
FOREWORD

Special Section on Photonic Network Technologies in Terabit Network Era

In recent years, since large-capacity stream transmissions for 4-K digital cinemas and high-definition video applications, and large-size file transmissions for P2P applications are widely used, new photonic networking technologies are required to support high-speed, cost-effective, flexible, scalable, reliable, and robust communication network infrastructures. To offer a terabit communication environment, a new scenario to crossly interact with upper layers is also required. To achieve these requirements, research and development on photonic networking technologies including their standardizations are extensively performed.

In reply of call for papers, 10 papers and 1 letter were received. After fair and square review, two invited papers on the overview of the photonic network technologies for new generation network and the ultra-high-definition television system, and 5 papers are accepted for the publication in this section. These papers cover a broad range of topics including the next generation node technologies, future internet and datacenter network architectures, and cutting-edge 100Gigabit Ethernet technologies. The editorial committee hopes this section will provide useful information and new ideas to those interested in photonic network technologies.

As the guest editor-in-chief, I would like to express my sincere appreciation to all the authors for their contributions and to all the editors and reviewers for their voluntary activities.

In this special section, we made a trial for reducing the paper revision period to 30 days. This trial succeeded in shortening the total time period from submission to publication of paper from 8 months to 7 months. This is expected to enhance the timeliness of the IEICE Trans. on Communications.

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Satoru Okamoto, Guest Editor-in-Chief

Satoru Okamoto (*Fellow*) received the B.E., M.E., and Ph.D. degrees in electronics engineering from Hokkaido University, Hokkaido, Japan in 1986, 1988 and 1994 respectively. In 1988, he joined Nippon Telegraph and Telephone Corporation (NTT), Japan. He engaged in research on ATM cross-connect system architectures, photonic switching systems, optical path network architectures, and developed GMPLS controlled HIKARI router (Photonic MPLS router) systems. He lead several GMPLS related interoperability trials in Japan, such as the Photonic Internet Lab (PIL), OIF world-wide interoperability demo, and Kei-han-na Interoperability Working Group. From 2006, he has been an Associate Professor of Keio University. He is a chair of the technical committee on photonic network (PN) and a vice co-chair of Interoperability Working Group of Kei-han-na Info-communication Open Laboratory. He is now promoting several research projects in the photonic network area. He received the young Researchers' Award and the Achievement Award in 1995 and 2000, respectively. He has also received the IEICE/IEEE HPSR2002 outstanding paper award. He is associate editor of the IEICE transactions and the OSA Optics Express. He is an IEEE Senior Member.

