Community

Conference Notes

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Delays and cancelations

The Covid-19 virus has changed all our lives. In February I still had the opportunity to write about 'SPIE Photonics West 2020: Business as usual'. Although this was just a few weeks ago, the world has changed completely since then. Thousands of people have died, and economies are in turmoil. Many industries have been suspended, including the whole conference and trade show business. Even the Olympic Games 2020 in Tokyo have had to be cancelled.

Event organizers around the world are trying to avoid cancelations. Instead, they are trying to postpone, or to do the events online. All three options are widely used, even if it is hard to make this decision. Many events such as the AKL'20 conference in Aachen, Germany have had to be canceled. Hannover Messe International, one of the biggest trade fairs for industry was first postponed to July 2020, but by the end of March the event had been completely canceled. OSA, the Optical Society of America has turned a number of events into online conferences.

The big question, which nobody can answer at the moment, is when will the world return to normal. While the number of new infections in Asia seems to be decreasing to almost nothing, Europe and America are seeing a fast increase in new patients. Thus, I will report about the last events which took place and hope for the best for the future. And of course, I wish all those whose health

In February, San Francisco greeted photonics experts from all over the world with sunny weather, once again.

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or business is affected by Covid-19 a rapid and successful recovery.

Andreas Thoss, Publisher, *Advanced Optical Technologies*

Review: Photonics West 2020

San Francisco, CA, USA 1–6 February 2020

As happens every year, photonics experts from around the world flew to San Francisco, California, to meet at the Photonics West conference and exhibition. People came in 2020, although many wondered whether it was a responsible thing to go there in times of a global virus outbreak. The virus had already spread in China, but numbers in Europe and America were still very low. And so, people were meeting in San Francisco, however, they did so cautiously.

Concerns were rising. During the Laser & Photonics Marketplace Seminar, John T.C. Lee, President and CEO of MKS Instruments, was asked what was he doing to prepare for a potential crisis. 'We meet daily,' he said. 'The first priority for us is the health and safety of our employees.' Their situation and internal communication are currently of the highest importance. And of course, they communicate with suppliers and customers to retain all processes.

Since then the situation has changed remarkably. While it looks as if China has successfully contained the virus, the rest of the world has been stunned by the rapid outbreak of the disease. It is almost impossible to estimate the economic outcome of this crisis. A growth of about 11% for the total laser market, as estimated by laser analyst Allen Nogee from Strategies Unlimited before the outbreak of COVID 19 is probably not realistic anymore.

Still, it was interesting to follow Nogee's observations from the past 3 years. For kilowatt lasers in material processing, he had noticed a substantial decline in average selling prices while the unit numbers actually increased. While this results in dramatically diminished profits for the laser manufacturers inside and outside China, it also leads to wider adoption, which is a good thing.

This fits into the bigger picture of lasers becoming a commodity: Even the markets for kilowatt or ultrashort-pulsed lasers are seeing this trend now. Commodification started some years ago with marking lasers and now it has also penetrated the macro- and micro-segments of the laser market.

Other fields in the market have shown substantial revenue growth, such as sensors or vertical-cavity surface-emitting laser (VCSELs). Allen Nogee sees Lidar coming, and he foresees the prices getting down towards the price tag of $100. This also became obvious at the SPIE Photonics West tradeshow. Many Lidar systems were presented there, and they were all moving towards higher integration and lower prices. After all, it is becoming a fist-sized box for a few hundred dollars, and is becoming even smaller and cheaper.

The Startup Challenge

SPIE is an association that caters to the applied research and photonics industry. Accordingly, the list of industry events at Photonics West was long. Most famous is certainly the Prism Awards ceremony where the best new products from the various fields of optics are recognized at a festive banquet. Less famous but equally interesting is the SPIE Startup Challenge. New photonics enterprises have the chance to pitch in two fields, Healthcare and Deep Tech.

In the end, six startups won industry accolades as well as more than $85 000 in cash and business support at the 10th annual Startup Challenge at SPIE Photonics West.

In the field of Deep Tech, Senorics, which builds low-cost, mobile spectroscopic systems that detect contaminants in food won first place; Labby, a data company combining optical sensing with artificial intelligence (AI) for real-time milk analysis, came in second; and Circle Optics landed third place with its 360-degree Hydra camera.

In Healthcare, Odin Technologies was the winner with a wearable, disposable technology that measures perfusion in order to identify non-obvious hemorrhages and compartment syndrome in trauma patients, while Rubitection won second place with its Rubitect Assessment System, an optical monitoring tool for preventing bedsores. Eysz, Inc., whose software algorithm uses oculometric data – eye movements – to detect and respond to epilepsy seizures, was honored with third place.

Odin and Senorics took home checks for $10 000 from Jenoptik, plus $5000 in equipment from Edmund Optics, a Challenge co-sponsor; Labby and Rubitection received $5000; and Circle Optics and Eysz took home $2500. The Startup Challenge runs alongside the SPIE Venture Summit as a part of a week-long entrepreneur program, so Challenge semi-finalists and finalists have multiple opportunities for mentorship, industry advice and feedback as they hone their final pitches.

'For me this is an incredible experience because I'm taking part in this competition for the third time,' said Senorics CEO Ronny Timmreck. 'We've been really persistent and have worked hard on our business model and on the technology, so I'm very proud that we are the winners this year. The support and feedback we get here is great. I want to tell all the founders and other companies: you get much more than just the prize at the SPIE Startup Challenge. I like the prize, but the most valuable thing at this competition is that you get the support, the mentors and feedback on your pitch and business model.'

The SPIE Startup Challenge, which showcases new businesses, products and technologies that are addressing critical needs with photonics, is enabled by Founding Partner Jenoptik; Strategic Partner LDV Capital; Lead Sponsors Edmund Optics, MKS Instruments, Hamamatsu, Thorlabs, and B&W Tek CEO Sean Wang; and Supporting Sponsors the National Science Foundation and the Luminate Accelerator.

Judges drawn from across the industry who vetted the applicants for their business models, financial cases and competitive advantages included Sony Venture's Shoichi Osawa, Maschmeyer Group Ventures' Lauren Pfeifer, Fusion Fund's Homan Yuen, Photon Fund's Zhenlin Li, LDV Capital's Evan Nisselson, Genoa Venture's William Hyun; LightWave Advisors' John Dexheimer and Mark Wippich, SANICA Ventures' Don Golini, NewCap Partners' Christopher Rowan and Danny Piper, Renevo Capital's Jerry Panagrossi, Anzu Partners' Jimmy Kan, Johnson & Johnson Innovations' Andrew Pilon, Phoenix Venture Partners' Frank Levinson, True Wealth Ventures' Kerry Rupp, and Hamamatsu Photonics' Darren Martindill.

www.photonicswest.com

Review: New quantum technology network founded in Germany

San Francisco, CA, USA 1–6 February 2020

On March 2nd and 3rd, about 100 people convened in Berlin, Germany to start a new local network for the development of quantum technologies. There was a good mix of participants, with locals and people from all across Germany and Europe; thus, it was a good occasion to find out more about the status of quantum technology (QT) in Germany and Europe.

On the government side, QT enjoys the highest priority. It has become the subject of a governmental framework program in Germany – meaning that it is not just a subject for the Ministry for Research (BMBF) alone, but for the whole government. In fact, this program has been shaped by not less than four different ministries, which is very uncommon.

New money has been allocated and funding programs have been issued for both institutional (€500 million) and project-related (€150 million) programs within the current legislative period until 2022. More money is coming: some

Markus Krutzik has organized the InnoQT workshop in Berlin, Germany, to set the stage for a new photonic QT network with research institutions and small and medium enterprises (SMEs) along the value chain. (© FBH/ Katy Otto, www.katyotto.com)

€300 million will be available in the autumn of 2020 for a strategic initiative on QT.

Institutional funding has led to an impressive number of foundations within the research community, including:

1. Helmholtz Quantum Center HQC,
2. Jülich DLR Institute for QT, Ulm
3. PtB QT Competence Center QTZ, Berlin/Braunschweig
4. Quantum alliance: Four Cluster of excellence at a total of eight universities
5. Fraunhofer IOF's Quantum Photonics Lab, Jena
6. Research group Integrated QT at FBH, Berlin

Additionally, IBM and the Fraunhofer Society will make quantum computing accessible to companies and research institutions as soon as April 1st, 2020. As part of the collaboration, an IBM Q System One quantum computer will be installed in an IBM computer center near Stuttgart. The system is scheduled to start operation in early 2021.

The whole QT strategy focuses on bringing the technology to markets; thus, technology transfer is a major aim of the federal programs. Special startup programs can be initiated any time, as the representative of the funding agency VDI-TZ, Peter Soldan mentioned. Additional programs for education will be installed as well: The European Quantum Future Academy arranges annual meetings of young people studying QT. The next event will bring 40 students from 20 European Community (EC) countries to Berlin in November 2020.

InnoQT in Berlin and Brandenburg

The actual motivation for the 2-day meeting was the foundation of a network for players in the field of Photonic Quantum Technologies named InnoQT. The aim of the InnoQT is to establish efficient networking between industry and academia partners along complete value chains – starting from photonic components to systems and QT applications. While centered in the capital region of Berlin and Brandenburg, it will welcome partners from Germany and Europe as well.

For the future, the partners of the network expect that regional, national and international industrial suppliers of systems will increasingly establish themselves in the market, offering solutions to problems based on quantum technologies. In the long term, the network wants to contribute to sharpening the regional profile of the capital region and to developing it into an internationally important QT industrial location.

Community

EOS News

Call for nominations for EOS board

This year (2020) is an election year for the EOS Board and there are four seats to be filled. We invite you to nominate candidates for election to the Board. Nominations may be made either by letter or by e-mail.

If by letter, this must be signed by three EOS members (not including the person nominated). A letter from the person nominated, accepting the nomination, must also be enclosed (or sent separately).

If by e-mail, each of the three EOS members supporting the nomination must send in a separate e-mail indicating their support for the candidate. (This is important, as the receipt of three separate e-mails is being accepted in lieu of signatures.) In addition, the person nominated must send an e-mail accepting the nomination.

Contact details for both letters and e-mails are given below.

Please note that all four people involved (candidate and three supporters) must be members (Full or Associate) of EOS.

Each EOS member is entitled to nominate up to three candidates for election to the Board. There is no rule to prevent the same three people nominating more than one candidate. We urge you to take advantage of this opportunity to nominate candidates for the election later this year.

Nominations close on 30 April 2020, but it will assist the election organizers if you send your nominations in as soon as possible.

Contact details for nominations:

By letter: Prof. Hans Peter Herzig, Ecole Polytechnique Fédérale de Lausanne (EPFL), Rue de la Maladière 71b, CP 526, CH-2002 Neuchatel, Switzerland

By e-mail: hanspeter.herzig@epfl.ch

Professor Hans Peter Herzig

Election Officer, EOS Board Elections, 2020

Board members and ex-officio board members are listed in Tables 1 and 2.

Table 1: The present EOS board.

Ivo Rendina (Italy)	(term ends 2020)/vacant
Andreas Ettemeyer (Switzerland)	(Secretary, term ends 2020)/vacant
Patricia Segonds (France)	(Treasurer, term ends 2020)/vacant
Paul Urbach (The Netherlands)	(Past-President, term ends 2020)/ vacant
Mario Bertolotti (Italy)	elected in 2018 and term ends in 2022
Michael Pfeffer (Germany)	elected in 2018 and term ends in 2022
Matthieu Roussey (Finland)	elected in 2018 and term ends in 2022

Table 2: Ex-officio board members.

Gilles Pauliat (France)	(President Elect: becomes President for 2020–2022)
Humberto Michinel (Spain)	(President: becomes Past-President for 2020–2022)
Ralf Bergmann (Germany)	(represents Germany)
Carl Paterson, (UK)	(represents the UK)
Riad Haidar (France)	(represents France)
Concita Sibilia (Italy)	(represents Italy, Sweden, and Switzerland))
Irina Livshits (Russia)	(represents the Affiliated Societies)
Oliver Fähnle (Switzerland)	(Chair of the Industrial Advisory Committee)
Thomas Südmeyer (Switzerland)	(Chair of the Scientific Advisory Committee)

Community

Conference Calendar

The calendar was reviewed on April 9. Due to further regulations in response to the worldwide pandemic, dates or locations may vary from this list.

June

LASYS postponed to 2022
Stuttgart, Germany
21–23 June 2022
www.messe-stuttgart.de/lasys/

Stuttgarter Lasertage SLT 2020 canceled
Stuttgart, Germany
21–22 June 2022
www.slt.uni-stuttgart.de

2020 International Conference Laser Optics (ICLO)
Saint Petersburg, Russia
8–12 June 2020
www.laseroptics.ru

SPIE Astronomical Telescopes + Instrumentation
Yokohama, Japan
14–19 June 2020
https://spie.org/x127041.xml

OSA Imaging and Applied Optics Congress
Vancouver, British Columbia Canada
22–26 June 2020
www.osa.org/en-us/meetings/osa_meetings/osa_imaging_and_applied_optics_congress/

July

OSA Advanced Photonics Congress
Montreal, Quebec, Canada
13–16 July 2020
www.osa.org/en-us/meetings/osa_meetings/advanced_photonics_congress

August

SPIE Optics+Photonics
San Diego, CA, USA
23–27 August 2020
http://spie.org/op

September

Conference on Numerical Simulation of Optoelectronic Devices (NUSOD)
Turin, Italy
14–18 September 2020
Abstract submission date: April 15 2020
www.nusod.org/2020/

Frontiers in Optics: the 104th OSA Annual Meeting and Exhibit/Laser Science Conference
Washington, DC, USA
14–17 September 2020
www.osa.org/en-us/meetings/global_calendar/events/frontiers_in_optics_the_104th_osa_annual_meeting_a/

25th Microoptics Conference MOC2020
Jena, Germany
24–26 September 2020
www.moc2020.com/

2020 IEEE Photonics Conference (IPC)
Vancouver, BC, Canada
27 September 2020–1 October 2020
http://ieee-ipc.org/

October

OSA Laser Congress /ASSL
Quebec City, Quebec, Canada
13–17 October 2020
www.osa.org/Meetings/OSA_Meetings/Laser_Congress

FOC 2020
Frontiers of Optical Coatings
Beijing, China
17–22 October 2020
http://foc.tongji.edu.cn/index.php?

November

VISION
Stuttgart, Germany
10–12 November 2020
www.messe-stuttgart.de/vision/