

Performance Evaluation of Downlink Non-orthogonal Multiple Access: Some Lessons Learned

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Abstract: Non-orthogonal multiple access (NOMA) is a promising technique to enhance the spectral utilization and fairness for the next generation wireless networks. In this talk, we will discuss system-level performance evaluation of downlink NOMA. Both the results with receiver-side and transmitter-side interference cancellation will be discussed. The interaction between downlink NOMA and adaptive modulation and coding (AMC), hybrid automatic repeat request (HARQ) and scheduling, together with related system design issues and some insights obtained will also be discussed.

Biography:

Dr. Hsuan-Jung Su is a Professor with the Department of Electrical Engineering and Graduate Institute of Communication Engineering, National Taiwan University. Before joining the National Taiwan University in 2003, Dr. Su was with the Bell Laboratories, Lucent Technologies, Holmdel, New Jersey. Dr. Su was the Chair of IEEE Information Theory Society, Taipei Chapter (2013-2015), the Secretary and Treasurer (2014-2015) and the Technical Affairs Committee Vice Chair (2016-2017) of the IEEE Communications Society Asia-Pacific Board. He has served on the organizing committees and TPCs of many international conferences, including being the Finance Chair of IEEE ICASSP 2009, the Finance Co-Chair and a TPC Track Chair of IEEE VTC 2010 Spring, a TPC Co-Chair of WPMC 2012, a TPC Co-Chair of IEEE GreenCom 2014, and the TPC Chair of WOCC 2015. Dr. Su has also been actively participating in international standard activities. He has guest edited special issues on 5G mobile communications in journals such as the *IEEE Access*, and is an Area Editor of the *Physical Communication (PHYCOM)* journal (Elsevier). Dr. Su received the Central Bell Labs Teamwork Award in 2002 and the Bell Labs President's Gold Award in 2003 for his contribution to the 3G wireless standards and MIMO systems.

Dr. Su received the B.S. degree in Electronics Engineering from the National Chiao Tung University, Taiwan, in 1992, and the M.S. and Ph.D. degrees in Electrical

Engineering from the University of Maryland, College Park, in 1996 and 1999, respectively. His research interests cover coding, modulation, signal processing, interference management, resource allocation, and MAC protocols of wireless communication, cognitive, M2M (IoT) and D2D networks.