
FOREWORD

Special Section on Microwave Photonics

“Microwave Photonics (MWP),” was firstly proposed as an interdisciplinary research/development field between wireless and photonics technologies about 30 years ago. After that, research and study on MWP have been extended more widely and developed more deeply. The Radio-over-Fiber (RoF) technology, which was the hottest topic at the dawn of MWP, has been put to practical use in mobile communication systems and television broadcasting systems. Now, MWP research fields cover many technologies: high-speed photonic devices/components, high-speed signal generation/detection/control using photonic techniques, wired/wireless broadband telecommunication systems based on MWP techniques, mobile front-/back-haul networks for next generation wireless systems, THz wave-related technologies located between microwave and photonic frequency ranges, advanced MWP-based sensing techniques, and so on.

The IEICE 2014 international topical meeting on Microwave Photonics/the 9th Asia-Pacific Microwave Photonics Conference (MWP/APMP 2014) was held from 20th to 23rd of October 2014 in Sapporo, Japan. At this conference, the number of manuscripts submitted as contributed papers totaled over 140, which was a record number for MWP/APMP conferences, I believe. The papers were selected rigorously by authorized MWP experts around the world, and very attractive fruitful discussions took place at the Sapporo Convention Center over the 4 days. In order to transfer the important obtained knowledge in advanced MWP technologies, this special section was planned. This special section truly covers the most active and advanced current MWP technologies, and is therefore very attractive and useful for current and future researchers/students in MWP research fields.

We would like to express our sincere thanks to all the authors, reviewers, and the editorial committee members for their contributions to the publication of this MWP special section. Finally, special thanks are given to the members of the IEICE publication departments. We, all editorial committee members, expect this special section will contribute to further development and progress in MWP research fields.

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Hiroshi Murata, Guest Editor-in-Chief

Hiroshi Murata (*Member*) received the B. Eng., M. Eng., and D. Eng. degrees in electrical engineering from Osaka University, Osaka, Japan in 1988, 1990, and 1998, respectively. He is now Associate Professor in Division of Advanced Electronics and Optical Science. His works are concerned with integrated optics, nonlinear optics, microwave/millimeter-wave photonics, and polarization-reversal technologies. He is the author or coauthor of more than 180 technical publications in these areas and also holds several patents. Prof. Murata was the Technical Program Committee Chair of *MWP/APMP 2014*, an Associate Editor of the *IEICE Electronics Express (ELEX)* in 2009–2012 and the Guest Editor of the *Journal Advances in OptoElectronics* on the Special Issue: “Progress in Domain-Engineered Photonic Materials,” in 2007–2008. He is also a member of IEEE Photonics and MTT societies, OSA, EuMA, JSAP, and the Laser Society of Japan. Prof. Murata was the recipient of the 35th European Microwave Conference (EuMC) Microwave Prize in 2005.

