 'Omotenashi' is the heart of Japanese hospitality. All participants enjoyed these events in addition to technical sessions (Figure 2).

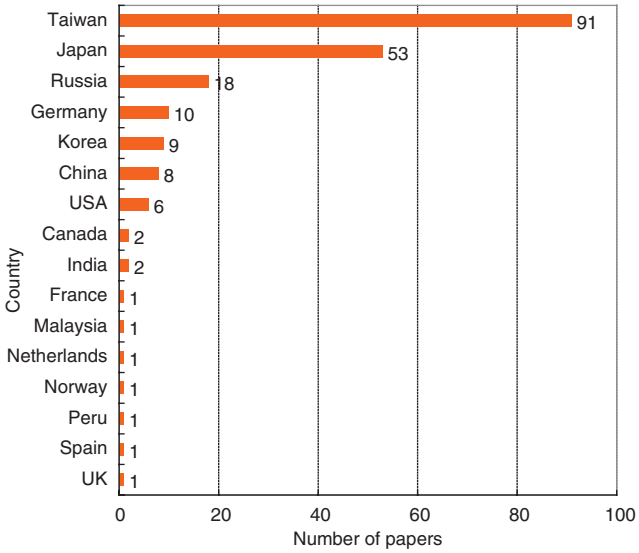


**Figure 1** Country-specific papers of ODF'14.

## ODF'16 in Germany

The next ODF'16 conference will be held in Weingarten, Germany. At the closing ceremony of ODF'14, Prof. Michael Pfeffer, Vice-Rector of Research and International relations, Ravensburg-Weingarten University of Applied Sciences, presented the plan for ODF'16. We believe it will attract more prople worldwide and have many fruitful results to be shared in ODF'16 Weingarten, Germany.

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http://www.odf.jp/

# Preview: International Laser Technology Congress AKL'14

Aachen, Germany, May 7–9, 2014

From May 7 to 9, 2014, the laser community is meeting at the International Laser Technology Congress AKL'14 for the 10th time in Aachen. For every target group – be it laser manufacturers, users or beginners – around 60 lecturers will bring together innovative applications from industry and latest research results from science. Furthermore, at the Fraunhofer Institute for Laser Technology ILT, participants can experience laser technology live.

Over 600 participants from Germany and abroad are expected at the 10th International Laser Technology Congress AKL'14 at the Eurogress in Aachen. In three parallel sessions, the proven main program of the AKL will encompass the latest laser manufacturing processes for micro and macro applications – from cutting and welding via microjoining and process control all the way to polishing and thin film processes – as well as innovative developments in the field of laser beam sources.


**Figure 2** Commemorative photo of ODF'14 Itabashi, Tokyo.

Two of the most important topics are digital photonic production and ultrashort pulse lasers. For instance, pioneer users in 3D printing processes will report on their first experiences using these technologies – for the manufacture of complex metallic components in small lot sizes. Among the speakers are experts from GE, EOS, Festo, BMW, MTU Aero Engines, and Fraunhofer ILT. Many workshops and special courses will be held in conjunction with the AKL'14 symposium. For example, on May 7, the EU Innovation Forum 'Laser Additive Manufacturing in Aeronautics' will be offering experts from the aviation industry and energy branch the opportunity to systematically exchange information, especially in the field of laser additive manufacturing.

## Hot topic: ultrashort pulse laser

Ultrashort pulse (USP) lasers are increasingly making their way into the industrial environment. In three different sessions at the symposium on May 8 and 9, 2014, under the label 'Ultrashort Pulse Laser Essentials', experts from the companies TRUMPF, Rofin-Sinar, Coherent, Manz, EdgeWave, and AMPHOS will present the newest industrial developments in beam sources and their applications. In this way the participants will receive valuable inspiration on the economic use of laser technology in the automobile or aviation industry, electrical engineering or energy management, in microtechnology, or in mechanical engineering.

## Special events for beginners and decision makers

Owing to great demand, a Laser Technology ABC seminar for 'laser novices' will again be offered. On May 7, 2014, experts will offer companies with little experience in laser technology a structured, praxis-oriented overview of the advantages lasers can offer them.

In parallel, the Technology Business Day'14 will give managing directors, marketing managers, as well as sales directors an overview of the laser markets worldwide and sector-specific insight for the use of laser technology in the manufacturing industry.

## Experience laser technology live

On Thursday, May 8, from 17:00 to 19:30 at the event 'Laser Technology Live', participants of the AKL'14 will be able to exchange ideas intensively on the latest technological developments in the Application Center of the Fraunhofer ILT (Figure 3). The laser plant facilities of the Fraunhofer ILT sets international standards. Researchers of the Fraunhofer ILT as well as those from the Chair of the RWTH Aachen University will present the current results of their R&D activities in live demonstrations. In these surroundings, visitors can talk in detail with the experts. Over 70 live demonstrations will be offered on the following topics: lasers, laser optics and optics design, joining and cutting processes, fine processing and microtechnology, drilling and ablating, functional surfaces

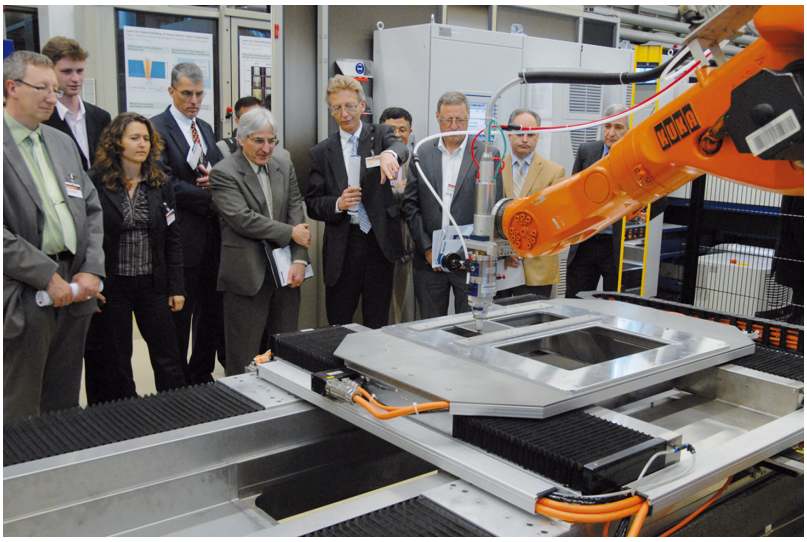

**Figure 3** Live Presentations at 'LaserTechnology Live' in the Application Center of the Fraunhofer ILT during the AKL'12 (Photo: Fraunhofer ILT, Aachen).

and coatings, additive manufacturing, laser applications in biotechnology and medicine, laser measurement technology, systems engineering, as well as simulations.

### Innovation Award Laser Technology 2014

On the evening of May 7, 2014, the Arbeitskreis Lasertechnik e.V. and the European Laser Institute ELI will award the 'Innovation Award Laser Technology' for excellent innovations in the development and application of lasers in production technology. The award is endowed with €10,000. The European research prize is directed at applicants from the European industry as well as European universities or R&D centers.

The International Laser Technology Congress AKL'14 is organized by the Fraunhofer Institute for Laser Technology ILT. The European Commission, the European Photonics Industry Consortium EPIC, the Arbeitskreis Lasertechnik e.V., the European Laser Institute ELI as well as the industry associations SPECTARIS, VDA, VDMA, and VDI all assist the forum as supporting organizations.

www.lasercongress.org

## Preview: SLT Stuttgart Laser Technology Forum SLT'14

Stuttgart, Germany, June 24–25, 2014

Highlights and innovations in the field of industrial laser-based manufacturing will bring together experts and users at the eighth Stuttgart Laser Technology Forum (SLT) from June 24 to 25, 2014. The SLT is organized by the IFSW (Institut für Strahlwerkzeuge, Universität Stuttgart) and takes place in conjunction with the International Trade Fair for Laser Material Processing (LASYS) at the Trade Fair Centre Stuttgart (Airport).

The Stuttgart Laser Technology Forum, which takes place on a biannual cycle is aimed at knowledge transfer and is recognized as an essential international user forum of the laser branch. The presentations are held in English and German, with simultaneous translation for the German talks.

### Focused on laser material processing

The core topics of the SLT'14 will cover micro- and macro-processing together with the required laser sources and beam delivery systems. Emphasis will be on welding of dissimilar materials and the appropriate X-ray diagnostics as well as processing of transparent materials. Correspondingly, the latest results in the fields of ultrafast lasers as well as ultrafast scanners and beam shaping optics will be presented.

On Tuesday, June 24, the program highlights include sessions on Laser Welding, High Peak Power Lasers, and Energy Scaling of Ultrafast Lasers. This day concludes with a reception and laboratory visits at the IFSW.

The program of the second day focuses on processing of special materials such as CFRP or glass and plastics. A full session is devoted to the hot topic of Ultrafast Scanners.

The relaxed timetable, together with the agreeable venue, provides the perfect frame for successful networking. The conference center is adjacent to the LASYS trade fair.

### LASYS: international trade fair for laser material processing

Laser systems for material processing will once again be the focal point of LASYS 2014, which will be held at the Stuttgart Trade Fair Centre from June 24 to 26, 2014. The last LASYS counted 5,293 visitors mostly from industry. In the summer of 2013, already more than 70 exhibitors had already registered for the international trade fair. They will present innovations in the fields of separating, joining, marking, labeling, changing of material properties, coating, casting, reshaping, and hybrid processes. Special attention will be paid to the new topics of laser additive manufacturing and robotics and automation.

The robot is an important tool for efficient, fast, and economical use of laser material systems. It is the ideal partner for the noncontact and wear-free laser. The 'Robotics and Automation Area' at LASYS will feature solutions for automation of lasers using industrial robots.

Other attractive trade fairs will take place at the same time as LASYS 2014: the UKIP automotive trade fairs Engine Expo, Vehicle Dynamics Expo, Global Automotive Components and Suppliers Expo, Automotive Testing Expo and Automotive Interiors Expo. O&S, international trade fair for surface treatments and coatings, and parts2clean, leading international trade fair for industrial parts and surface cleaning, will also run in parallel with LASYS 2014.

## Stuttgart Laser Marketplace ‘14

On June 25, 2014, a seminar on markets and trends regarding laser material processing will be held at Room C 6.2 from 13:30 to 16:30 at the International Congress Centre (ICS).

It will focus on global markets for industrial lasers and systems, status, and the trend of laser applications and technologies as well as macro and microprocessing.

The seminar will be organized by Optech Consulting in conjunction with Messe Stuttgart and Institut für Strahlwerkzeuge (IFSW), University of Stuttgart. This event will require separate registration. You will find details for registration and the program at www.optech-consulting.com/html/stuttgart-laser-marketplace-14.html.

www.slt.uni-stuttgart.de/