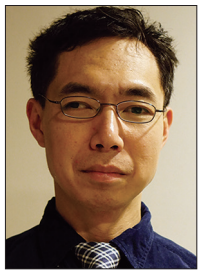
DESIGN AND IMPLEMENTATION OF DEVICES, CIRCUITS, AND SYSTEMS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The Design and Implementation of Devices, Circuits, and Systems Series solicits original articles that cover a broad range of topics in telecommunication devices, circuits and systems advances and developments. The Series welcomes contributions from different industrial sectors that cover virtually any types of communication systems and application areas. Prospective authors interested in submitting an article are strongly encouraged to discuss their intended contribution with any one of the Series Editors prior to submitting an article in order to ensure that the article will be appropriate for the Series.

In this issue, three articles that cover timely topics in the design and implementation of systems related to 5G cellular services are featured. As 5G systems brought global societal benefits, the design phase of 6G has started. The evolution of 5G implementations will continue. Thus, a new design and implementation will become increasingly critical for upcoming cellular systems. While all articles featured cover practical applications in cellular services, contributions that cover a broad range of ICT applications related to the design and implementation aspects of communication devices, circuits, and systems can be considered for publication. Examples such as healthcare, automotive, energy, agriculture, smart manufacturing, consumer electronics, smart city, VR/AR/hologram, drone, consumer electronics, etc., are all of interest.

The first article, "Design and Implementation of 5G e-Health Systems: Technologies, Use Cases and Future Challenges", discusses the importance of optimizing operational reliability for supporting mission-critical e-health applications from the physical layer, upper layer and cross layer perspectives.

The next article, "Design and Implementation of a System for Comparative Analysis of Learning Architectures for Churn Prediction", discusses an AI-based system developed to gather usage information for the retention of subscribers for telecommunication service providers. The proposed methodology is based on predictive churn modelling through a novel method that enhances automation.

The last article, "Energy Harvesting and Power Management for IoT Devices in the 5G era", tackles an important challenge of improving power efficiency for IoT devices in 5G networks. It is particularly important for the design and implementation of wearable as well as implantable devices for healthcare and consumer electronics applications.

BIOGRAPHIES

BERNARD FONG received his B.Sc. degree in electronics from the University of Manchester Institute of Science and Technology and the Ph.D. 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 for *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*, the *Journal of Advances in Information Technology* and *IEEE Transactions on Consumer Electronics*. He is the Chair of the System Biology and Biomedical Systems Technical Committee under the IEEE Systems Council.

HAESIK KIM is a Senior Scientist of the 5G and Beyond Network team at the VTT Technical Research Centre of Finland. He was with the 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 the 5G IA steering board. He is a series editor for the *IEEE Communications Magazine* Design and Implementation of Devices, Circuits and Systems Series and also an associate technical editor for *IEEE Communications Magazine*. He has served as a conference co-chair, session chair, and TPC member of major international journals and conferences.

VYASA SAI currently works for the Visual and Machine Learning IP Team at Intel, CA, USA. He received his Ph.D. from the Department of Electrical and Computer Engineering (ECE) at the University of Pittsburgh, Pittsburgh, PA, USA in 2013. He also holds M.S. and B.Tech. degrees in ECE from the U.S. and India, respectively. He is the lead series editor for the Design and Implementation of Devices, Circuits, and Systems Series in *IEEE Communication Magazine*. He also serves as a Technical Committee member for the IEEE Circuits and Systems for Communications, Editorial Board member for the *International Journal of RFID Technology & Applications*, Associate Editor for *IEEE Access*, *Elsevier International Journal of Computers and Electrical Engineering*, *IEEE Communications Magazine*, and guest editor for *Elsevier Computer Communication*, among others.