



RF in Medicine

Current Status and Challenges of Wireless Power and Antennas

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Wireless power and data telemetry technologies for biomedical and healthcare applications have received a lot of attention recently. Numerous applications in medical diagnostics and therapeutics ranging from cardiac pacemakers to emerging devices in visual prosthesis, brain computer interfaces and body area networks have spurred electronic engineers to propose new wireless medical devices. In the meantime, the ageing population poses many challenges to healthcare systems, especially on chronic illness management. In this talk, I would mainly cover our recent research progress on wearable/implantable antennas and wireless power for biomedical applications. A few related ongoing biomedical projects for on-body and in-body applications will be addressed. In addition, I would also briefly introduce my other related research activities.

Yong-Xin Guo



Dr Yong-Xin Guo is currently a Full Professor at the Department of Electrical and Computer Engineering, National University of Singapore (NUS). Concurrently, He is Director for Center of Advanced Microelectronic Devices at NUS Suzhou Research Institute. He has authored or co-authored over 430 international journal and conference papers and 3 book chapters. Thus far, his publications have been cited more than 8000 times and the H-index is 49 (source: Google Scholar). He holds 2 granted U.S. patents and over 10 filed patents in China. His current research interests include antennas, wireless power, RF and millimeter-wave sensing, and MMIC modeling and design for wireless communications, IoTs, and biomedical applications. He has graduated 13 PhD students at NUS.

Dr Guo is the Chair for IEEE AP-S Technical Committee on Antenna Measurement in 2019/2018. He has served as General Chair/Co-Chair for APMC 2019, AWPT 2017, ACES-China 2017, IEEE MTT-S IMWS-AMP 2015 and IEEE MTT-S IMWS-Bio 2013. He has served as Technical Program Committee (TPC) co-chair for IEEE IMWS-AMP 2019/2017 and RFIT2009. He is serving as Associate Editors for IEEE Antennas and Propagation Magazine, and IEEE Journal of Electromagnetics, RF and Microwave in Medicine and Biology. He is an IEEE Fellow.