FOREWORD

Special Section on Medical Information and Communications Technologies

Demand for reducing expense in medical treatment and load in medical staffs has been increasing due to population ageing and regional gap in medical healthcare. In order to correspond to the demand we can apply advanced information and communications technologies (ICT) for medical healthcare, that is, medical ICT. Medical ICT is such a potential interdisciplinary field between medicine and engineering that can create innovation in research, development, and business in academia and industry. IEICE established a new technical group on medical ICT in 2006 and technically sponsored national and international workshops and symposia, e.g. ISMICT2006 in Yokohama, ISMICT2007 in Oulu, Finland, and ISMICT2009 in Montreal, Canada. National Institute of Information and Communication Technology (NICT) has coordinated medical ICT consortium with over 20 companies and universities. IEEE 802 set up a task group, TG15.6, in 2007, to develop an international wireless standard on Body Area Network (BAN) which is regarded as a key technology in assisting automatic biosignal collection for both wearable and implant devices.

This special section is the first trial in collecting contributions to the IEICE transaction to reflect the most up-to-date R&D outcomes in the area. Total 20 papers and 2 letters were submitted. The editorial committee finally selected 8 papers and 1 letter through careful and fair reviews. Moreover, two invited papers were added. As a result, this special section covers a wide range of the related areas including BAN standardization, homecare and telehealth, electromagnetic compatibility, antennas, service management/operation, positioning and ranging, wireless access protocol, BAN channel models, specific absorption rate (SAR) issues, etc.

It is the editorial committee members' believe that this special section can provide worthwhile insights to the readers on the related areas and will accelerate further academic studies as well as R&D activities. As the guest editor-in-chief, I would like to express my sincere appreciation to all the authors for contributing their research results and to all the editorial committee members and reviewers for their diligent works.

Special Section Editorial Committee Members
Guest Editor-in-Chief: Ryuji Kohno (Yokohama National Univ. and NICT)
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Ryuji Kohno, Guest Editor-in-Chief

Ryuji Kohno (*Fellow*)   received the B.E. and M.E. degrees in computer engineering from Yokohama National Univ. (YNU) in 1979 and 1981, respectively and the Ph.D. degree in electrical engineering from the Univ. of Tokyo in 1984. Since 1998 he has been a Professor in YNU. During 1984–1985 he was a Visiting Scientist in Dept.EE, Univ. of Toronto. Since 2007, he has been a Finnish Distinguished Professor (FiDiPro) in Univ. of Oulu, Finland. Moreover, he was a director of SONY ATL during 1998–2002 and a director of the UWB Tech. Inst. during 2002–2006, and now Medical ICT Inst. of National Institute of Information and Communications Technology (NICT). He was the principal leader of 21st century COE of "Creation of Future Social Infrastructure Based on Information Telecommunications Technology" during 2002–2007, and currently that of global COE of "Innovative Integration between Medicine and Engineering Based on ICT" since 2008, and a director of Medical ICT Center in YNU. He was elected as a BoG member of the IEEE Information Theory Society in 2000, 2002, and 2006, respectively. He was an editor of the IEEE Trans. Information Theory during 1995–1998, an editor of the IEEE Trans. Communications since 1994 and an editor of the IEEE Trans. Intelligent Transport Systems since 2000. He was a vice-president of Engineering Sciences Society of IEICE. Currently he is an editor-in chief of the IEICE Trans. Fundamentals and also the vice-president of SITA. He was awarded IEICE Greatest Contribution Award and NTT DoCoMo Mobile Science Award in 1999 and 2002, respectively.