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Communications Technologies 4Good

Call for Papers and Proposals

Signal Processing for Communications Symposium

Co-Chairs

- Dimitrie C. Popescu, Old Dominion University, USA. <dpopescu@odu.edu>
- Yuan Shen, Tsinghua University, China. <shenyuan_ee@tsinghua.edu.cn>
- Mojtaba Vaezi, Villanova University, USA. <mojtaba.vaezi@villanova.edu>

Scope and Motivation

Signal processing plays a pivotal role in the development of modern communications technologies. Advanced algorithms are designed, and sophisticated modules are developed to provide innovative solutions for contemporary and emerging communications and sensing systems. Considering the diverse and fast-growing nature of research in this wide field, the Signal Processing for Communications Symposium welcomes original contributions in all pertinent aspects of signal processing for wireless and wired systems, including algorithmic design and analysis, implementation of signal processing and learning schemes, as well as communication, localization, and sensing applications. High quality papers from both industry and academia are encouraged.

Topics of Interest

Original research articles are solicited in, but not limited to, the following topics:
- Channel estimation, acquisition, and equalization
- Compressive sensing and sparse signal processing algorithms
- Decentralized and cooperative signal processing
- Interference management techniques in communications systems
- Localization, positioning, and tracking techniques
- Signal processing for integrated communications and sensing
- Signal processing for artificial intelligence, data analytics, machine learning
- Signal processing for delay-Doppler domain communications, such as OTFS
- Signal processing for next generation multiple access
- Signal processing for radio-imaging
- Signal processing for near-field communication and sensing
- Signal processing for green communications, smart grid, powerline communications, energy harvesting, and wireless power transfer
- Signal processing for millimeter and THz communication systems
- Signal processing for multi-antenna, MIMO, and/or multi-user systems
- Signal processing for optical communications
- Signal processing for security enhancement, particularly physical layer security and privacy
- Signal processing for emerging wireless hardware architectures (e.g., adaptive antennas, reconfigurable intelligent surfaces, metasurface-based antennas, holographic MIMO, XL-MIMO)

- Signal processing techniques for software defined radio, cognitive radio, and physical-layer network slicing
- Signal transmission, detection, and synchronization
- Spectrum sensing, shaping, and management techniques

Biographies of the Co-Chairs

Dimitrie C. Popescu received Engineering Diploma and PhD degree in electrical and computer engineering from Polytechnic Institute of Bucharest and Rutgers University, respectively. He is currently a Full Professor in the ECE Department, Old Dominion University, Norfolk, Virginia. His research interests include interference mitigation, spectrum sensing and modulation classification, dynamic spectrum access for cognitive radio, waveform design and transceiver optimization to support quality of service, and software defined radios. He is a Senior Member of the IEEE and currently serves as an associate editor for IEEE Sensors Letters. He has also served as associate editor for IEEE Transactions on Wireless Communications, IEEE Communications Letters, and IEEE Open Journal of the Communications Society.

Yuan Shen received his Ph.D. degrees in electrical engineering and computer science from MIT. He is currently a Full Professor with the Department of Electronic Engineering, Tsinghua University. His research interests include network localization and navigation, integrated sensing and control, and multi-agent systems. He was the Elected Chair of the IEEE ComSoc Radio Communications Committee, and has served as the TPC Symposium Co-Chair for IEEE ICC and IEEE Globecom for several times. He is now an associate Editor of the IEEE Transactions on Signal Processing, IEEE Transactions on Communications, IEEE Transactions on Network Science and Engineering, and China Communications.

Mojtaba Vaezi obtained his Ph.D. in Electrical Engineering from McGill University, Montreal, Canada. He is currently an Associate Professor of ECE at Villanova University. He was a visiting Fellow at Princeton University and MIT in 2022. From 2015 to 2018, he was with Princeton University as a postdoc. His research interests include the broad areas of signal processing and machine learning for wireless communications with an emphasis on beyond fifth-generation (5G) radio access technologies and deep learning-based communication. Among his publications in these areas is the book Multiple Access Techniques for 5G Wireless Networks and Beyond, (Springer, 2019). Dr. Vaezi is a recipient of several awards, including the NSF CAREER award in 2023, the 2020 IEEE Communications Society Fred W. Ellersick Prize, IEEE Communications Letters' best editor award in 2018, NSERC Postdoctoral Fellowship in 2014, and the 2013 IEEE Larry K. Wilson Regional Student Activities Award. He is/was an Editor of IEEE Transactions on Communications (2019-present), IEEE Communications Letters (2017-present), IEEE Communications Magazine (2014-2018), and a TPC member of the IEEE ICC'16-22, Globecom'16-22, PIMRC'16,20-2, and the lead organizer of the 1st to 6th NOMA workshops at GC'17, ICC'18, GC'18, ICC'19, and ICC'20.

How to Submit a Paper

All papers for technical symposia should be submitted via EDAS. Full instructions on how to submit papers and important deadlines are posted at https://icc2025.ieee-icc.org/

The authors of selected papers from this symposium will be invited to submit an extended version of their work for fast-track review and possible publication in the IEEE Open Journal of the Communications Society.