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## FOREWORD

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### Special Section on Ambient Intelligence and Sensor Networks

Sensor networks enable connections among peoples, products, and sensing devices for real space. Sensing data should be processed, analyzed, and applied for enhancement or assistance for human activities, which is called “Ambient Intelligence”. It is expected that gentle social environments such as efficient electric power usage in smart grids and effective transportation systems will be established through the systems with ambient intelligence based on sensor networks. Not only developments of technologies supporting the ambient intelligence such as sensor networks but also to look ahead to industry applications are important for ambient-intelligence contributions to social-infrastructure progressions.

From above points of view, the IEICE Technical Committee on Ambient Intelligence and Sensor Networks planned the special section, “Special Section on Ambient Intelligence and Sensor Networks”. The scope of this special section includes not only information communication research fields but also its multidisciplinary research with agriculture, forestry and fisheries industry fields, industry fields including incineration and power-generator plants, and service fields such as health-care, medical-care, and circulations because they are important and major applications for the Ambient Intelligence and Sensor Networks.

In response to call for papers, 25 papers have been submitted. By unbiased peer-review process initiated by one of the guest associate editors, 9 papers are finally accepted for publication in this special section: Home network, body area network, energy harvesting, transmit and receive technologies in ambient intelligence, privacy for real-world data, and so on. Moreover, two invited papers are included, one describes radiation distribution measurements in Fukushima Prefecture and the other describes image sensor based visible light communication and its application to pose, position, and range estimations.

We are convinced that all the articles become your good references for ambient intelligence and sensor networks. Finally, as editor-in-chief, I would like to thank all the contributing authors for their submissions and all the editorial members and reviewers for their tireless efforts to make this fruitful special section success.

#### Special Section Editorial Committee

**Guest Editors:** Katsuhiro Naito (Mie Univ.), Hiroo Sekiya (Chiba Univ.)

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

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**Tomoaki Otsuki (Ohtsuki)** (*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, the 28<sup>th</sup> TELECOM System Technology Award, and ETRI Journal's 2012 Best Reviewer Award. He has published more than 130 journal papers and 300 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, Elsevier Physical Communications and other international journals. 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 and the IEICE.

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