




## 学术报告会 Seminar

题目	A Cross-Layer Peer-to-peer System based on Device-to-device Communications	
报告人	<b>Dr Xiaoli Chu</b> Department of Electronic and Electrical Engineering, University of Sheffield, UK	
时间	2018年3月22日(星期四)上午 11:00-12:00	
地点	上海科技大学, 信息学院 1 号楼 C 区 502 会议室 (上海雾计算实验室)	

**Abstract:** In this talk, I will introduce a peer-to-peer (P2P) system based on harvesting data in a community utilising multi-hop device-to-device (D2D) communications. The P2P system optimises D2D communications for P2P local file sharing, improves user experience, and offloads traffic from the base stations (BSs). The P2P system features cross-layer integration of: 1) a wireless P2P protocol based on the Bittorrent protocol in the application layer; 2) a simple centralised routing mechanism for multi-hop D2D communications; 3) an interference cancellation technique for conventional cellular (CC) uplink communications; and 4) a radio resource management scheme to mitigate the interference between CC and D2D communications that share the cellular uplink radio resources while maximising the throughput of D2D communications. Simulation results show that the D2D enabled P2P system can increase the cellular spectral efficiency, reduce the traffic load of BSs, and improve the data rate and energy saving for mobile users.

**Bio:** Xiaoli Chu is a Reader in the Department of Electronic and Electrical Engineering at the University of Sheffield. She received the B.Eng. degree in Electronic and Information Engineering from Xi'an Jiao Tong University in 2001 and the Ph.D. degree in Electrical and Electronic Engineering from the Hong Kong University of Science and Technology in 2005. From 2005 to 2012, she was with the Centre for Telecommunications Research at King's College London. Xiaoli is co-recipient of the IEEE Communications Society 2017 Young Author Best Paper Award. She is the lead editor/author of the book "Heterogeneous Cellular Networks – Theory, Simulation and Deployment" published by Cambridge University Press (May 2013) and the book "4G Femtocells: Resource Allocation and Interference Management" published by Springer (November 2013). She is Editor for the IEEE Communications Letters and the IEEE Wireless Communications Letters. She was Co-Chair of Wireless Communications Symposium for the IEEE International Conference on Communications (ICC) 2015, Workshop Co-Chair for the IEEE International Conference on Green Computing and Communications 2013, and has been Technical Program Committee Co-Chair of 6 workshops on heterogeneous and ultra-dense networks for IEEE ICC, GLOBECOM, WCNC, and PIMRC.

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