FOREWORD

Special Section on Emerging Technologies of Ubiquitous Computing Systems

The world is filled with a large number of computing devices, many of which are hidden inside other objects and networked with each other. A new trend toward the miniaturization of computing and communication components has been manifest for decades, leading to ubiquitous computing capability integrated imperceptibly into daily life. This vision derives from a common set of current observations about the rapid pace of innovations in information and communication technology.

However, we are still at the beginning and, following the prognostics which predict 50 to 100 billion devices to be connected by 2020, the true research work starts now. This special section aims to publish valuable papers reflecting technological efforts to enhance core ubiquitous computing technologies. Among 25 high-quality manuscripts received through the call-for-papers of this special section, the editorial committee finally accepted 6 full papers and 3 letters. We believe that they reflect exactly the ongoing developments toward realizing future ubiquitous computing systems. We sincerely hope that this special section provides the research and innovation issues and demonstrates approaches and examples of possible solutions.

I would like to thank all contributors who submitted their high-quality papers to this special issue and thank all anonymous reviewers for their dedicated, thoughtful, and timely reviews. In addition, I would like to thank two Guest Editors, Dr. Masayoshi Ohashi of ATR and Prof. Takeshi Iwamoto of Toyama Prefectural University, all Guest Associate Editors, the Editorial Board of IEICE Transactions, and the publication staff, for their strong support throughout the publication process of this special section.

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Hiroyuki Morikawa, Guest Editor-in-Chief

Hiroyuki Morikawa *(Fellow)* received the B.E., M.E, and Dr. Eng. degrees in electrical engineering from the University of Tokyo, Tokyo, Japan, in 1987, 1989, and 1992, respectively. Since 1992, he had been in the University of Tokyo and currently a full professor of the Research Center for Advanced Science and Technology at the University of Tokyo. From 1997 to 1998, he stayed in Columbia University as a visiting research associate. From 2002 to 2006, he was a group leader of NICT Mobile Networking Group. His research interests are in the areas of computer networks, sensor networks, mobile computing, wireless networks, photonic Internet, and network services. He served as a technical program committee chair of many IEEE/ACM conferences and workshops, Director of IEICE, Editor-in-Chief of IEICE Transactions of Communications, and sits on numerous telecommunications advisory committees and frequently serves as a consultant to government and companies. He received more than 30 awards including the IEICE best paper award in 2002, 2004, and 2010, IPSJ best paper award in 2006, Info-Communications Promotion Month Council President Prize in 2008, NTT DoCoMo Mobile Science Award in 2009, Rinzaburo Shida Award in 2010. He is a member of IEEE, ACM, ISOC, IPSJ, and ITE.

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