DESIGN AND IMPLEMENTATION OF DEVICES, CIRCUITS, AND SYSTEMS

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The Design and implementation of Devices, Circuits, and Systems Series publishes original articles that cover a broad range of topics in telecommunication devices, circuits and systems advances and developments. Information and Communication Technology (ICT) has evolved substantially over the past few decades and has seen an accelerating trend of technical advances especially in healthcare, green communications, among others. The design and implementation of reliable systems and potential service solutions not only play an important role in healthcare to ensure quality of care, but also in energy efficient green communications. In this context, the August issue features three articles that cover the design and implementation of such communication systems under several constraints.

The first article, "Energy Efficient Resource Allocation of Wireless Energy Transfer for Internet of Everything in Digital Twins," discusses how to optimize the energy efficiency of large-scale Multiple Input Multiple Output (MIMO) systems under Wireless Energy Transfer (WET) technology based on Digital Twins (DTs) IoT environment. In the context of green communications, this work tackles an important challenge of improving the stability of WET in the IoTs and prolonging the service life of wireless devices.

The next article, "An Implantable System for Neural Communication and Stimulation: Design and Implementation," introduces a bio-compatible engineered implantable system to overcome facial paralysis due to a nerve lesion, as an alternative to the current invasive surgical techniques leveraging ultra-low power intra-body communication technologies. It is particularly important in the context of the design and implementation of wearable as well as implantable devices for healthcare and consumer electronics applications.

The last article entitled "Self-Cognizant Prognostics for the Design and Implementation of Mission-Critical Telemedicine Systems under the Influence of Heavy Rainfall" focuses on the problems associated with the design and implementation of telemedicine systems that can be severely affected by uncontrollable factors such as rain-induced attenuation and depolarization. This proposed methodology is used for maximizing operational reliability by dynamically adjusting appropriate communication system parameters using artificial intelligence.

The Series welcomes contributions from various industrial sectors such as healthcare, automotive, energy, agriculture, smart manufacturing, consumer electronics, smart city, VR/AR/hologram, drone, consumer electronics, Microwave and RF design for communication systems, among others. 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. These articles are aimed at providing practical knowledge for developing and optimizing communication products and services with an academically rigorous style and are also suitable for industry professionals.

BIOGRAPHIES

MOHAMMAD A. MATIN [SM] (mohammad.matin@northsouth.edu) is a professor in the Department of Electrical and Computer Engineering at North South University (NSU), where he has been since 2008. He received his B.Sc. degree in EEE from BUET, Bangladesh, his M.Sc. degree in digital communication from Loughborough University, United Kingdom, and his Ph.D. in wireless communication from Newcastle University, United Kingdom. He has published over 100 peer-reviewed journal and conference papers. He is the author/editor of 16 academic books and 17 book chapters. He serves as a member of the Editorial Boards for several international publications including IEEE Communications Magazine, IET Wireless Sensor Systems. He has received a number of prizes and scholarships including the Best Student Prize (Loughborough University), Commonwealth Scholarship, and Overseas Research Scholarship (ORS) conferred by the Committee of Vice Chancellors and Principals (CVCP) in the United Kingdom.

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