QCIT Meeting - 8th of April 2022

Organized
by
Andrea Conti, Lajos Hanzo, Soon-Xin Ng and Peter Mueller

Agenda

- Welcome and Opening
- Technical tutorial to be delivered by Prof. KC Chen
- Approval of the Minutes of the QCIT Meeting at GC'2021
- Next QCIT-ETC Meeting & Workshop: GC'2022
- Adjourn

Zoom Link for joining:
https://zoom.us/j/96160541479?pwd=aThVUTNMUXFmbng5Q1NsQ2liOGVlUT09
Meeting ID: 961 6054 1479
Passcode: 921012
One tap mobile +19292056099,,96160541479# US (New York)

SPEAKER:

Prof. KC Chen

TITLE:

Introduction to Quantum Communications, Networking, and Sensing

ABSTRACT:

Applying quantum technology to revolutionize communications and networking emerges as a new technological frontier. Quantum mechanics dealing with microscopic world can intuitively different from the classic macroscopic world, and must rely on mathematical and physical inductions to understand. From the engineering point of view and background knowledge, this tutorial supplies the comprehensive knowledge in

- brief introduction of quantum mechanics, quantum entanglement and logic gates
- quantum teleportation, swapping, dense coding, quantum copier
- quantum optical communications
- quantum networks
- quantum metrology, detection/illumination, sensing and imaging

BIOGRAPHY:

Kwang-Cheng (K.-C.) Chen has been a Professor at the Department of Electrical Engineering, University of South Florida, since 2016. From 1987 to 2016, Dr. Chen worked with SSE, Communications Satellite Corp., IBM Thomas J. Watson Research Center, National Tsing Hua University, HP Labs., and National Taiwan University in mobile communications and networks. He visited TU Delft (1998), Aalborg University (2008), Sungkyunkwan University (2013), and Massachusetts Institute of Technology (2012-2013, 2015-2016). He founded a wireless IC design company in 2001, which was acquired by MediaTek Inc. in 2004. He has been actively involving in the organization of various IEEE conferences (most recently, Executive Chair, IEEE GLOBECOM 2020) and serving editorships with several IEEE journals and Nature Scientific Reportd, together with various IEEE volunteer services to the IEEE, Communications Society, Vehicular Technology Society, and Signal Processing Society, such as founding the Technical Committee on Social Networks in the IEEE Communications Society. Dr. Chen also has contributed essential technology to various international standards, namely IEEE 802 wireless LANs, Bluetooth, LTE and LTE-A, 5G-NR, and ITU-T FG ML5G. He has authored and co-authored over 300 IEEE publications, 4 books published by Wiley and River, and more than 25 granted US patents. Dr. Chen is an IEEE Fellow and has received a number of awards including 2011 IEEE COMSOC WTC Recognition Award, 2014 IEEE Jack Neubauer Memorial Award, 2014 IEEE COMSOC AP Outstanding Paper Award. Dr. Chen's current research interests include quantum communications and computing, wireless networks, cybersecurity, artificial intelligence and machine learning, IoT/CPS, and social networks.