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# ***Optical Metro Networks and Short-Haul Systems III***

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*Editors*

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## Introduction

The Optical Metro Networks and Short-Haul Systems III conference provides a forum for more than 20 papers in eight oral sessions including one plenary session, three special joint sessions, and a poster session. The joint sessions with Broadband Access Communication Technologies V (conference 7958) and Coherent Optical Communication: Components, Subsystems, and Systems (conference 7960) are designed to bring together the researchers working on topics from the adjoining fields in order to stimulate more comprehensive discussion.

The conference provides a good opportunity to learn about the current trends in the optical component, transmission and networking technologies for the metro and short haul systems. It covers components such as novel couplers, VCSELs, multi-color photo-detectors, liquid crystal dispersion compensators and SOAs for regeneration and receiver sensitivity enhancement of a DPSK system. It is evident from the submissions this year that the long haul transmission technologies such as OFDM and novel modulation formats are being explored for applications in the short reach systems. Likewise, several results of high data rate transmission and field trials at 100G and beyond from carrier's perspective are included in the conference. These cover the issues pertaining to PMD and the proposed introduction of channels at 400Gb/s and 1Tb/s which would require bandwidth allocation larger than 50 GHz with a granularity of 25 GHz or 12.5 GHz for minimizing wasted or stranded bandwidth.

In recent years, we have witnessed the ROADM technology evolution towards larger number of ports. Colorless, directionless and contentionless routing of channels at ROADM nodes is becoming an industry standard. More recently, a new feature of bandwidth flexibility has been added to the ROADM requirements in order to support the future need of flexibility in bandwidth allocation in an efficient manner. The conference includes many papers on the design of flexible bandwidth ROADMs and related component technologies.

Several papers provide modeling results on optical network architecture and control including the multilayer photonic control. One paper highlights a novel smart grid approach to transmit electrical power via an optical network node.

We would like to thank all the contributors to this year's Optical Metro Networks and Short-Haul Systems III conference. The papers are of high quality and will provide an opportunity to review the latest results and have discussion on the

current issues. If you were not able to attend the conference you can review the papers in this publication and hopefully contribute to the conference in the future.

**Werner Weiershausen  
Benjamin Dingel  
Achyut Kumar Dutta  
Atul K. Srivastava**