FOREWORD

Special Section on Coding and Coding Theory-Based Signal Processing for Wireless Communications

As reported by several companies and institutes, mobile data traffic is doubling every year, primarily driven by smartphones. Smartphone users have not only increased in number, they are also using their data connections more frequently. As a result cellular companies are being required to deal with an explosive growth of data.

Among various techniques, coding and coding theory-based signal processing for wireless communications are drawing much attention as solutions to achieve high user throughput and high reliability in wireless communications. These advanced technologies, e.g., near Shannon limit coding, joint network-channel coding, and turbo equalization, are becoming essential in future wireless communications. Therefore, this special section was planned to further promote research and development in this area.

We received a total of 27 submissions: 20 for paper and 7 for letter. The Editorial Committee has selected 9 papers and 3 letters and invited 2 tutorial papers. The Editorial Committee hopes that these excellent papers will encourage further research and development activities in this area on coding and coding theory-based signal processing for wireless communications.

As the Guest Editor-in-Chief, I would like to express my appreciation to all authors for their contributions and to all members of the Editorial Committee for their efforts in realizing this outstanding special section.

Tomoaki Ohtsuki (Keio Univ.), Guest Editor-in-Chief

Tomoaki Ohtsuki (Otsuki) *(Senior Member)* received the B.E., M.E., and Ph.D. degrees in Electrical Engineering from Keio University, Yokohama, Japan in 1990, 1992, and 1994, respectively. From 1994 to 1995 he was a Post Doctoral Fellow and a Visiting Researcher in Electrical Engineering at Keio University. From 1993 to 1995 he was a Special Researcher of Fellowships of the Japan Society for the Promotion of Science for Japanese Junior Scientists. From 1995 to 2005 he was with Science University of Tokyo. In 2005 he joined Keio University. He is now a Professor at Keio University. From 1998 to 1999 he was with the department of electrical engineering and computer sciences, University of California, Berkeley. He is engaged in research on wireless communications, optical communications, signal processing, and information theory. Dr. Ohtsuki is a recipient of the 1997 Inoue Research Award for Young Scientist, the 1997 Hiroshi Ando Memorial Young Engineering Award, Ericsson Young Scientist Award 2000, 2002 Funai Information and Science Award for Young Scientist, IEEE the 1st Asia-Pacific Young Researcher Award 2001, the 5th International Communication Foundation (ICF) Research Award, 2011 IEEE SPCE Outstanding Service Award, and the 28th TELECOM System Technology Award. He has published more than 115 journal papers and 265 international conference papers. He served a Chair of IEEE Communications Society, Signal Processing for Communications and Electronics Technical Committee. He served a technical editor of the IEEE Wireless Communications Magazine. He is now serving an editor of the IEEE Communications Surveys and Tutorials, IEICE Communications Express, and Elsevier Physical Communications. He has served symposium co-chair of many conferences, including IEEE GLOBECOM 2008, SPC, IEEE ICC2011, CTS, and IEEE GCOM2012, SPC. He gave tutorials and keynote speech at many international conferences including IEEE VTC, IEEE PIMRC, and so on. He is a senior member of the IEEE.