上海交通大学自动化系
Department of Automation
Shanghai Jiao Tong University

系统控制与信息处理教育部重点实验室
Key Laboratory of System Control and Information Processing, Ministry of Education

学术报告会

时间：**2015年6月4日(周四)10:30-11:30**

地点：**电院群楼2-410会议室**

Exploit Social Trust For Cooperative Networking: A Social Group Utility Maximization Framework

Dr. Xu Chen

University of Goettingen, Germany

Abstract:

The combination of exploding demand and limited resources poses a significant challenge for future wireless network design. Since hand-held devices are carried by human beings, we advocate a social aware approach to enhance cooperative networking. Such cooperation among mobile devices with trust enables self-organizing networking, and has potential to achieve substantial gains in spectral efficiency and lead to significant increases in network capacity. In particular, mobile devices are coupled in the physical domain due to the interference relationship in data transmissions, and also coupled in social domain due to the social ties among them. It would be a win-win case for these devices to help those users having social trust with them. With this insight, we propose a novel social group maximization framework for cooperative networking, where each user carries out resource allocation to maximize its social group utility, defined as the weighted sum of its own utility and the utilities of other users having social trust towards it.

Biography:

Dr. Xu Chen received the Ph.D. degree in information engineering from the Chinese University of Hong Kong (Hong Kong, China) in 2012. From August 2012 to February 2014, Dr. Chen was a postdoctoral research fellow in the School of Electrical, Computer and Energy Engineering, Arizona State University (Tempe, Arizona, USA). Since April 2014, he has joined the Faculty of Mathematics and Computer Science, University of Goettingen, Germany, as a Humboldt scholar. Dr. Chen's general research interests include wireless and mobile networking, cognitive radio networks, mobile social networks, mobile cloud computing, network economics, and game theory. He has published more than 30 scientific papers in internationally recognized journals (e.g., ACM/IEEE Transactions on Networking, IEEE Journal on Selected Areas in Communications and IEEE Transactions on Mobile Computing) and top conferences. Dr. Chen is the recipient of the prestigious Humboldt research fellowship awarded by Alexander von Humboldt-Foundation, the 2014 Hong Kong Young Scientist Award Runner-Up by Hong Kong Institution of Science, the Best Paper Runner-Up Award in IEEE International Conference on Computer Communications, and the Honorable Mention Award in IEEE International Conference on Intelligence and Security Informatics.