Announcement

IEEE Foothill Section

IEEE Communications Society Chapter

PRESENTATION

D2D, MU-MIMO and mmWave in 5G Wireless Systems

By Professor Rose Qingyang Hu, Utah State University

To Be Held on Thursday, November 10, 6:30 to 9:00 PM

At Devry University, Pomona, 901 Corporate Center Drive

Pomona, CA 91768

Abstract of Presentation: Device-to-Device (D2D) communication, MultIple User Multiple Input Multiple Output (MU-MIMO) and MillimeterWave (mmWave) are among the key technologies in the next generation (5G) cellular network as they can significantly improve the system performance on connectivity, spectrum efficiency and energy efficiency. In this talk, we will address how to exploit these technology advantages and tackle the key technical challenges to achieve high system performance gains. In particular, we will present D2D, MU-MIMO, NOMA and mmWave based schemes and their related performance study in 5G/ (Internet of Things) IoT settings. These schemes include power control in D2D underlaid cellular networks, beamforming and Non-Orthogonal Multiple Access (NOMA) based MU-MIMO in a downlink cellular network with underlay D2D users, and relay-assisted Millimeter Wave cellular networks. The talk will present detailed 5G system model, technology background, mathematical approaches and performance results based on both analysis and simulations. Key technical insights from these studies will be provided.

Presenter's Biography:

Rose Qingyang Hu [S'95, M'98, SM'06] (rosehu@ieee.org) is an Associate Professor of Electrical and Computer Engineering Department at Utah State University. She received her B.S. degree from University of Science and Technology of China, her M.S. degree from New York University, and her Ph.D. degree from the University of Kansas. She has more than 10 years of R&D experience with Nortel, Blackberry and Intel as a technical manager, a senior wireless system architect, and a senior research scientist, actively participating in industrial 3G/4G technology development, standardization, system level simulation and performance evaluation. Her current research interests include next-generation wireless communications, wireless system design and optimization, green radios, Internet of Things,

Cloud computing/fog computing, multimedia QoS/QoE, wireless system modeling and performance analysis. She has published over 170 papers in top IEEE journals and conferences and holds numerous patents in her research areas. Prof. Hu will serve or has served as the TPC Co-Chair for IEEE ICC 2018 and ICNC 2014, TPC Vice-Chair for IEEE GreenCom 2013, Student Travel Grant Chair for IEEE Globecom 2019, Symposium Co-Chairs for IEEE ICC 2012/2014/2015, IEEE WCNC 2013, ICNC 2013, and IEEE SmartGridComm 2012. Prof. Hu is an IEEE Communications Society Distinguished Lecturer Class 2015-2016 and the recipient of Best Paper Awards from IEEE Globecom 2012, IEEE ICC 2015, IEEE VTC Spring 2016, and IEEE ICC 2016. She is currently serving on the editorial boards for IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technology, IEEE Communications Magazine, IEEE Wireless Communications Magazine, IEEE Internet of Things. She has also been 9 times guest editors for IEEE Communications Magazine, IEEE Wireless Communications Magazine, and IEEE Network Magazine. Prof. Hu is a senior member of IEEE and a member of Phi Kappa Phi and Epsilon Pi Epsilon Honor Societies.

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