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Introduction

Welcome to the 2011 edition of the SPIE 8309 conference proceedings on Optical Transmission Systems, Subsystems, and Technologies. As the largest subconference within the 2011 Asia Communications and Photonics Conference (ACP '11), our conference has been successfully held in Shanghai, China. This conference offered 30 invited presentations by world experts in this technical field, 51 oral presentations, and 30 poster presentations. The conference received 124 regular submissions, of which only 41% were accepted for oral presentation and 24% for poster presentation, indicating high paper selectivity. Conference 8309 consists of 15 regular technical sessions, covering the following technical areas:

- Optical transmission systems
- Optical components technologies
- Digital signal processing (2 sessions)
- Modulation, detection, and transmission (3 sessions)
- Spatial-division multiplexing
- Optical signal processing
- Radio-over-fiber (2 sessions)
- Access/PON technologies
- Networking technologies

There are also four special sessions, which are the highlights of the conference:

1. Special Symposium on "Optical Fiber Communications: Past, Present, and Future," dedicated to Dr. Tingye Li for his lifetime contributions to the optical communications industry and the photonics community

2. Workshop on "Spectrally Efficient and Energy-Efficient Optical Transport Systems and Subsystems," organized by Dr. S. Chandrasekhar of Bell Labs, Prof. William Shieh of University of Melbourne, and Dr. Tiejun Xia of Verizon Communications

3. Best Student Paper Competition Session, featuring 6 top ranked student papers

4. Post-deadline Paper Session, presenting the most updated research breakthroughs

In the Special Symposium, Prof. David Payne of Univ. of Southampton shared his insights on "History and future perspectives of optical fibers and amplifiers." Prof. Seb Savory of Univ. College London presented his view on "Digital coherent optical communication systems: past, present and future." Prof. Thomas Koch of

Lehigh University provided his vision on "Photonic integration for optical fiber communications."

In the Workshop, leading world experts presented their views on how to address the pressing need to sustain the optical transmission capacity growth in a cost-effective and energy-efficient manner, through the use of spectrally efficient and energy-efficient optical transport systems and subsystems.

In the Best Student Competition Session, six finalists made impressive presentations on their research works. Mr. Xiaodan Pang of Technical Univ. of Denmark was selected as the winner. Ms. Xi Chen of the Univ. of Melbourne and Ms. Adriana Patricia Lobato Polo of Univ. der Bundeswehr München were selected as the runner-ups. Congratulations to them!

In the post-deadline session, two record-breaking optical transmission results were reported. Dr. Ting Wang of NEC America presented "4x1.15-Tb/s DP-QPSK superchannel transmission over 10,181-km of EDFA amplified hybrid large-core/ultra low-loss fiber spans with 2-dB FEC margin." Mr. An Li of The Univ. of Melbourne presented "Transmission of 1-Tb/s unique-word DFT-spread OFDM superchannel over 8,000-km SSMF."

We would like to take this opportunity to thank all of our committee members for their great effort in recommending invited speakers, reviewing papers, and chairing sessions. Their strong dedication to the responsibilities of this committee is invaluable to the success of this conference.

It would be impossible to run this conference without the outstanding support of the SPIE staff members. They made our job much easier and allowed us to focus on the technical aspect of our conference.

Finally, we would like to thank all the attendees who come to give talks, present posters, and actively participate in the conference. We look forward to seeing you at future Asia Communications and Photonics Conferences!

Xiang Liu
Ernesto Ciaramella
Naoya Wada
Nan Chi