Abstract
A lot of capacity-approaching channel codes have emerged since turbo code is invented in 1993, LDPC can be extremely close to Shannon capacity with BPSK modulation and very large code block length. But with high order modulation, these codes are still far away from Shannon limit, we face the challenges to fill the gap for high-spectrum-efficiency code modulation. Link adaptation is another important way to improve spectrum efficiency in fading channel, Adaptive Code Modulation (AMC) and HARQ is current main-stream link adaptation techniques, which heavily depend on channel quality feedback. A new link adaptation is proposed based on the rateless coded modulation, which can match channel condition automatically, thus no feedback is needed. The traditional rateless coding operates in bit domain, while the proposed rateless coded modulation operates in real number instead, thus the coding and modulation can be fulfilled jointly. Furthermore, the proposed rateless coded modulation can achieve very good spectrum efficiency, approaching channel capacity.

Biography
Jun Wu received his B.S. degree and M.S in Information Engineering from XIDIAN University in 1993 and 1996, respectively. He received his Ph.D. degrees in Information Engineering from Beijing University of Posts and Telecomm. in 1999. Wu joined Tongji University as a Professor in 2010. He has been a principal scientist in Huawei from 2009 to 2010, and also a principal scientist in Broadcom Inc from 2006 to 2009. His research interests include information theory, communication principle, and digital signal processing, combined with ten years’ industrial experiences in top communication enterprise, make him deeper understand theoretical problem, bridge gap between theory and practices. He has authored or co-authored over 60 high quality papers and granted/filed 25 US/China patents. His 2 techniques have been adopted into international standards 802.16e. He is currently an IEEE Senior Member, ACM Member, Senior Member of Chinese Institute of Electronics (CIE), Member of China Computer Federation (CCF). He is a Technical Program Committee (TPC) member of ACM Shanghai Chapter. He served as IEEE Chinacom 2015 TPC chair. He served as IEEE ICC 2014 Wireless Networking and Multimedia Symposium Co-chair, IEEE ICME 2011~2014 TPC member, IEEE GlobalCom 2012 workshop TPC member.

*** All are welcome to attend ***

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