
FOREWORD

Special Section on New Era of Satellite Communication/ Broadcasting/Application Technologies

Satellite communications have been mainly used for disaster-relief communications, backup communications and/or mobile communications on maritime ships and airplanes. Recently, due to remarkable technological progress on both satellite and terrestrial stations, HTS (High Throughput Satellite) systems employing hundreds of multi-beams and/or thousands of small satellites have started to provide broadband services for earth stations in motions and as backhaul for mobile network. On the other hand, as for satellite broadcasting, 4K/8K special technologies have been studied so as to be standardized. The TV services will be widely spread all over the Japan toward 2020. Further, these developed technologies are applied to many other uses for such as UAS (Unmanned Aircraft System), HAPS (High Altitude Platform System), Monitoring system using AIS (Automatic Identification System) and so forth. To facilitate the active discussion and to further promote research and development in these fields, this special section was planned. In reply to call for papers, 10 papers were submitted. After fair and square reviews, one invited paper on the latest 4K/8K technologies for satellite broadcasting, and 3 papers are accepted for the publication in this section. These papers cover from the principle theories and element technologies for New Era of Satellite Communication/Broadcasting/Application Technologies. The editorial committee hopes this section will provide useful information and new ideas to those interested in this research field.

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.

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Fumihiro Yamashita, Guest Editor-in-Chief

Fumihiro Yamashita (*Senior Member*) received the B.E., M.E., and Ph.D. degrees from Kyoto University, in 1996, 1998, and 2006, respectively. He worked on modulation and demodulation schemes for broadband mobile satellite communications systems. From 2010–2013, he was the Assistant General Manager of the NTT Research and Development Planning Department. He was transferred to NTT Access Network Service Systems Laboratories in 2013. Currently, he is a Senior Research Engineer, Supervisor and Group Leader, Satellite Communications Group, NTT Access Network Service Systems Laboratories, NTT Corporation. He is also a part-time lecturer at the Kanto Gakuin University and the Muroran Institute of Technology University since 2018. His current interests include research and development of disaster-relief and remote island satellite communications systems, satellite MIMO and IoT systems using LEO satellites. He served an associate editor of IEICE transaction on Communications from 2015 to 2019, the general Chair of Korea and Japan Joint Conference on Satellite Communications in 2019. Currently he serves as Chair of the Technical Committee on Satellite communications, IEICE Communication Society. He received the Excellent Paper Award of the IEEE International Symposium on Personal Indoor Mobile Radio Communications (PIMRC) in 2003, the Young Researcher's Award from the Institute of Electronics, Information and Communication Engineers (IEICE) in 2004, the Best Paper Award from Korea and Japan Joint Conference on Satellite Communications in 2010, the Communications Society Distinguished Contributions Award in 2014 and 2019, respectively, the President's Award from Associate Radio Industries and Businesses (ARIB) in 2019.

