



Cognitive Radio and Networks Symposium

Symposium Co-Chairs

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The 2015 IEEE International Conference on Communications (ICC) will be held in London, UK from 8-12 June 2015. Themed "Smart City & Smart World," with its proximity to Tech City, the fastest growing technology cluster in Europe, this flagship conference of IEEE Communications Society will feature a comprehensive technical program including twelve Symposia and a number of Tutorials and Workshops. IEEE ICC 2015 will also include an exceptional Industry Forum & Exhibition program including business panels and keynote speakers. We invite you to submit your original technical papers, and industry forum, workshop, and tutorial proposals to this event. Accepted and presented papers will be published in the IEEE ICC 2015 Conference Proceedings and submitted for inclusion in IEEE Xplore®/IEEE Digital Library. Full details of submission procedures are available at <http://www.ieee-icc.org/2015>.

Scope and Topics of Interest

The Cognitive Radio and Networks (CRN) Symposium will focus on the emerging cognitive radio communications and networking technologies, which aim at mitigating the spectrum underutilization problem in wireless accessing networks, improving the interoperability and coexistence among different wireless/wired & 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 the state-of-the-art research contributions that address the various aspects of analysis, optimization, design, implementation, and application of cognitive radio communications and networking technologies. To ensure complete coverage of the advances in this field, the Cognitive Radio and Networks Symposium solicits original contributions in, but not limited to, the following topical areas:

- Spectrum sensing, measurements and statistical modeling of spectrum usage
- Distributed cooperative spectrum sensing and multiuser access
- Dynamic spectrum accessing and sharing in unlicensed bands
- Waveform design, modulation, interference aggregation and mitigation for cognitive radio networks
- Cognitive medium access control (MAC), interference management, handoff and routing protocols
- Resource allocation for multiple-input multiple-output (MIMO)-based cognitive radio communications
- Distributed adaptation and optimization methods for cognitive radio networks
- Cross-layer optimization of cognitive radio networks
- Ranging and localization in cognitive radio networks
- Radio environment mapping for cognitive radio networks
- Architectures and building blocks of cognitive radio networks
- Energy-efficient environment-friendly cognitive radio communications and networking (green cognitive radio)
- Cognitive intelligent techniques (e.g., machine learning, transfer learning, information-theoretic learning, bio-inspired intelligence)
- Self-configuration, interoperability and co-existence issues
- Security and robustness of cognitive spectrum-agile networks

- Applications and services based on cognitive radio networks (e.g., cognitive networking in TV whitespace, cognitive femtocell & small cell networks, public safety networks, and vehicular networks)
- Cognitive radio standards, test-beds, simulation tools, hardware prototypes and implementation
- Regulatory policies and their interactions with communications and networking
- Economic aspects of spectrum sharing (e.g., pricing, auction) in cognitive radio networks
- Other challenges and issues in designing cognitive radios and networks

Submission Guidelines

Prospective authors are invited to submit original technical papers by the deadline 15 October 2014 for publication in the IEEE ICC 2015 Conference Proceedings. All submissions should be written in English with a maximum paper length of Six (6) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over length page charge if accepted).

Standard IEEE Transactions templates for Microsoft Word or LaTeX formats found at

<http://www.ieee.org/portal/pages/pubs/transactions/stylesheets.html>

Alternatively you can follow the sample instructions in template.pdf at

<http://www.comsoc.org/confs/globecom/2008/downloads/template.pdf>

Only PDF files will be accepted for the review process and all submissions must be done through EDAS at

<https://edas.info/newPaper.php?c=17719>

Co-Chairs Biographies

Dr. Alexander M. Wyglinski is an Associate Professor of Electrical and Computer Engineering at Worcester Polytechnic Institute (WPI), Worcester, MA, USA and Director of the Wireless Innovation Laboratory (WI Lab). Dr. Wyglinski received his B.Eng. and Ph.D. degrees in 1999 and 2005 from McGill University, and his M.Sc.(Eng.) degree from Queen's University in Kingston in 2000, all in Electrical Engineering. Dr. Wyglinski's current research activities include wireless communications, cognitive radio, software-defined radio, dynamic spectrum access, spectrum measurement and characterization, electromagnetic security, wireless system optimization and adaptation, and cyber physical systems. Dr. Wyglinski is a Senior Member of the IEEE, as well as a member of Sigma Xi, Eta Kappa Nu, and the ASEE. He is currently serving as an editor of *IEEE Transactions on Wireless Communications* and *IEEE Communications Magazine*.

Dr. Hiroki Nishiyama is an Associate Professor at the Graduate School of Information Sciences (GSIS), Tohoku University, Japan. He received his PhD in Information Sciences from Tohoku University in 2008. He has published more than 100 peer-reviewed papers including many high quality publications in prestigious IEEE journals and conferences. He was awarded Best Paper Awards from many international conferences including GLOBECOM'10, WCNC'12, and GLOBECOM'13. He was also a recipient of the *IEEE Communications Society Asia-Pacific Board Outstanding Young Researcher Award*, the *IEICE Communications Society Academic Encouragement Award 2011*, and the *2009 FUNAI Foundation's Research Incentive Award for Information Technology*. He has served as a Co-chair for SAC Symposium of IEEE ICC 2014, an Associate Editor for *IEEE Transactions on Vehicular Technology*, and an Associate Editor for *Springer Journal of Peer-to-Peer Networking and Applications*. His research interests cover a wide range of areas including wireless and mobile networks, ad hoc and sensor networks, green networking, and network security. One of his outstanding achievements is Relay-by-Smartphone, which makes it possible to share information among many people by using only WiFi functionality of smartphones. He is a Senior Member of the IEEE, as well as a member of Institute of Electronics, Information and Communication Engineers (IEICE).

Dr. Feifei Gao is an Associate Professor at the Institute of Information Processing, Department of Automation, Tsinghua University, Beijing, China. He received his Ph. D. in Electrical and Computer Engineering from National University of Singapore in 2007, his M.Sc in Electrical and Computer Engineering from McMaster University, Canada, in 2004, and his B.Eng in Information and Communication Engineering from Xi'an Jiaotong University, China in 2002. Dr. Gao's research interests are in communication theory, signal processing for communications, array signal processing, and convex optimizations, with particular interests in MIMO techniques, multi-carrier communications, cooperative communication, cognitive radio networks, and resource allocation. He is currently serving as the editor of *IEEE Transactions on Wireless Communications* and *IEEE Wireless Communications Letters*.