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

Symposium Track Co-Chairs

Xianbin Wang, Western University, Canada
Gerhard Wunder, Freie Universität Berlin, Germany
Weiliang Zeng, Qualcomm Research, San Diego, CA

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 radios and smart grids. 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:

- Signal processing techniques in 5G
- Spatial transmission and distributed transmission techniques
- Multi-antenna (SIMO, MISO, MIMO, Massive MIMO), multi-user, centralized/distributed multi-node systems
- Signal processing techniques for full-duplex communications
- Interference cancellation techniques in communications systems including NOMA
- Decentralized and cooperative signal processing in networked systems
- Signal processing for single-carrier, OFDM / OFDMA, multicarrier systems including new waveforms
- Signal processing for green communications, energy harvesting and wireless power transmission
- Signal processing for security enhancement particularly physical layer security
- Channel estimation and equalization
- Signal transmission, detection and synchronization
- Spectrum sensing, shaping, and management techniques
- Novel architectures for signal demodulation and decoding
- Compressive sensing algorithms
- Signal processing techniques for commercial/standardized and emerging systems
- Signal processing for sensor networks and IoT applications
- Signal processing for software defined and cognitive radio
- Adaptive antennas and beamforming
- Signal processing for optical communications

- Signal processing for millimeter and Tera-Hz communication systems
- Signal processing for smart grid and powerline communications
- Localization, positioning and tracking techniques
- Signal processing for data analytics and machine learning

Submission:

Submissions to the Signal Processing for Communications Symposium must be done through EDAS at:

<https://edas.info/newPaper.php?c=23287>

The paper submission deadline is April 1st, 2017

Biographies

Xianbin Wang (S'98-M'99-SM'06) is a Professor and Canada Research Chair at Western University, Canada. He received his Ph.D. degree in electrical and computer engineering from National University of Singapore in 2001. Prior to joining Western, he was with Communications Research Centre Canada (CRC) as a Research Scientist/Senior Research Scientist between July 2002 and Dec. 2007. From Jan. 2001 to July 2002, he was a system designer at STMicroelectronics, where he was responsible for system design for DSL and Gigabit Ethernet chipsets. His current research interests include 5G networks, communications security, adaptive wireless systems, and locationing technologies. Dr. Wang has over 260 peer-reviewed journal and conference papers, in addition to 26 granted and pending patents and several standard contributions. Dr. Wang is a Senior Member of IEEE and an IEEE Distinguished Lecturer. He has received many awards and recognition, including Canada Research Chair, CRC President's Excellence Award, Canadian Federal Government Public Service Award, Ontario Early Researcher Award and three IEEE Best Paper Awards. He currently serves as an Editor/Associate Editor for IEEE Wireless Communications Letters, IEEE Transactions on Vehicular Technology and IEEE Transactions on Broadcasting. He was also an editor for IEEE Transactions on Wireless Communications between 2007 and 2011. Dr. Wang was involved in a number of IEEE conferences including GLOBECOM, ICC, VTC, PIMRC, WCNC and CWIT, in different roles such as symposium chair, tutorial instructor, track chair, session chair and TPC chair.

Gerhard Wunder (SM'15) studied electrical engineering at the University of Hannover, Germany, and the Technical University (TU) Berlin, Germany, and received his graduate degree in electrical engineering (Dipl.-Ing.) with highest honors in 1999. He received the PhD degree (Dr.-Ing.) in communication engineering with distinction (summa cum laude) in 2003 from TU Berlin and became a research group leader at the Fraunhofer Heinrich-Hertz-Institut in Berlin. In 2007, he also received the habilitation degree and became a Privatdozent (Associate Professor) at the TU Berlin in the field of detection/estimation theory, stochastic processes and information theory. Very recently, he has become Heisenberg Fellow, granted for the first time to a communication engineer, and heads now the Heisenberg Communications and Information Theory Group at the FU Berlin. Dr. Wunder is coordinator and principal investigator both in the FP7 Call 8 project 5GNOW (www.5gnow.eu) supported by the European Commission and PROPHYLAXE (www.ict-prophylaxe.de) the largest IoT physical layer security project supported by the German Ministry of Education and Research, as well as part of project management team of FANTASTIC-5G (www.fantastic5g.eu). Dr. Wunder is a recipient of research fellowships from the German national research foundation (DFG). He also receives currently funding in the DFG priority programs 1397 COIN (Communications in Interference Limited Networks), the SPP 1798 CoSIP (Compressed Sensing in Information Processing), and the upcoming CPN 1914 (Cyber-Physical-Networking). In 2011 Dr. Wunder received the 2011 award for outstanding scientific publication by the German communication engineering society (ITG Award 2011), and the Heisenberg Fellowship in 2015. He has served as an editor for the IEEE Transaction on Wireless Communications and became a member of the Executive Editorial Committee in Dec. 2016.

Weiliang Zeng (S'08--M'13) is with Qualcomm Research, San Diego, CA, where he is now a Senior System Engineer. He received his Ph.D. degree from Department of Electronic Engineering, Tsinghua University, Beijing, China, in 2012 and his B.S. degree in electronic engineering from the University of Electronic Sciences and Technology of China (UESTC), Chengdu, China, in 2007, both with the highest honor. He was a Research Scholar (2009-2011) and a Post-Doctoral Fellow (2013-2014) at Missouri University of Science and Technology, Rolla, MO. His research interests include wireless communications, information theory, and signal processing; modeling, analysis, design, and optimization for wireless networks as well as for emerging wireless communication technologies (e.g., cooperative/relay communications, cognitive radio, and energy harvesting). He was the recipient of the scholarship award for Excellent Doctoral Student from Ministry of Education of China, Distinguished Honor Graduate from Beijing Municipal Commission of Education, and also the First-Class Scholarship