
FOREWORD

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

This special section is associated with the 15th Optoelectronics and Communications Conference (OECC2010), which was held in Sapporo, Japan on July 5–9, 2010, and was cosponsored by the IEICE Communications Society and the IEICE Electronics Society. The conference program included 351 contributed papers on the research, development, and applications of optical communication systems and optoelectronic devices. The purpose of this special section is to chronicle the current status in these fields based on the conference presentations. However, this special section is not intended to be a conference digest. Most of the papers also include advances in research made after the conference.

This joint special section includes the following five categories: 1) Core/access networks and switching subsystems, 2) Transmission systems and their subsystems, 3) Optical fibers, cables and fiber devices, 4) Optical active devices and modules, and 5) Optical passive devices and modules. The special section is published in two separate issues. Papers in categories 1 and 2 are published in Transactions on Communications and those in categories 3 to 5 are published in Transactions on Electronics (this issue).

The papers were reviewed as regards originality, effectiveness, logicity, reliability and technical/scientific merit. Consequently, seven papers were accepted for publication. The accepted papers deal with topics highlighted at the conference. I hope that this special section will be useful in disseminating some of the recent progress in the field of optical communications and optoelectronics, and that it will also stimulate readers interest in future OECCs.

Finally, I would like to express my sincere appreciation to all the authors for their paper contributions as well as to the reviewers for their efforts in completing the reviewing process. I am greatly indebted to the editorial committee members listed below who worked diligently to enhance the quality of this special section.

Editorial Committee Members

Guest Editor: Hiroshi Takahashi (NTT)

Guest Associate Editors:

Makoto Yamada (Osaka Prefecture University)

Masahiro Aoki (Hitachi)

Hisato Uetsuka (Hitachi Cable)

Kenji Sato (NEC)

Yoshiaki Nakano, Guest Editor-in-Chief

Yoshiaki Nakano (*Fellow*) is the director general and a professor at the Research Center for Advanced Science and Technology, the University of Tokyo. He is also with the Department of Electronic Engineering, School of Engineering, the University of Tokyo. He received B.E., M.S., and Ph.D. degrees in electronic engineering, all from the University of Tokyo, in 1982, 1984, and 1987, respectively. In 1984, he spent a year as an exchange student at the University of California, Berkeley. In 1987, he joined the Department of Electronic Engineering, the University of Tokyo. He became an associate professor in 1992, a professor in 2000, and the department head in 2001. In 2002, he moved to the Research Center for Advanced Science and Technology, the University of Tokyo, and became the director general of the center in 2010. His research interests have been the physics and fabrication technologies of semiconductor distributed feedback lasers, semiconductor optical modulators/switches, monolithically integrated photonic circuits, and high-efficiency heterostructure solar cells. In 1992, he was a visiting Associate Professor at the University of California, Santa Barbara. Dr. Nakano was an elected member of the Board of Governors of IEEE LEOS, a member of the Board of Directors of the Japan Society of Applied Physics (JSAP), the Editor-in-Chief of Applied Physics Express (APEX) and the Japanese Journal of Applied Physics (JJAP), and a member of the Board of Directors of the Japan Institute of Electronics Packaging (JIEP). He is currently the chairman of the Optoelectronics Technology Trend Research Committee of the Optoelectronics Industry and Technology Development Association (OITDA), and the chairman of the Optical Interconnect Standardization Committee of the Japan Electronics Packaging and Circuits Association (JPCA). He is also Fellow of JSAP, and a member of IEEE EDS and OSA. He was the recipient of the 1987 Shinohara Memorial Prize from the IEICE, the 1991 Optics Paper Award from the JSAP, the 1997 Marubun Science Prize, the 2007 Ichimura Prize, the 2007 IEICE Electronics Society Award, and the 2007 Sakurai Medal from OITDA. In 2007, he was presented with the Prime Minister's Award for Collaborative Research between Academia and Industry.

