Introduction: ECOC 2012 in Amsterdam

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Abstract: We introduce the Optics Express special issue from the 38th European Conference on Optical Communication and Exhibition (ECOC). A total of 134 expanded papers from ECOC 2012 are included in this special issue.

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The 38th European Conference on Optical Communication and Exhibition took place in Amsterdam, Netherlands from September 16 to September 20, 2012. ECOC is Europe’s leading conference on optical communications and is one of the world leading events for presenting scientific progress, new developments, and major innovations related to optical communications. The event took place at the RAI Conference Center in Amsterdam. ECOC 2012 also included a bi-annual CLEO focus meeting that formed a separate subcommittee in the ECOC technical organization.

ECOC 2012 brought together over 5500 people (1182 conference delegates and 4483 exhibition visitors) with backgrounds ranging from basic research and industrial R&D to telecom operators. The 246 oral presentations (including eight CLEO focus contributions) and 103 poster presentations (including five CLEO focus contributions) were carefully selected by the ECOC Technical Program Committee from 723 submissions (700 ECOC submissions and 23 CLEO focus contributions). Furthermore, the program included four plenary presentations, seven tutorial presentations, forty-one invited papers (including five CLEO focus contributions), 12 workshops, and 2 symposia that focused on indoor optical networks and energy consumption of the Internet. The technical program of ECOC was completed with 24 post-deadline presentations reporting last-hour breakthroughs. These papers are published in the ECOC 2012 proceedings.

The ECOC technical program was put together by the program chairs, seven senior subcommittee chairs, and a technical program committee with 113 experts in their fields from across the world. The topics of the seven subcommittees are:

• SC1. Fibers, Fiber Devices, and Amplifiers, chaired by Patrice Megret (University of Mons, Belgium)
• SC2. Waveguide and Optoelectronic Devices, chaired by Juerg Leuthold (Karlsruhe Institute of Technology, Germany)
• SC3. Subsystems for Optical Networks, chaired by Antonio Teixeira (University of Aveiro Portugal, Portugal)
• SC4. Transmission Systems and Network Elements, chaired by Huug de Waardt (COBRA - Eindhoven University, The Netherlands)
• SC5. Backbone and Core Networks, chaired by Mario Pickavet (iMinds-Ghent University, Belgium)
• SC6. Access Networks and LAN, chaired by Eduward Tangdionnga (COBRA - Eindhoven University, The Netherlands)
• SC7. ECOC 2012 CLEO Focus Meeting, chaired by Geert Morthier (IMEC–Ghent University, Belgium) and Kobus Kuipers (AMOLF, The Netherlands). Papers from the CLEO Focus Meeting are not included in the ECOC special issue.

The technical program subcommittees identified “multicore components,” “hybrid opto-electronic devices,” “scalable 100 Gbps transmitters,” “cooperative coherent receivers,” “few mode fiber,” “soft decision FEC,” “defragmentation in elastic optical networks,” and “TWDM-PON” as trending topics at ECOC 2012.

In 2011, selected proceedings papers were published for the first time in an ECOC/Optics Express special issue, making use of dissemination through a high-impact factor and open-access journal. The Geneva chairs had noted that proceedings articles were often considered as full publications. This prevents the authors from publishing similar material in a high-impact journal and may even deter authors from publishing their key results in the proceedings. This conflict is resolved with an ECOC/Optics Express special issue that contains extended proceedings articles. In addition, articles in such a special issue can be reviewed much more carefully and revised based on the peer review input. The ECOC 2012 organization was happy to continue this initiative. Thirty-seven percent (37%) of authors of the ECOC 2012 proceedings decided to submit an extended version of their ECOC paper for publication in the Optics Express special issue. As a result 134 ECOC proceedings are extended and published as full papers in this ECOC/Optics Express special issue. Many of the articles are published in the December 10 issue of Optics Express that is dedicated to ECOC, but some will appear in upcoming regular issues as they are completed. All articles will be listed in the ECOC special issue Table of Contents.

This special issue would not have been possible without the enthusiastic efforts of the subcommittee chairs, who dedicated much of their time to serve as Optics Express guest co-editors. They are pictured in Fig. 1 below:

![Fig. 1. The organizers and editors of the ECOC 2012 special issue are pictured here: (a) Piet Demeester, (b) Harm Dorren, (c) Juerg Leuthold, (d) Ton Koonen, (e) Patrice Megret, (f) Mario Pickavet, (g) Eduward Tangdiongga, (h) Antonio Teixeira, (i) Peter van Daele, (j) Huug de Waardt.](image)

We would also like to thank the 158 anonymous reviewers, who dedicated valuable time to carry out the technical review of all the special issue manuscripts in limited time. We are aware this and we greatly appreciate your support.

It has been a great pleasure for us to work with this team on this 2012 ECOC/Optics Express special issue and we would like to thank all of them for their hard work.

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