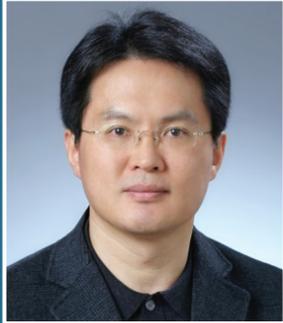


KEYNOTE SPEAKERS



Title: Wireless-Powered Communication Networks: Architectures, Protocols, and Applications

Prof. Dong In Kim, Sungkyunkwan University

Chair: Prof. Tue H. Huynh (International University, VNU-HCM, Vietnam)

Abstract

This talk will provide a comprehensive review on the state-of-the-art research and technological developments on the architectures, protocols, and applications of the wireless powered communication networks. The talk will start with an introduction to the circuit design of wireless-powered communication devices. Then the talk will discuss about the architecture and protocol design issues for the wireless-powered communication networks. Different wireless network architectures including single-hop networks, multihop relay networks, centralized and decentralized networks, and multi-antenna systems for RF energy harvesting and wireless energy transfer will be covered. Then the talk will delve into different physical, radio link/MAC, and network layer protocol design issues to support and utilize wireless energy harvesting and transfer capability. Next the talk will discuss about applications of energy harvesting and transfer in different wireless networking scenarios, for example, those in cellular networks, sensor networks, cognitive radio networks, mobile ad hoc and delay tolerant networks. In addition to reviewing the existing approaches for architecture, protocol, and application design in wireless powered communication networks, the talk will outline some emerging research directions in this area.

Bio

Dong In Kim received the Ph.D. degree in electrical engineering from the University of Southern California, Los Angeles, CA, USA, in 1990. He was a tenured Professor with the School of Engineering Science, Simon Fraser University, Burnaby, BC, Canada. Since 2007, he has been with Sungkyunkwan University (SKKU), Suwon, Korea, where he is currently a Professor with the College of Information and Communication Engineering. Dr. Kim has served as an Editor and a Founding Area Editor of Cross-Layer Design and Optimization for the IEEE Transactions on Wireless Communications from 2002 to 2011. From 2008 to 2011, he served as the Co-Editor-in-Chief for the Journal of Communications and Networks. He has served as the Founding Editor-in-Chief for the IEEE Wireless Communications Letters from 2012 to 2015. From 2001 to 2014, he served as an Editor of Spread Spectrum Transmission and Access for the IEEE Transactions on Communications, and then serving as an Editor-at-Large in Wireless Communication. He is a first recipient of the NRF of Korea Engineering Research Center (ERC) in Wireless Communications for Energy Harvesting Wireless Communications (2014-2021).