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Abstract Talk: Toward 5G Wireless Networks: Key Technologies and Challenges

The next wave in the information revolution will consist of bringing intelligence to the information and communication technology (ICT) sector, allowing seamless and intelligent networking and communication between different users and different services and operators. This trend will lead to the convergence of communication technologies, aiming at the development and deployment of cooperative and ubiquitous networks that involve existing and future wireless and satellite communications systems and Internet of Thing Networks (I of T). 5G wireless communication standard is the backbone and catalysis of such integration promising the high-end quality of services and experiences, multi-Gbps data rate, low energy consumption and very low latency. Technologies for 5G network's deployment will be discussed and challenge related to hardware and development and implementation will be highlighted.

Short Biography

Fadhel Ghannouchi is currently a professor, Alberta Innovates/Canada Research Chair and Director of the iRadio Laboratory (www.iradio.ucalgary.ca) in the Department of Electrical and Computer Engineering at the University of Calgary, Alberta, Canada and a part-time Thousand Talent Professor at Tsinghua University, Beijing China. His research interests are in the areas of RF and wireless communications, nonlinear modeling of microwave devices and communications systems, design of power- and spectrum-efficient microwave amplification systems and design of SDR systems for wireless and satellite communications applications. He is Fellow of the Academy of Science of the Royal Society of Canada, Fellow of the Canadian Academy of Engineering, Fellow of the Engineering Institute of Canada, Fellow of the Institution of Engineering and Technology (IET) and Fellow of the Institute of Electrical and Electronic Engineering (IEEE). He published more than 800 referred papers, 6 books and hold 23 US patents (3 pending). Prof. Ghannouchi is the co-founder of three university spun-off companies.