IEEE International Conference on Communications

Call for papers for
Signal Processing for Communications Symposium
(SPC)

Symposium Track Co-Chairs

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Submissions must be done through EDAS at: https://edas.info/newPaper.php?c=22638&track=81053
The paper submission deadline is October 14, 2016.

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 systems. 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 the application to new frontiers including cognitive radio and the 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
- 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 and signal processing for 5G systems
- Signal processing to support full-duplex
- 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
- Signal processing for smart grid and powerline communications
- Localization, positioning and tracking techniques

- Machine learning applied to communication systems
- Analysis approaches based on stochastic geometry
- Signal processing for spread-spectrum, CDMA, ultra-wideband systems
- Fast or low-complexity signal processing algorithms for ubiquitous communication technologies

Biographies

Dr. R. Michael Buehrer joined Virginia Tech from Bell Labs as an Assistant Professor with the Bradley Department of Electrical and Computer Engineering in 2001. He is currently a Professor of Electrical Engineering and is the director of Wireless @ Virginia Tech, a comprehensive research group focusing on wireless communications. During 2009 Dr. Buehrer was a visiting researcher at the Laboratory for Telecommunication Sciences (LTS) a federal research lab which focuses on telecommunication challenges for national defense. While at LTS, his research focus was in the area of cognitive radio with a particular emphasis on statistical learning techniques.

His current research interests include geolocation, position location networks, iterative receiver design, electronic warfare, dynamic spectrum sharing, cognitive radio, communication theory, Multiple Input Multiple Output (MIMO) communications, intelligent antenna techniques, Ultra Wideband, spread spectrum, interference avoidance, and propagation modeling. His work has been funded by the National Science Foundation, the Defense Advanced Research Projects Agency, Office of Naval Research, and several industrial sponsors.
Dr. Buehrer has authored or co-authored over 50 journal and approximately 150 conference papers and holds 11 patents in the area of wireless communications. In 2010 he was co-recipient of the Fred W. Ellersick MILCOM Award for the best paper in the unclassified technical program. He is currently a Senior Member of IEEE, and an Associate Editor for IEEE Transactions on Communications and IEEE Wireless Communications Letters. He was formerly an associate editor for IEEE Transactions on Vehicular Technologies, IEEE Transactions on Wireless Communications, IEEE Transactions on Signal Processing, and IEEE Transactions on Education. In 2003 he was named Outstanding New Assistant Professor by the Virginia Tech College of Engineering and in 2014 he received the Dean's Award for Excellence in Teaching.

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 and is recognized for his inventions in speech coding and DSP technologies (holds essential patents for 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 (Outstanding Service Award, 2006/2010, Best Symposium Award, 2011/2013, Industrial Distinguished Leader Award, 2014). As an industry expert, he teaches at Beijing University of Posts and Telecommunications (Distinguished Visiting Professor, 2013-2018) and at Duy Tan University (Guest Professor, 2014-2017). Dr. Taniguchi is a Fellow of IEEE and IEICE.