Institute of Microwave and Wireless Systems

Leibniz Universität Hannover

Invited Talk

Recent research progress on body-centric wireless communications

Professor Yang Hao, Queen Mary University of London

Date: 26. July, 2022, 2:30pm (45 min)

Place: Institute of Microwave and Wireless Systems
Appelstr. 9a, Room 1721

Abstract

Body-centric wireless communications have made remarkable progress recently, especially in terms of commercial applications. It is evident that future technologies such as augmented reality (AR) etc. will built upon expertise and previous studies in the academia. Current research trends in body-centric wireless communications are centered at the development of use-case studies and device fabrication based on newly developed materials. In this talk, I will first give a brief overview of recent progress, I will then discuss about our recent studies on the use of deep learning framework for subject-independent emotion detection based on body-centric wireless communications. Finally I will present a use case study, which implantable drug delivery systems are developed based on the rapid advancements in material fabrication and packaging technologies for in vivo precision management of diseases.

Speaker

Yang Hao is a Professor of Antennas and Electromagnetics at Queen Mary University of London. He also serves in the management team of Cambridge Graphene Centre since 2013. He is active in a number of areas, including computational electromagnetics, microwave metamaterials and transformation optics, antennas and radio propagation for body centric wireless networks, active antennas for millimeter/sub-millimeter applications and photonic integrated antennas. He co-published two books: “Antennas and Radio Propagation for Body-Centric Wireless Communications”, and “FDTD modelling of Metamaterials: Theory and Applications”. His work has led to a high number of citations and spinout companies including Isotropic Systems Plc of $100m.

He won 2015 IET AF Harvey Research Prize and is a co-recipient of BAE Chairman’s Silver Award in 2014 and the Royal Society Wolfson Research Merit Award. Prof. Hao is an elected Fellow of Royal Academy of Engineering, the ERA Foundation, IET and IEEE.