IEICE TRANS. COMMUN., VOL.E100–B, NO.10 OCTOBER 2017

FOREWORD

Joint Special Section on Opto-electronics and Communications for Future Optical Network

Continuously evolved optical communication technologies are contributing to support the rapid traffic growth in the various areas of networks, e.g. ultra-large capacity core networks, access networks both for fixed and mobile systems and large-scale switching systems, as one of important social infrastructures.

On the basis of this background, the 21$^{\mathrm{st}}$ Optoelectronics and Communications Conference and International Conference on Photonics in Switching (OECC/PS 2016) was held in Niigata, Japan from July 3$^{\mathrm{rd}}$ to July 7$^{\mathrm{th}}$, 2016. The following six categories were covered a wide range of topic to discuss next generation optical communication systems: 1). Core/Access Networks and Switching Subsystems, 2). Transmission Systems and Subsystems, 3) Optical Fibers, Cables and Fiber Devices, 4) Optical Active Devices and Modules, 5) Optical Passive Devices and Modules and 6) Photonics in Switching Systems and Related Technology.

This joint special section with IEICE Transaction on Electronics is organized to provide an overview of the key topics which were discussed at the OECC/PS 2016 from the cutting edge devices, which are covered by IEICE Transaction on Electronics, to Peta-bit scale transmission systems. The special section on communication consists of 4 excellent invited papers which correspond to the 1), 2), 3) and 6) categories, and 2 contributed papers. I would like to appreciate all of the authors for submitting the excellent papers and to reviewers and editorial committee members for their effort on organizing this special section.

Masatoshi Suzuki, Guest Editor-in-Chief

Masatoshi Suzuki *(Fellow)* is received B.S., M.S. and Ph.D. degrees from Hokkaido University, in 1979, 1981 and 1984, respectively. He joined KDD Research Laboratories (currently KDDI Research), Tokyo, Japan in 1984. Since then, he has been engaged in research on high-speed optical devices, optical transmission systems and optical networks, including the first demonstration of DFB-LD/EAM integrated light source and the invention of dispersion managed soliton transmission scheme, and the 10 Gbit/s WDM transoceanic undersea cable systems such as Japan US and TAT14 cables. He was the R&D fellow of KDDI Corporation and Executive Vice President of KDDI R&D Labs. Curranty, he is the Principal Research Engineer of KDDI Research, Inc. His research interest is wireless and optical technology for mobile networks beyond 5G and ultra-large capacity optical communication systems based on space division multiplexing. Dr. Suzuki is the Fellows of IEEE and OSA and a member of the Engineering Academy of Japan. He was the Associate Editor of the IEEE/OSA Journal of Lightwave Technologies from 1999 to 2004. He is a recipient of the Best Paper Awards from OEC1988 and OECC2010, Distinguished Paper Award of IEICE in 1996, Achievement award from IEICE in 2004, Minister Award on Science and Technology from MEXT in 2006, Minister Award of Advanced Technology from METI in 2006, Kenjiro Sakurai Memorial Award from OITDA in 2009, Hisoka Maejima Award from Tsushinbunka Association in 2011, and Medal with Purple Ribbon from Japan in 2017.