FOREWORD

Special Section on Next Generation Broadband Access Technologies

Existing broadband access systems include ADSL over metallic wires, optical media converters, B-PON, GE-PON, and G-PON systems. Recent innovations such as the higher speed systems of 10G-PON, 10GE-PON, and WDM-PON are receiving a lot of attention, and low cost and mass production technologies for high speed wide bandwidth systems should be developed. New optical access network architecture also should be discussed to provide emerging services economically with higher security. In response, the IEICE Communications Society has organized this special section to analyze and resolve these technical issues.

This special section is intended to discuss recent advances in next generation broadband access technologies and includes the following topics of interest.

- Network architecture for next generation broadband access networks
- Next generation access network systems based on optical/metallic/wireless technologies
- Next generation broadband access systems for fixed mobile convergence (FMC)
- Migration technologies for emerging broadband access systems
- Technologies for wired/wireless home networks
- Improving reliability and control technologies for broadband access systems
- Standardization activities and future view

After a careful discussion, the editorial committee has arranged for three invited papers; one presents standardization aspects of broadband access systems, another deals with optical access network trends in Europe, and the other discusses home networking technologies. This special section consists of the three invited papers, seven papers, and no letter that were accepted from the 14 papers and 6 letters that were submitted.

Here, I would like to express my sincere thanks all authors for their excellent papers, and the reviewers and editorial committee members for their great efforts that significantly contributed to the outstanding quality of this special section.

Hiromi Ueda, Guest Editor-in-Chief

Hiromi Ueda *(Fellow)* received his B.S., M.S. and Ph.D. degrees from Tokyo Institute of Technology, Japan, in 1975, 1977 and 1993, respectively. He joined NTT in 1977 and worked in NTT Laboratories on the R&D of digital signal processing, digital cross-connect systems, SDH transmission systems, ATM transport systems and B-PON systems up to 2003. He has been a professor in the School of Computer Science, Tokyo University of Technology, Japan since 2003. His current research interests include optical access networks, digital communication systems, traffic engineering, and QoS control. Dr. Ueda is a Chair-Elect of Communications Quality & Reliability Technical Committee, IEEE ComSoc, and has served as a Co-Chair of CQR related Symposia, IEEE ICC 2005–2009 and GLOBECOM 2006. He is a Vice-Chair, Technical Committee on Communication Systems, IEICE Communications Society. He served as an Associate Editor of the IEICE Trans. on Commun. He is a Fellow of the IEEE.