



Special Issue for the IEEE Consumer Electronics Magazine

Consumer Healthcare Technologies in Smart Cities

The primary goal of this special issue is to provide insights into the latest technological developments in consumer electronics that blend into everyone's health and safety in a smart city environment. Smart wearables, such as watches and wristbands, have been widely used in health monitoring in recent years. These connected consumer electronics devices not only provide indicative information for consumers' health management, but also play a vital role in communicable disease management and prevention. In the context of consumer technology as part of a smart city infrastructure, wireless communication and sensing technologies have evolved substantially over the past decade and have seen an accelerating trend of technical advances, particularly in the consumer healthcare sector. Optimization techniques have been developed significantly and smart devices have become more efficiently designed and implemented both for the betterment of individual consumers and health service providers.

The ability to design and implement consumer healthcare devices when keeping up with the rapidly changing consumer healthcare market demands up-to-date technology information acquired through gaining practical knowledge for creating reliable and comfortable wearables that protects the internal electronic modules and systems for health monitoring.

To tackle the challenges in keeping up with the rapid consumer healthcare technology development, this special issue invites manuscript submissions in the following topics, but not limited to:

- Emerging health and/or pathogen sensing technologies for smart cities
- Smart consumer electronic devices and systems
- Smart and assistive healthcare technology in smart cities
- Highly integrated front-end circuits for smart health
- Integrated circuits for body area networks and/or infrastructural communications
- Novel multimedia processing for health monitoring
- Self-powered monitoring devices
- Privacy and/or security enhancing technologies for healthcare provisioning in smart cities
- Health applications such as baby monitoring, eSport and elderly care in smart cities

Important Dates

Paper submission due: December 31, 2021
Notification of decision: March 31, 2022
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Acceptance notification: June 30, 2022
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Proposed Guest Editors' bio:

Bernard Fong received his BSc degree in electronics from the University of Manchester Institute of Science and Technology and PhD degree in health information systems from the University of New South Wales in 1993 and 2005, respectively. He is a professor with Providence University and currently serves as a Series Editor of the IEEE Communications Magazine, Executive Editor of IEEE Consumer Electronics Magazine, Senior Area Editor of the IEEE Smart Cities eNewsletter, associate editor for the Archives of Emergency Medicine and Critical Care, Anaesthesia, Critical Care and Pain Management; Cyber-Physical Systems, Journal of Advances in Information Technology and IEEE Transactions on Consumer Electronics. He is the Chair of System Biology and Biomedical Systems Technical Committee under IEEE Systems Council, and is an author of the book "Telemedicine Technologies" 2/e (Wiley, 2020).

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Aris Gkoulalas-Divanis received the BSc degree in computer science from the University of Ioannina, the MSc degree in computer science from the University of Minnesota, and the PhD degree (with honors) in data privacy from the University of Thessaly. His PhD dissertation was awarded the Certificate of Recognition and Honorable Mention in the 2009 ACM SIGKDD. Aris is the Chief Technology Officer (CTO) for Data Privacy and De-Identification and a Senior Technical Staff Member of IBM Watson Health. He serves as the Managing Editor of the IEEE Smart Cities eNewsletter, a Senior Area Editor of the IEEE Transactions on Information Forensics and Security (T-IFS), and an Associate Editor of the IEEE Journal of Biomedical and Health Informatics (J-BHI) and the Elsevier Journal of Biomedical Informatics (JBI). He is the author of two books and the editor of three books, all published by Springer. Aris has more than 100 research publications and has applied for or being granted more than 60 patents. He has received 12 IBM Invention Achievement Awards.

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Haesik Kim is Senior Scientist of 5G and beyond network team in VTT Technical Research Centre of Finland. He was with Samsung Advanced Institute of Technology (SAIT) from 2002 to 2006 and NEC UK from 2008 to 2009. He received the Ph.D. degree from Lancaster University UK in 2009. He is an author of the books “Wireless Communications Systems Design (Wiley, 2015)” and “Design and Optimization for 5G Wireless Communications (Wiley - IEEE, 2020)”. He is a vice-chair of 5G IA steering board. He is a series editor of IEEE Communications Magazine: Design and Implementation of Devices, Circuits and Systems and also an associate technical editor of IEEE Communications Magazine. He served as a conference co-chair, session chair, and TPC member of major international journals and conferences.

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Vyasa Sai currently works for the Visual Technologies Team at Intel, CA, USA. He received his PhD from the RFID Center of Excellence, the Department of Electrical and Computer Engineering (ECE) at the University of Pittsburgh, Pittsburgh, PA, USA in 2013. Dr. Sai also holds a MS and BTech degrees in ECE from the U.S. and India respectively. He is a senior member of the IEEE. He currently serves as a series editor @ IEEE Communications Magazine, Technical committee member @ IEEE Communications Circuits and Systems, Editorial Board member @ Intl. Journal of RFID Technology & Applications, associate editor @ IEEE Access, Elsevier Intl. journal of Computers and Electrical Engineering, IEEE Communications Magazine, guest editor @ Elsevier Computer Communication, among others.

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