

Community

News

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Review: Annual Meeting DGaO 2018

Aalen, Germany, 22–26 May, 2018

The German Society for Applied Optics was founded in 1923 and convened for its 119th Annual Meeting in Aalen. The DGaO is the society for the German optics community. While the latter is hard to define it centers around optical designers from industry and academia. A regular exchange between industry and academia is a traditional aim of the society. Therefore, the presentations at the conference were a healthy mix between the latest news from the optics industry and recent findings from academic research from universities and institutions of the Fraunhofer and the Max-Planck Societies.

The topics of the presentations were wide ranging; starting with a session on ‘Additive manufacturing in optics’ the program went through medical technologies, optical design, measurement technologies up to lighting and illumination techniques.



Prof. Dr. sc. nat. Michael Kaschke, President and CEO of the ZEISS Group.

The Fraunhofer Lecture by Professor Dr. Michael Kaschke

Bringing together the best from academic research and industrial engineering for advanced optical technologies is the spirit of Joseph Fraunhofer. The Carl Zeiss group has followed this principle for more than a century. And so it was an outstanding event when the current president of the Carl Zeiss group presented the Fraunhofer Lecture at a festive banquet at the Zeiss headquarters in Oberkochen.

Michael Kaschke became a Member of the Executive Board of the ZEISS Group in 2000, and has served as President and CEO since 2011. During the critical times from 2008 to 2010 he also served as President and CEO of Carl Zeiss Meditec AG. Today he oversees Strategy & Corporate Development, Brand & Communications, Legal & Compliance and Human Resources. In addition, he is responsible for the Asia Pacific sales region. If that was not enough he also took over a professorship at the Karlsruhe Institute of Technology. He gives regular lectures on optical medical technology and on innovation and business development management.

Looking back, he was a major driver in the change of Carl Zeiss from a crisis shaken technology giant in the late 1990s towards a highly profitable group of rather diverse high-tech companies.

In his Fraunhofer lecture he presented his views on the technological developments in the field of photonics beyond 2020. He sees the marriage of optical and semiconductor technologies, particularly in the field of sensing as a major trend. Furthermore he expects big data to become a relevant topic in photonics. Using an example from electron microscopy he showed how microscopy systems are already sold with extensive software solutions for the processing of huge image data.

He was rather critical about virtual and augmented reality. Zeiss is currently working on the fourth generation of its virtual reality (VR) goggles. The success of the previous generations was not as expected. It will need real world visual experiences to convince larger customer groups, as Kaschke pointed out.

Last but not least, he believes in quantum technologies. As like many others he expects quantum sensing applications to succeed before the quantum communication and encryption solutions.

The 120th Annual Meeting of German Society for Applied Optics will take place in Darmstadt from the 11th to the 15th of June 2019.

Review: SLT'18 and LASYS

Stuttgart, Germany, 5–7 June, 2018

Laser sources have been developed to a high level of maturity and hence, new concepts are rare. But one new concept was presented by Thomas Graf at the recent Stuttgart Laser Technology Forum SLT2018. He is the director of the Institut für Strahlwerkzeuge (IFSW) of the University of Stuttgart, which organizes this conference every 2 years in co-location with LASYS (June 5–7), the international trade show for industrial laser technology in Stuttgart, Germany.

Graf analyzed the structure of modern ultrashort pulsed (USP; aka ultrafast) laser systems in the kW-class and came to a surprising conclusion: It would be fairly easy to replace the pulsed seed laser with a continuous wave (CW) laser and let the system make kW CW radiation. With little or no extra cost, this system could produce CW, pulsed or ultrashort pulsed radiation.

This is quite an interesting idea. While other systems such as diode lasers deserve an extra tutorial to understand their many options, USP lasers could become simpler. Although the idea was presented for disk laser amplifiers, one might think about other geometries as well. The concept did not show obvious limitations for other options like frequency conversion. So Graf envisions the future of this laser system as one box to serve many different applications.

The other presentations at the 2-day convention mainly dealt with upscaling USP and CW lasers toward the kW region and what this means for the process technology. Graf also mentioned a topical issue on 'Ultrafast laser matter interaction' in *Advanced Optical Technologies* that he and his Swiss colleague Beat Neuenschwander edited recently. Several authors discussed the conditions for the proper application of kW USP radiation in this issue of the journal. The problem here is a rising thermal load: The so-called 'cold ablation' is not cold anymore at high powers, but with some rules and considerations the problem can be managed.

LASYS and its siblings

The SLT Congress was held at the Congress Center of Messe, Stuttgart, near the LASYS International Trade

Fair for Laser Material Processing. With 189 exhibitors (2016: 181 exhibitors) from over 20 countries, LASYS has grown a bit. The organizers added several parallel events to add critical mass and to offer more value for the visitors.

In one hall was the 'Autonomous Vehicle Technology World Expo 2018', which itself came as part of a group of automotive events (Engine Expo, Automotive Interiors Expo, Automotive Testing Expo, Global Automotive Components and Suppliers Expo). While the autonomous Vehicle Expo listed 85 exhibitors, the organizer claimed to have 800 companies from the automotive sector in all at these events.

Another first was CastForge, a new trade show for the casting and forging sector with more than 150 exhibitors. Last but not least, the rebranded SurfaceTechnology Germany with more than 300 exhibitors offered a broad spectrum on related technologies.

LASYS itself is a biannual meeting for industrial laser technology, held in even years; while the larger LASER World of Photonics is held in even years in Munich. The mood at this year's LASYS was good, with most companies talking about recent record results and the growing problem of how to attract qualified staff.

Laser Market Review: Boom boom boom!

SLT and LASYS are traditional places to show some consolidated numbers for last year's progress in the economic development of the laser business. The first presentation came from Gerhard Hein, Director of the Working Committee for Lasers and Laser Systems for Material Processing inside the VDMA, the German Mechanical Engineering Industry Association. 'Despite initial warnings on the stock markets, the robust German economy continues unabated', he said summarizing the situation.

More detailed numbers on the global situation came from Dr. Arnold Mayer, Optech Consulting (Taegerwilten, Switzerland). He gave his only Laser Marketplace Seminar in Stuttgart this year. When he compared the forecast numbers for 2017 with the actual results it became obvious that even high expectations were exceeded.

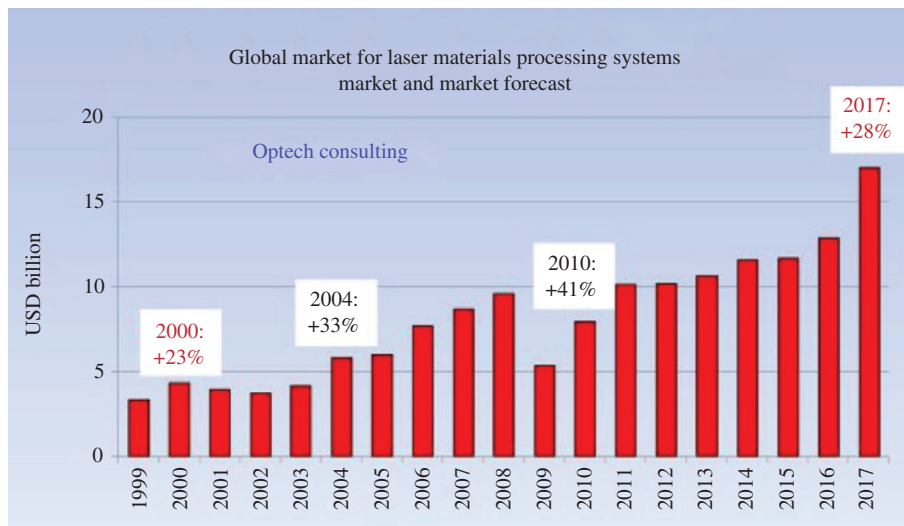
The global market for laser systems for materials processing grew 40% in China and other countries came in with +20% on average! The total market growth was 28%, based on the US dollar.

His numbers also confirmed China as the most important market for laser technology. China now consumes 30% of all laser material processing systems. The major

driver for this development is not only the consumer electronics industry, but the adoption of laser technologies by the manufacturing industry as a whole.

When asked about the most astounding developments in 2017, Mayer said that this is actually the growth in high power cutting and welding – it is this bread and butter business that makes the largest contribution among the applications. CO₂ lasers for EUV and excimer lasers have grown massively, but only for the benefit of the two companies that dominate these markets.

What about the future? After a cumulative growth of 8.1% from 1999 to 2016, and of 9.1% if 2017 is included, Arnold Mayer assumes 7% growth in the market for laser materials processing systems until 2025. However, he cautions that, after 8 years of continuous growth, there might be an impact from the macro-economic cycles coming soon. Or not? At the recent INTECH fair at Trumpf (Ditzingen, Germany), they expected another year with double-digit growth. So the climate for the laser market remains excellent for the foreseeable future.



(A modified version of this text has been published with Laser Focus World).

The impressive growth of the global market for industrial laser systems in 2017 is compared with other recent heights. (Credit: Dr. Arnold Mayer, Optech Consulting).

Community

Conference Calendar

July

OSA Advanced Photonics Congress

Zürich, Switzerland

2–5 July 2018

www.osa.org/Meetings/OSA_Meetings/Advanced_Photonics_Congress**XXI International Conference on Ultrafast Phenomena**

Hamburg, Germany

15–20 July 2018

www.osa.org/en-us/meetings/global_calendar/events/xxi_international_conference_on_ultrafast_phenomena/**CLEO Pacific Rim Conference**

Hong Kong, China

29 July–3 August 2018

www.osa.org/en-us/meetings/topical_meetings/cleo_pacific_rim_conference/

August

SPIE Optics + Photonics

San Diego, CA, USA

19–23 August 2018

Exhibition: 21–23 August 2018

<http://spie.org/op>

September

LANE 2018–10th Conference on Photonic Technologies

Fürth, Germany

03–06 September 2018

www.lane-conference.org**SPIE Security + Defence****Remote Sensing**

Berlin, Germany

10–13 September 2018

Exhibition: 11–12 September 2018

<http://spie.org/sd>**FiO/LASER Science: 102nd OSA Annual Meeting**

Washington, DC, USA

16 Sep 2018–20 Sep 2018

www.frontiersinoptics.com/home/**SPIE Photomask Technology + EUV Lithography**

Monterey, CA, USA

17–20 September 2018

Exhibition: 18–19 September 2018

<http://spie.org/x126645.xml>**Photonics Days**

Jena, Germany

17–20 September 2018

www.iof.fraunhofer.de/de/veranstaltungen/PhotonicsDays.html**ECOC European Conference on Optical Communications**

Rome, Italy

23–27 September 2016

www.ecoc2018.org**IEEE Photonics Conference**

Reston, VA, USA

30 September–4 October

<https://ieeepc.org/>

October

European Optical Society Biennial Meeting (EOSAM) 2018

Delft, Netherlands

8–12 October 2018

www.myeos.org/events/eosam2018**Photonics Asia**

Beijing, China

11–13 October

<http://spie.org/x127644.xml>**Photonic Days Berlin Brandenburg**

Berlin, Germany

17–18 October 2018

www.optik-bb.de/de/veranstaltungen/photonic-days-berlin-brandenburg-2018**glasstec**

Düsseldorf, Germany

23–26 October 2018

www.glasstec.de

November

Advanced Solid State Lasers Conference**Laser Application Conference**

Boston, MA, USA

4–8 Nov 2018

www.osa.org/Meetings/Global_Calendar/Events/Advanced_Solid_State_Lasers_Conference**VISION**

Stuttgart, Germany

06–08 November 2018

www.messe-stuttgart.de/vision/en/

Optics and Photonics for Energy & the Environment

Sentosa Island, Singapore
5–8 November 2018
www.osa.org/Meetings/Global_Calendar/Events/Optics_and_Photonics_for_Energy_the_Environment

2019**SPIE Photonics West**

San Francisco, CA, USA
2–7 February 2019
Exhibition: 5–7 February 2019
<http://spie.org/pw>

SPIE Advanced Lithography

San Jose, CA, USA
24–28 February 2019
<https://spie.org/advanced-lithography>

OFC

San Diego, CA, USA
3–7 March, 2019
www.ofcconference.org

5. UKP-Workshop

Aachen, Germany
10–11 April 2019
www.ultrakurzpuhlaser.de

OSA Biophotonics Congress: Optics in the Life Sciences

Tucson, AR, USA
15–17 April 2019
www.osa.org/Meetings/OSA_Meetings/OSA_Biophotonics_Congress

CLEO

San Jose, CA, USA
5–10 May 2019
www.cleoconference.org

Optical Interference Coatings

Santa Ana Pueblo, NM, USA
2–7 June 2019
www.osa.org/Meetings/Topical_Meetings/Optical_Interference_Coatings

120. Annual Meeting DGaO

Darmstadt, Germany
13–16 June 2019
www.dgao.de/de/jahrestagung

LASER World of Photonics

Munich, Germany
24–27 June 2019
www.laser.de

World of Photonics Congress**European Conferences on Biomedical Optics (ECBO)**

Lasers in Manufacturing (LiM)
EOS Optical Technologies
Imaging and Applied Optics (OSA)
Digital Optical Technologies (SPIE)
Optical Metrology (SPIE)
CLEO/EQEC Europe
Munich, Germany
23–27 June 2019
www.photonics-congress.com

July**Laser Applications Conference**

Vienna, Austria
29 September–03 October 2019
www.osa.org/en-us/meetings/global_calendar/events/laser_applications_conference/

Advanced Solid State Lasers Conference

Vienna, Austria
29 September–03 October 2019
[www.osa.org/Meetings/Global_Calendar/Events/Advanced_Solid_State_Lasers_Conference_\(1\)](http://www.osa.org/Meetings/Global_Calendar/Events/Advanced_Solid_State_Lasers_Conference_(1))

Frontiers in Optics: the 103rd OSA Annual Meeting and Exhibit/Laser Science Conference

Washington, DC, USA
13–17 Oct 2019
www.osa.org/Meetings/Global_Calendar/Events/Frontiers_in_Optics_the_103rd_OSA_Annual_Meeting

SPIE Optifab

Rochester, NY, USA
14–17 October 2019
[https://spie.org/conferences-and-exhibitions/optifab](http://spie.org/conferences-and-exhibitions/optifab)

Community

News from the European Optical Society EOS

EOS BOARD ELECTIONS 2018

Voting period: 15 June–15 August, 2018

This year (2018) is an election year for the EOS Board and there are four seats to be filled. We invite all EOS members to vote on the election. The election will be held during 15 June–15 August, 2018 and there are 10 candidates. Each EOS member is entitled to vote for up to four candidates for the Board. We urge you to take advantage of this opportunity. Each EOS member should have received an email with a personalized link to vote from the Opavote voting system. The vote can only be cast once.

Candidates for the EOS Board election

Mario Bertolotti (IT), looking for second election

Joakim Bood (SE)

Manuel Filipe P. C. Martins Costa (PT)

Jürgen Czarske (DE)

Frederic Gardes (UK)

Jan Massajada (PL)

Gilles Pauliat (FR)

Michael Pfeffer (DE)

Marcel Poulain (FR)

Matthieu Roussey (FI)

The candidate profiles can be found online: <http://www.myeos.org/boardelection2018>

Contact details:

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EOS Fellow nominations

The Fellow nominations are open until August 1, 2018. The nomination form and further instructions can be found online at <http://www.myeos.org/members/fellows>

Any member of the Society may nominate up to three other members for the distinction of EOS Fellow. In addition to the completed nomination form, two letters of support and a short (up to 5 pages) biography/CV of the nominee must be received by the EOS by the closing date, August 1, 2018.

The Fellows will be honoured with the official diplomas at the Annual General Assembly in Delft, The Netherlands, in collocation with EOSAM2018 symposium, during October 8–12, 2018.

EOS Biennial Meeting (EOSAM) 2018

Delft, The Netherlands, 8–12 October, 2018

EOSAM is the flagship event of the EOS where the latest results in optics and photonics research will be presented. The meeting will take place at the Delft University of Technology, from October 08 to 12, 2018. The meeting includes several topical meetings, tutorials, the Autumn Physics School on Metrology for Thin Film Materials, industrial exhibition, special sessions on EU Projects' result dissemination and Grand Challenges of Photonics, and more. The expected attendance is 400–450 attendees.

Industrial attendees are asked to book their exhibition space soon. The 2-day industrial exhibition will be held alongside the conference program during the week, on Wednesday 10th and Thursday 11th of October. Companies are invited to present their products and know-how at the exhibition, and also take part in the 'Meet and Greet' planned to introduce companies to future employees. Companies are also encouraged to send industrial posters to Topical Meeting (TOM) 3 on Optical System Design, Tolerancing and Manufacturing.

More information announced on the event website: www.myeos.org/events/eosam2018



The EOSAM 2018 takes place in the Dutch city of Delft.