

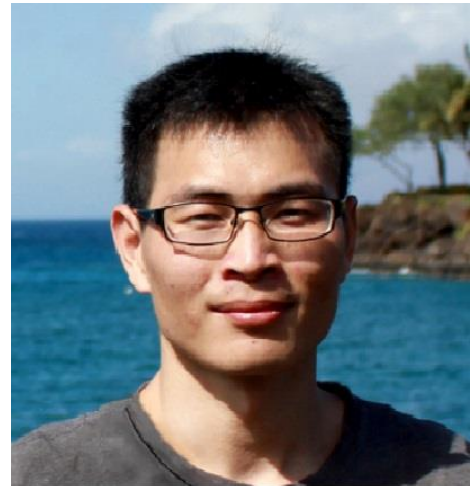
学术报告会

时间: 2015年4月15日(周三)10:00

地点: 电院群楼2-410会议室

Consensus-based Time Synchronization in Wireless Sensor Networks

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Abstract:

In this talk, we give a brief introduction to consensus algorithms and their applications on time synchronization in wireless sensor networks (WSNs). Time synchronization is a fundamental requirement in WSNs. We first propose a maximum consensus-based time synchronization algorithm, which has fast convergence rate and high synchronization precision compared with the most existing distributed time synchronization algorithms. Then, to deal with the challenges caused by message manipulation attacks, we design novel defense mechanisms to achieve secure distributed time synchronization. Both numerical and experimental results are provided to demonstrate the effectiveness of the proposed algorithms.

Biography:

Jianping is currently a postdoctoral research fellow in both the State Key Laboratory of Industrial Control Technology at Zhejiang University and the Department of Electrical and Computer Engineering at University of Victoria, Canada. He received the Ph.D. degree of Control Science and Engineering at Zhejiang University in 2013. He was a guest editor of International Journal of Distributed Sensor Networks Special Issue on “Adaptive Sensing in Emerging Sensor Networks.” He was selected as an outstanding reviewer of IEEE Trans. on Control of Network Systems. He also served/serves as a TPC member for IEEE CoCoNet’15, IEEE GLOBECOM’14,15, IEEE IWCMC’14,15, IEEE ICC’14,15, etc. His research interests include wireless sensor networks, vehicular networks and smart grid.