浙江大学信电系

2014网络与通信前沿论坛

Workshop on Network and Communication Frontier

时间		报告题目和报告人	
10月16日	8:15-8:30	Opening Ceremony	
	8:30-9:15		**Vehicular Communications Networks-Design and Applications** Xuemin (Sherman) Shen Professor and University Research Chair Fellow of IEEE Fellow of Engineering Institute of Canada Fellow of Canadian Academy of Engineering Editor-in-Chief of IEEE Network Editor-in-Chief of IET Communications
	9:15-10:00		**D2D: Research Trend and Future Perspective** Nei Kato Professor of Tohoku University Fellow of IEEE, Fellow of IEICE Member-at-Large on the Board of Governors of IEEE Communications Society Chair of IEEE Ad Hoc & Sensor Networks Technical Committee Chair of IEEE ComSoc Sendai Chapter
	10:00-10:45		**Overlapping Coalition Formation Games for Future Wireless Networks** 宋令阳 北京大学教授，百人计划特聘研究员，博士生导师，国家973计划首席科学家(首届青年专题项目)，首批国家优秀青年科学基金获得者，北京市科技新星，北京市五四青年奖章获得者。

地点：玉泉校区老行政楼108

浙江大学 信息与电子工程学系
Department of Information Science & Electronic Engineering,Zhejiang University

学 术 报 告

ACADEMIC LECTURE

题目：Vehicular Communications Networks - Design and Applications

时间：2014年10月16日(周四)上午8:15-10:45

地点：玉泉校区老行政楼108学术会议室

报告人：Prof. Xuemin (Sherman)Shen

Univ. of Waterloo, Canada

专家介绍：Xuemin (Sherman) Shen is a Professor and University Research Chair, Department of Electrical and Computer Engineering, University of Waterloo, Canada. Dr. Shen's research focuses on wireless resource management, wireless network security, wireless body area networks, smart grid and vehicular ad hoc and sensor networks. He is the Editor-in-Chief of IEEE Network, Peer-to-Peer Networking and Application, and IET Communications. He serves/served as the General Co-Chair for ACM Mobihoc'15, Technical Program Committee Chair for IEEE Infocom'14, and etc. Shen received IEEE ComSoc Ad Hoc & Sensor Networks Technical Recognition Award in 2013, the Excellent Graduate Supervision Award in 2006, and the Outstanding Performance Award in 2004, 2007, and 2010 from the University of Waterloo, the Premier's Research Excellence Award (PREA) in 2003 from the Province of Ontario, Canada. Dr. Shen is a registered Professional Engineer of Ontario, Canada, an IEEE Fellow, an Engineering Institute of Canada Fellow, a Canadian Academy of Engineering Fellow, and a Distinguished Lecturer of IEEE Vehicular Technology Society and Communications Society.

报告内容：

In this talk, we first introduce the Vehicular Communications Networks (VANET), its potential applications and challenge design issues. We then focus on the throughput performance of medium access control (MAC) in drive-thru Internet scenario. The pervasive adoption of IEEE 802.11 radios in the past decade has made possible for the easy Internet access from a vehicle, However, originally designed for the static indoor applications, the performance of IEEE 802.11 in the outdoor vehicular environment is still unclear especially when a large number of fast-moving users transmitting simultaneously. We analyze and demonstrate that the IEEE 802.11 MAC could be adaptively adjusted according to the vehicle velocities for improving the throughput performance. We also describe the adaptive mechanisms to achieve smooth video delivery to passengers based on the Interrupted and variable download throughput of vehicles.

学 术 报 告

ACADEMIC LECTURE

题目：D2D: Research Trend and Future Perspective

时间：2014年10月16日(周四)上午8:15-10:45

地点：玉泉校区老行政楼108学术会议室

报告人：Nei Kato, Tohoku University

专家介绍：Nei Kato received his Bachelor Degree from Polytechnic University, Japan, in 1986, M.S. and Ph.D. Degrees in information engineering from Tohoku University, in 1988 and 1991 respectively. Nei Kato is a fellow of IEEE and IEICE. He joined Computer Center of Tohoku University as an assistant professor in 1991, and was promoted to full professor position with Graduate School of Information Sciences, Tohoku University, in 2003. He became a Strategic Adviser to the President of Tohoku University in 2013. He has published more than 300 papers in peer-reviewed journals and conference proceedings. He currently serves as a Member-at-Large on the Board of Governors, IEEE Communications Society, the Chair of IEEE Ad Hoc & Sensor Networks Technical Committee, the Chair of IEEE ComSoc Sendai Chapter, the associate Editor-in-Chief of IEEE Network and IEEE Internet of Things Journal, an area editor of IEEE Transactions on Vehicular Technology.

报告内容:

As driven by the proliferous development of media-hungry handheld devices and online applications, there has been an unprecedented consumer demand for faster and cheaper mobile broadband usage. Given the impossibility of meeting this demand by adding spectrum, researchers around the whole world are bending over backwards to squeeze out more data bits from the limited available frequency resources. Among various efforts towards this end, device-to-device (D2D) communication which allows mobile UEs in proximity to communicate directly via licensed/unlicensed band with/without the support from the operator, has gained intensive research interests from academia, industry, and standard bodies. In this talk, we present the opportunities for D2D to improve system capacity, enhance spectral efficiency, and increase coverage and connectivity, and identify the new challenges to co-existence and network management. In particular, we introduce our [Relay-by-Smartphone] concept and implementation, along with the experiments of UAV for traffic relaying in disaster relief, and for load balancing in LTE-Advanced networks. Finally, we outline some research directions in the future wireless networks.

学 术 报 告

ACADEMIC LECTURE

题目：Overlapping Coalition Formation Games for Future Wireless

时间：2014年10月16日(周四)上午8:15-10:45

地点：玉泉校区老行政楼108学术会议室

报告人：宋令阳，北京大学教授

专家介绍： 宋令阳，2006年英国约克大学博士、2007-2008年挪威奥斯陆大学博士后、2008-2009年英国飞利浦研究院高级研究员，现为北京大学“百人计划”研究员，博士生导师，获得6个IEEE国际会议的最佳论文(例如ICC 2014， WCNC 2012)、2012年IEEE通信学会亚太地区杰出青年研究奖、2012年国家973计划首席科学家(首届青年专题项目)、2012年国家自然基金委优秀青年科学基金(首届)、2012年北京市科技新星、2013年北京市五四青年奖章。研究方向主要集中于多天线、协作通信以及同构和异构网络。近五年，共发表SCI收录文章50余篇，授权国际专利5项，申请国内专利22项，出版6部英文著作。

报告内容：

Modern cellular networks are witnessing an unprecedented evolution from classical, centralized and homogenous architectures into a heterogeneous mix of various technologies, in most of which the network devices acquire more autonomy and flexibility to cooperate with each other. Such cooperation may exist between interfering small access points to coordinate their radio resource allocation, or nearby single antenna users to perform virtual MIMO communications, or even unlicensed users to cooperatively sense the spectrum of the licensed users. These technologies require the devices to form multiple overlapping groups, and each device should distribute its limited resources to all the cooperative groups it participates. In this talk, we introduce a novel mathematical framework from cooperative games, dubbed overlapping coalition formation games (OCF-games), to model and solve such cooperative scenarios. First, the concepts of OCF-games are presented and, then, several algorithmic aspects are studied for two key classes of games. Subsequently, two applications, namely, radio resource allocation and cooperative spectrum sensing, are discussed in detail in order to show how OCF-game models and algorithms can be used in future wireless systems. We then conclude by providing an overview on future directions and applications for OCF games.