

## Call for Papers for Signal Processing for Communications Symposium

### Symposium Co-Chairs

**Hsiao-Chun Wu** Louisiana State University, USA, [wu@ece.lsu.edu](mailto:wu@ece.lsu.edu)  
**Shaodan Ma** University of Macau, China, [shaodanma@umac.mo](mailto:shaodanma@umac.mo)  
**Tomohiko Taniguchi** Fujitsu Labs, Japan, [t-taniguchi@jp.fujitsu.com](mailto:t-taniguchi@jp.fujitsu.com)

*Submissions must be done through EDAS at <http://edas.info/N20757>*

### Scope and Motivation

Signal processing plays a pivotal role in the development of modern communication technologies. Advanced signal processing algorithms are designed and modules are developed to provide innovative solutions to contemporary and emerging communication system. Considering the diverse and fast-growing nature of research in this field, the Signal Processing for Communications symposium welcomes original contributions in all pertinent aspects of signal processing for communications, including design, analysis, implementation, and application.

### Main Topics of Interest

The issues covered in the Signal Processing for Communications symposium are broad, spanning from traditional transceiver design to state-of-the-art signal processing methodologies in contemporary and emerging communication systems, and application to new frontiers including cognitive radio and smart grid. Our intention is to provide a comprehensive coverage of signal processing methodologies, theories and practices in prevalent and next-generation communication systems and networks. Topics of interest to the Signal Processing for Communications symposium include, but are not limited to:

- Channel estimation, equalization
- Signal detection and synchronization
- Spectrum sensing, shaping, and management techniques
- Novel architectures for signal demodulation and decoding
- Signal processing for single-carrier, OFDM and OFDMA systems
- Signal processing for spread-spectrum, CDMA, ultra-wideband systems
- Multi-antenna (SIMO, MISO, MIMO, Massive MIMO) and multi-user systems
- Distributed, decentralized, and cooperative signal processing in networked systems
- Compressive sensing algorithms
- Signal processing techniques for commercial/standardized (LTE, LTE/A, WiMAX etc.) and other emerging systems
- Waveform design for 5G systems, full-duplex technology
- Signal processing for interference cancellation
- Signal processing for sensor networks
- Signal processing for software defined and cognitive radio
- Adaptive antennas and beamforming
- Signal processing for green communications, communications powered by energy harvesters and wireless power transmissions
- Signal processing for security and cryptography
- Signal processing for optical communications
- Signal processing for Nano ( molecular and electromagnetic) communications
- Signal processing for millimeter and Tera-Hz communication systems
- VLSI/ASIC/FPGA circuits and systems for communications
- Multimedia (Speech, image and video) signal processing
- Signal processing for smart grid and powerline communications
- Localization, positioning and tracking techniques
- Signal processing for big data
- Machine learning, and stochastic geometry-based signal processing for 5G

- Fast signal processing algorithms for ubiquitous communication technologies

### Sponsoring Technical Committees

- Signal Processing & Communications Electronics
- Wireless Communications

### Co-Chairs Biographies



**Hsiao-Chun Wu** (M'00-SM'05-F'15) received a B. S. E. E. degree from National Cheng Kung University, Taiwan, in 1990, and the M. S. and Ph. D. degrees in electrical and computer engineering from University of Florida, Gainesville, in 1993 and 1999 respectively. From March 1999 to January 2001, he had worked for Motorola Personal Communications Sector Research Labs as a Senior Electrical Engineer. Since January 2001, he has joined the faculty in Department of Electrical and Computer Engineering, Louisiana State University, Baton Rouge, Louisiana, USA. From July to August 2007, Dr. Wu had been a visiting assistant professor at Television and Networks Transmission

Group, Communications Research Centre, Ottawa, Canada. From August to December 2008, he was a visiting associate professor at Department of Electrical Engineering, Stanford University, California, USA.

Dr. Wu has published more than 200 peer-refereed technical journal and conference articles in electrical and computer engineering. His research interests include the areas of wireless communications and signal processing. Dr. Wu is an IEEE Fellow and an IEEE Distinguished Lecturer. He currently serves as an Editor for IEEE Transactions on Wireless Communications, an Associate Editor for IEEE Transactions on Broadcasting, and a Technical Editor for IEEE Communications Magazine. He used to serve as an Associate Editor for IEEE Transactions on Vehicular Technology and IEEE Signal Processing Letters and an Editor for IEEE Communications Letters. He has also served for numerous textbooks, IEEE/ACM conferences and journals as the technical committee, symposium chair, track chair, or the reviewer in signal processing, communications, circuits and computers.



**Shaodan Ma** received her double Bachelor degrees in Science and Economics, and her Master degree in Engineering, from Nankai University, Tianjin, China. She obtained her Ph. D. degree in electrical and electronic engineering from the University of Hong Kong, Hong Kong, in 2006. After graduation, she joined the University of Hong Kong as a Postdoctoral Fellow. Since August 2011, she has been with the University of Macau as an Assistant Professor. She was a visiting scholar in Princeton University in 2010 and is currently an Honorary Assistant Professor in the University of Hong Kong. Her research interests are in the general areas of signal processing and wireless communications,

particularly, transceiver design, resource allocation and performance analysis.

She has been a member of Technical Program Committee for quite a few IEEE conferences including ICC, GlobeCom, WCNC, WCSP, ICCS, INFOCOM, etc. She has organized 2014 International Workshop on Emerging Technologies towards Heterogeneous Wireless Networks and 5G Communications. She is a track co-chair on Fundamentals and PHY in 2015 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'2015) and a co-chair of Signal Processing for Communications Symposium in 2016 IEEE International Conference on Communications (ICC'2016).



**Tomohiko Taniguchi** received his B.S.E.E. degree from the University of Tokyo, Tokyo, Japan in 1982, and joined Fujitsu Laboratories Limited, Kawasaki, Japan (received his Ph.D. from the same university in 2006). From 1987 to 1988, he was a visiting scholar at Stanford University, Stanford, CA, USA; from 1996 to 2000, he was with Fujitsu Laboratories of America, Sunnyvale, CA, USA. He is currently with Fujitsu Laboratories Limited, Kawasaki, Japan, as a Research Principal. He has been active in the field of signal processing for more than 30 years. He was a member of various technical committees in IEEE, IEICE (Institute of Electronics, Information and Communication

Engineers) and IEE-J (Institute of Electrical Engineers of Japan), served for many conferences and symposia, including 13 times Symposium Chair for Signal Processing Symposium in ICC'02, Globecom'02, Globecom'03, ICC'05, ICC'06, ICC'07, Globecom'07, ICC'08, ICC'09, Globecom'09, Globecom'10, ICC'11, and ICC14.

He is recognized for his inventions in speech coding and DSP technologies, and holds essential patents for various international standards, such as ITU-T, MPEG, and 3GPP. He is a recipient of several awards for his papers, patents, and contributions to academic society. He was a Chair, IEEE Signal Processing and Communications Electronics Technical Committee (2006-2008), Special Liaison for ComSoc Activities, Asia-Pacific Board (2010-2011), and has been an Associate Editor for the IEEE Transactions on Vehicular Technology since May 2007. Dr. Taniguchi is a Fellow of both IEEE and IEICE.