

## Community

# Conference Notes

## Review: Annual Meeting of the European Optical Society EOSAM 14

Berlin, Germany, September 15–19, 2014

It was only 2 years ago that the European Optical Society held its last general assembly in Aberdeen, but much has changed since then. The management changed, and the office of the society moved from Hannover (Germany) to Joensuu (Finland) where the new Executive Director Jyrki Saarinen oversaw the change (Adv. Opt. Technol. 2, 277, 2013).

This year's conference in Berlin attracted more than 450 participants from all over Europe and the rest of the world. More than 370 scientific presentations were given in the historical buildings of the former German Air Force research institution. Today, Adlershof is a busy hot spot of academic research and high-tech companies. Just a few years ago, the Humboldt University built a campus there with six institutes, which added to the 10 research institutions that were reestablished there in the 1990s. About 1000 small- and medium-sized companies in the area employ more than 15 000 people today, mostly related to the research that is done in Adlershof.



The panel discussion was moderated by Carlos Lee (EPIC) at the entrepreneurship evening with (l.t.r.) Milton Chang (CEO and serial entrepreneur, Incubic), Wolfgang Gries (CEO and Founder, DirectPhotonic), Thomas Laurent (CTO and Founder, Eagleyard), Björn Wedel (CEO and Founder, PT Photonic Tools), and Andreas Nitze (CEO, Berliner Glas).

The program of the 5-day conference included a number of different events:

- Summerschool (Monday)
- Photonics Entrepreneurship Day (Monday)
- Main conference (Tuesday – Friday)
- General Assembly (Wednesday)

### Entrepreneurship evening with Milton Chang

Monday evening was reserved for those who have started a company or plan to do so. Organized by the local Berlin Brandenburg Photonics Cluster and the European Photonics Industry Consortium EPIC, several experienced entrepreneurs exchanged their views on starting a company in a panel discussion. For this panel, several local entrepreneurs were delighted to welcome the photonics startup legend Milton Chang in their midst. In his short presentation, he provided some thoughtful insights on his experience as a serial founder of companies. To quote some of his insights: ‘A modest success is better than a spectacular flop’, and ‘Venture capitalists do no venture. They only invest if they totally understand risk and reward’.

Looking at future opportunities in photonics, he recommended to think photonics as a service. Although he was very successful with components selling, he sees more promising business opportunities in photonics applications than in photonics components today.

### Main conference: new options in research funding arising

The main conference started with a presentation from Ronan Burgess, Deputy Head of the Photonics Unit at the European Commission. He took us on a high-speed journey through the European funding programs for photonics research and business. Most remarkable within the multitude of opportunities was the remark that in the future, more regional funding (formerly known as EFRE etc.) would be available for photonics support as well. Those funding programs are much bigger than the ‘conventional’ research funding programs.

The conference program was divided into 11 different tracks (TOMs) ranging from guided-wave optics to diffractive optics. Most prominent were the sessions on optical design, which became a meeting of the global optics designer community. Among the many outstanding presentations in this topic, the talk on ‘Engineering design for consumer products’ from Anurag Gupta (formerly Google Xlabs) was excellent. With large-scale consumer optics,

the quality (i.e., tolerancing) requirements provide new challenges to the designer. The solutions are derived from the electronics manufacturing where largest lots are common practice.

### When optics designers meet movie makers

A truly unique highlight of the conference was the session on cinematographic optics (TOM 6). The organizers established a list of speakers from both worlds: optical design and film makers. The highlight of this topic was certainly the Friday afternoon session in the arthouse cinema ARSENAL under the Sony Center at Berlin’s famous Potsdamer Platz. The cinema gave us the unique option to see 2K and 4K films from a purely technical perspective. While the display industry is certainly thrilled by the opportunities 4K delivers, a film maker described it as a ‘technology film makers didn’t ask for’. Nevertheless, some breathtaking pictures as well as purely technical aspects such as lens pulling or optimal viewing position in film theaters caught the mutual attention of the attendees from both worlds.

Another highlight was the session ‘Grand challenges in optics’, which was held for the fourth time. Here, some world-class speakers gave insights on topics such as ‘The mechanical properties of light’ (Tobias Kippenberg, EPFL Lausanne), ‘Attosecond nanophysics’ (Matthias Kling, LMU München) and ‘Negative optical forces’ (Aristide Dogariu, UCF Orlando). The session ended with Markus Weber (ZEISS) who spoke from his industrial perspective on ‘Challenges and opportunities for photonics’.

### General Assembly: the relationship between EOS and AOT renewed

The General Assembly of the society takes place every second year. It is the event to present the fellow ceremony, the report from the president, and an opportunity to highlight changes in the supporting and board positions.

The most important were the changes at the top: Seppo Honkanen took over as the new president from Paul Urbach (now past president) for a 2-year term, Jürgen Jahns will succeed him as president elect. Graham Reed takes over the position of secretary from AOT Editor-in-Chief Michael Pfeffer.

Reading the reports from the executive director and the treasurer, one can conclude that the society is back on track. Some issues with membership fees have to be

resolved, future investments and activities are already planned for the coming months.

The announcement that the EOS would abandon its relationship with this journal caused some confusion. A short discussion after the assembly resolved the issue: EOS and AOT will continue its cooperation, and it is confirmed that EOS members will enjoy free electronic access through their member site on [www.myeos.org](http://www.myeos.org) for at least 1 more year.

With respect to its own journal JEOS RP, the executive director Jyrki Saarinen reported on their success. With an increased impact factor, they are now working on decreasing of the publication times from the current 75 days. Editor-in-Chief Joseph Braat will step down at the end of the year; a successor has not been named yet.

SMETHODS, a European optics education program we have previously reported on (Adv. Opt. Technol. 2, p.207, 2013) will be continued under the auspices of the EOS in 2015.

The EOS will also contribute to the UNESCO Year of Light 2015 ([www.light2015.org](http://www.light2015.org)). For this purpose, a separate committee will be installed. Depending on external funding, coordinated events in more than 10 countries are planned.

## IGEX: Initiative for open source optical design software

Kimio Tatsuno from Japan presented a very special project called IGEX, ‘International Global Explore’. Some technical details have been published in AOT in the article ‘Lens design: optimization with Global Explorer’ by Masaki Isshiki (AOT, Vol 2 (1), page 21 DOI: 10.1515/aot-2012-0057). Looking at the benefits of open-source software for other communities, Kimio suggested in a separate session the idea of creating an open-source platform for optical design software. Masaki Isshiki discussed a major concern of the optics design industry: how to save individual achievements from public usage. The answer was very simple, the software would deliver an open basic platform consisting of optimization algorithms, for example, GX (Global Explore), while individual designers could build up their own applications on it and keep their trade secrets or allow them to be available.

For the further development of the concept, a membership program was suggested. Membership would be free, while education on the software could be developed as a paid-for service. With 33 experts from the optical design community, the session was well attended; future developments will be covered in this journal.

## What else?

The conference dinner was held at the Restaurant Nolle, a place that still resonates with the spirit of the ‘Golden Twenties’ when Berlin enjoyed a ‘liberal, creative and experimental phase in society and the arts as Wikipedia describes it. Conference participants enjoyed German beer and a wonderful buffet. Among the participants were not only representatives of the Chinese and the Japanese Optical Society (which are now related to the EOS by a memorandum of understanding) but also current and former presidents of the two major American societies the SPIE and OSA.

[www.myeos.org/events/eosam2014](http://www.myeos.org/events/eosam2014)

## Preview: SPIE Photonics West 2015 – 20th Anniversary!

San Francisco, CA, USA, February 7–12, 2015

When the Photonics West started in 1995 in San Jose, there were already 32 conferences arranged in one place. Now, 20 years later, it is very hard to count all the various events. Just by conference numbers, BIOS, LASE, and OPTO offer some 88 conferences. MOEMS-MEMS disappeared from the main agenda. But don’t worry all is not lost: conferences from Micro/Nanofabrication moved to the LASE symposium (now filed under Laser Micro/Nanoengineering); some other MOEMS/MEMS conferences made it into the OPTO symposium. Virtual conferences in the fields of Translational Research, Green Photonics, and 3D Printing compile presentations from the three traditional symposia into separate sessions. After all, SPIE Photonics West gives you more than 4600 technical presentations on lasers, biomedical optics, green photonics, optoelectronics, MOEMS-MEMS, and all aspects of photonics.

For those who want to get more than just an update on recent outcomes from research and development, the conference offers no less than 65 courses and workshops.

## BIOS hot topics

One of the first highlights of the conference will be the BIOS Hot Topics session on Saturday evening. As usual, the symposium chairs James Fujimoto and R. Rox Anderson will share some introductory words before the 2015 Britton Chance Biomedical Optics Award is presented to Lihong Wang. The Britton Chance Biomedical Optics Award is presented annually in recognition of outstanding lifetime



contributions to the field of biomedical optics through the development of innovative, high-impact technologies. The award particularly honors pioneering contributions to optical methods and devices that have facilitated advancements in biology or medicine. The SPIE Awards Committee has chosen Lihong Wang of Washington University in St. Louis in recognition of his pioneering technical contributions and visionary leadership in the development and application of photo-acoustic tomography, photoacoustic microscopy, and photon transport modeling.

Then the Hot Topics session will start chaired by Sergio Fantini, Tufts University (US). Topics and speakers as announced on November 4 are:

- ‘Cancer Screening and Nanoscale Cytology’, Vadim Backman, Northwestern University (US)
- ‘Endoscopic OCT’, Brett Bouma, Wellman Ctr. for Photomedicine (US)
- ‘Optical Assessment of Collagen and Breast Cancer’, Paola Taroni, Politecnico di Milano (Italy)

- ‘Fluorescence-guided Resection of Intracranial Tumor’, David Roberts, Dartmouth Hitchcock Medical Ctr. (US)
- ‘Adaptive Optics for the Retina’, Richard Rosen, New York Eye and Ear Infirmary (US)
- ‘Nonlinear Microscopy’, Peter So, Massachusetts Institute of Technology (US)
- ‘Simultaneous Imaging of Neural Activity in 3D’, Rafael Yuste, Columbia University (US)

### Sunday evening: see the 2014 Nobel Prize winners

On Sunday at 7:00 PM, you will have the unique chance to see the presentations of this year’s Nobel Prize winners. Bruce Tromberg from the Beckman Laser Institute and Medical Center will chair the session and present the scientists who shared the 2014 Nobel Prize in Chemistry



My personal tip for those who need a break and want to enjoy the wonderful city of San Francisco: rent a bike and drive through the town to the *Crissy Field*, a former US Army airfield just before the Golden Gate Bridge, now part of the Golden Gate National Recreation Area.

for work in the field of Microscopy: Eric Betzig, Janelia Research Campus, Howard Hughes Medical Institute, and William E. Moerner, Stanford University.

## The exhibitions

Probably the biggest attraction at the Photonics West will be the main exhibition on February 10–12, 2015: with more than 1250 companies, this exhibition continues to be the flagship event to find the latest products, tools, and applications for your research or business needs. More than 20 000 visitors can be expected here.

The much smaller BIOS EXPO runs on the weekend before, from Saturday, February 7, from 12:00 noon to 5:00 PM and on Sunday, February 8, from 10:00 AM to 5:00 PM. SPIE names it ‘the world’s largest biomedical optics and

biophotonics exhibition’. The exhibition had more than 210 companies in 2014.

## What else?

There is so much more: a 2-day job fair; the Prism Awards for Photonics Innovation; the SPIE Startup Challenge; and numerous special events and courses for SPIE members, students, and industry representatives.

As a founding sponsor of the International Year of Light, SPIE is also planning activities in San Francisco and free resources to promote the UN-declared initiative.

This preview has been prepared using material from SPIE.

[www.photonicswest.com](http://www.photonicswest.com)