

Call for Papers for *Cognitive Radio and Networks Symposium*

Scope and Motivation:

Emerging cognitive radio communications and networking technologies potentially provide a promising solution to the spectrum underutilization problem in wireless access, improving the interoperability and coexistence among different wireless/mobile communications systems and making the future-generation radio devices/systems autonomous and self-reconfigurable. The goal of this symposium is to bring together and disseminate state of the art research contributions that address various aspects of analysis, design, optimization, implementation, standardization, and application of cognitive radio communications and networking technologies. The scope of this symposium includes (but is not limited to) the topics below.

Main Topics of Interest:

The Cognitive Radio and Networks Symposium seeks original contributions in, but not limited to, the following topical areas:

- Challenges and issues in designing cognitive radios and cognitive radio networks
- Architectures and building blocks of cognitive radio networks
- Spectrum sensing, measurements and statistical modeling of spectrum usage
- Waveform design, modulation, interference aggregation, and mitigation for cognitive radio
- Distributed cooperative spectrum sensing and multiuser access
- Cognitive medium access control, interference management, and interference modeling
- Dynamic spectrum sharing
- Handoff and routing protocols
- Resource allocation for multi-antenna based cognitive radio communications
- Energy-efficient cognitive radio communications and networking
- Self-configuration, interoperability and co-existence issues
- Distributed adaptation and optimization methods
- Machine learning techniques for cognitive radio systems
- Architecture and implementation of database-based cognitive radio networks
- Cooperative and coordinated communications
- Economic aspects of spectrum sharing (e.g., pricing, auction) in cognitive radio networks
- Regulatory policies and their interactions with communications and networking
- Privacy and security of cognitive spectrum-agile networks
- Attack modeling, prevention, mitigation, and defense in cognitive radio systems

- Physical-layer secrecy in cognitive networks
- Modeling and performance evaluation
- Quality of service provisioning in cognitive radio networks
- Applications and services (e.g., cognitive networking in TV whitespace, adaptation with LTE networks such as LTE-unlicensed, and integration with other merging techniques such as massive MIMO and full-duplex)
- Cognitive radio standards, test-beds, simulation tools, and hardware prototypes.

Sponsoring Technical Committees:

- Cognitive Networks
- Wireless Communications

How to Submit a Paper:

The IEEE Globecom 2016 website provides full instructions on how to submit papers. You will select the desired symposium when submitting. **The paper submission deadline is April 1, 2016. Unlike recent ICC's and Globecom's, this is a hard deadline that will not be extended.**

Symposium Co-Chairs:

- Lingyang Song, Peking University, Beijing, China, lingyang.song@pku.edu.cn
- Hyundong Shin, Kyung Hee University, Yongin-si, Korea, hshin@khu.ac.kr
- Kai-Kit Wong, University College London, London, UK, kai-kit.wong@ucl.ac.uk

Biographies:



Lingyang Song received his PhD from the University of York, UK, in 2007, where he received the K. M. Stott Prize for excellent research. He worked as a research fellow at the University of Oslo, Norway, until rejoining Philips Research UK in March 2008. In May 2009, he joined the School of Electronics Engineering and Computer Science, Peking University, China, as a full professor. His main research interests include MIMO, cognitive and cooperative communications, security, and big data optimization. He published extensively and wrote 4 text books. He is the recipient of 2012 IEEE Asia Pacific (AP) Young Researcher Award, and received 8 best paper awards, including IEEE WCNM 2007, IEEE ICC 2012, ICST Chinacom 2012, IEEE WCNC2012, IEEE WCSP 2012, IEEE ICC 2014, IEEE Globecom 2014, IEEE ICC 2015, and one best demo award in ACM Mobihoc 2015. He is currently on the Editorial Board of IEEE Transactions on Wireless Communications, China Communications, and Journal of Network and Computer Applications. He served as the TPC co-

chairs for the International Conference on Ubiquitous and Future Networks (ICUFN 2011 and 2012) and registration co-chair for the 1st IEEE International Conference on Communications in China (ICCC 2012). He served as symposium co-chairs for International Wireless Communications and Mobile Computing Conference (IWCMC 2009 and 2010), IEEE International Conference on Communication Technology (ICCT 2011), IEEE International Conference on Communications (ICC 2014, 2016), IEEE Vehicular Technology Conference (VTC 2016 spring), and IEEE Global Communication Conference (Globecom 2016). He is an IEEE distinguished lecturer since 2015.



Hyundong Shin received the B.S. degree in electronics engineering from Kyung Hee University, Yongin-si, Korea, in 1999, and the M.S. and Ph.D. degrees in electrical engineering from Seoul National University, Seoul, Korea, in 2001 and 2004, respectively. During his postdoctoral research at the Massachusetts Institute of Technology (MIT) from 2004 to 2006, he was with the Wireless Communication and Network Sciences Laboratory within the Laboratory for Information Decision Systems (LIDS). In 2006, Dr. Shin joined Kyung Hee University, Korea, where he is now an Associate Professor at the Department of Electronics and Radio Engineering. His

research interests include wireless communications and information theory with current emphasis on MIMO systems, cooperative and cognitive communications, network interference, vehicular communication networks, location-aware radios and networks, physical-layer security, molecular communications. He received the IEEE Communications Society's Guglielmo Marconi Prize Paper Award (2008) and William R. Bennett Prize Paper Award (2012). He served as a Technical Program Co-chair for the IEEE WCNC (2009 PHY Track) and the IEEE Globecom (Communication Theory Symposium, 2012). He was an Editor for IEEE Transactions on Wireless Communications (2007-2012) and IEEE Communications Letters (2013-2014).



Kai-Kit Wong received the BEng, the MPhil, and the PhD degrees, all in Electrical and Electronic Engineering, from the Hong Kong University of Science and Technology, Hong Kong, in 1996, 1998, and 2001, respectively. After graduation, he took faculty and visiting positions at the University of Hong Kong, the Wireless Communications Research Department of Lucent Technologies, Bell-Labs, Holmdel, NJ, the Smart Antennas Research Group of

Stanford University, and the Department of Engineering, the University of Hull, U.K., before he joined University College London in 2006, where he now is Professor of Wireless Communications. Professor Wong is Fellow of IEEE and IET. He is also on the editorial board of IEEE Wireless Communications Letters, IEEE Communications Letters, IEEE ComSoc/KICS Journal of Communications and Networks, and IET Communications. He is Senior Editor for the



IEEE Communications Letters. He also previously served as Editor for IEEE Transactions on Wireless Communications from 2005-2011 and IEEE Signal Processing Letters from 2009-2012.