IEEE Communications Society Distinguished Lecturer Tour

Asia-Pacific Region in July 2016

Prof. Jianwei Huang

As an IEEE Communications Society (ComSoc) Distinguished Lecturer, I was honored to be invited to give three lectures at IEEE ComSoc Sapporo/Shinetsu/Tokyo/Nagoya/Shikoku/Hiroshima/Fukuoka Joint Chapter and IEEE ComSoc Kansai Chapter during July 21 to July 28, 2016.

All three talks are based on my recent research of “Incentive Mechanisms for User-Provided Networks”. Here is the abstract of the talk:

The fast-growing mobile data demands and the proliferation of advanced mobile devices lead to the emergence of user-provided networks (UPNs), which improve user experiences by exploiting the diverse communication needs and resources of different users. The success of UPNs, however, relies on carefully designed incentive mechanisms that effectively encourage voluntary participation and cooperation of users. Motivated by recently launched UPN business models, we will introduce two new mobile UPN incentive mechanisms that take users’ energy consumption and data usage costs into consideration. The first one is motivated by the social bandwidth trading scheme pioneered by Karma (https://yourkarma.com/), and we design an optimal hybrid pricing scheme that combines usage-based data pricing and quota reimbursement for network-assisted mobile UPNs. The second one is motivated by the crowd-sourced Internet connectivity enabled by OpenGarden (https://opengarden.com/), and we design a virtual currency based scheme that incentivizes cooperation in autonomous mobile UPNs. For more information, please see our half-day tutorial delivered during IEEE GLOBECOM 2015 (http://jianwei.ie.cuhk.edu.hk/Files/UPN-Tutorial.pdf) and the related publications (http://ncel.ie.cuhk.edu.hk/content/user-provided-networks).

1. Tsukuba

My first stop was University of Tsukuba, and the trip was co-arranged by University of Tsukuba. My host was Prof. Jie Li (http://www.osdp.cs.tsukuba.ac.jp/lijie/), who is a professor of Computer Science in Division of Information Engineering, Faculty of Engineering, Information and Systems, University of Tsukuba. I knew Prof. Li for many years, mainly due to our interactions in the IEEE WiOpt community, where I served as the TPC Co-Chair and Prof. Li served as the General Co-Chair of WiOpt’12 in Germany.

The DL talk was attended by Prof. Jie Li, Prof. Yongbing Zhang, and some graduate students from the Division of Information Engineering. Prof. Yongbing Zhang is a
Professor of Graduate School of Systems and Information Engineering, and serves as the Dean of College of Policy and Planning Sciences. He is also a leader in the WiOpt community and served as the TPC Co-Chair of WiOpt'13 in Japan.

After my DL talk, Prof. Li, Prof. Zhang and I had some discussions regarding the academia life in Japan and Hong Kong, and some potential collaboration opportunities. Later Prof. Li showed me the city of Tsukuba, and introduced to me the high tech nature of the city.

2. Hakodate

My second stop was Hakodate, where I attended the International Conference on Networking and Network Applications (NaNA: http://www.nana-conference.org/) and delivered a keynote talk. My host was Prof. Xiaohong Jiang from the Department of media architecture at the Future University Hakodate (http://www.fun.ac.jp/research/faculty_en/?id=2936).

This is the first edition of the NaNA conference, which was technically sponsored by Xidian University, China and Future University Hakodate, Japan. Besides me, the other two conference keynote speakers were Prof. Han-Chieh Chao (President, National Ilan University, Taiwan) and Prof. Ben Liang (University of Toronto, Canada).

The conference was attended by around 50 researchers, mainly from Japan and China. My talk was chaired by Prof. Pin-Han Ho from University of Waterloo, Canada (https://ece.uwaterloo.ca/~p4ho/). My talk was well received, and I received a lot of interesting questions in the Q&A session and during the lunch afterwards. I also got the chance to have in-depth discussions with colleagues from several research groups from University of Electronic Science and Technology of China and Beijing University of Posts and Telecommunications.
After the talk, I visited several nice places in the Hakodate city, including the famous Goryōkaku, which is a star fort and the first European style fort built in Japan in 1855. The Hakodate city museum located in Goryōkaku offered rich explanations regarding the city history.

3. Osaka

The last stop of my DLT was Osaka. There I was warmly welcomed by all the committee members of IEEE ComSoc Kansai Chapter (http://www.ieee-jp.org/section/kansai/english/), and my local host was Prof. Hai Lin from Graduate School of Engineering, Osaka Prefecture University (http://www.eis.osakafu-u.ac.jp/~lin/indexe.html). Prof. Lin is an active volunteer in ComSoc and currently serves the Chair of IEEE ComSoc Signal Processing and Communications Electronics Technical Committee.

My talk took place at the Osaka Institute of Technology (OIT), Umekita Knowledge Center. Besides all the IEEE ComSoc Kansai Chapter committee members, some graduate students from local universities also attended my talk. After the talk, the officers invited to have dinner at a local restaurant, and I got the chance to understand the strengths and different operation modes of several universities in the Osaka area.
Acknowledgments

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• ComSoc Director AP Region – Takaya Yamazato

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Speaker Biography: Jianwei Huang (F’16) is an Associate Professor and Director of the Network Communications and Economics Lab (ncel.ie.cuhk.edu.hk), in the Department of Information Engineering at the Chinese University of Hong Kong. He received Ph.D. from Northwestern University in 2005, and worked as a Postdoc Research Associate at Princeton University during 2005-2007. His main research interests are in the area of network economics and games, with applications in wireless communications, networking, and smart grid. He is a Fellow of IEEE, and a Distinguished Lecturer of IEEE Communications Society (2015-2016).


Dr. Huang has served as an Editor of IEEE Transactions on Cognitive Communications and Networking (2015-), Editor of IEEE Transactions on Wireless Communications