

# IEEE GLOBECOM 2023

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## CALL FOR PAPERS

*Intelligent Communications for Shared Prosperity*

# Green Communication Systems and Networks Symposium

## Co-Chairs

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## Scope and Motivation

Over the years, the use of Information and Communication Technology (ICT) has come to dominate several areas, improving our lives, offering us convenience, and reshaping our daily work circumstances in the process. Despite the passion about advances in the ICT infrastructure industry, enterprises and governments face the renewed challenges of tackling sustainability issues and adopting environmentally sound practices. Computers and other ICT infrastructure consume significant amounts of electricity, placing a heavy burden on electric grids and contributing to greenhouse gas emissions.

Moreover, the increasing number of devices with high transmission capacity connected to the Internet is playing a major role in increasing the energy consumption by communications networks. In addition, the recent ascent of machine learning and artificial intelligence as a necessary tool to support ICT architectures and infrastructures is generating concerns about its energy footprint.

The Green Communication Systems and Networks Symposium aims to consolidate and disseminate the latest developments and advances in the emerging research areas relevant to green communications and computing. This symposium invites participation from both academic and industry researchers working in the areas of sustainable and green-enabled communications and computing networks, as well as communication and computing technologies enabling other green solutions such as smart grids, green cloud and fog computing data centers, green buildings and green logistics, and smart cities. Authors are invited to submit papers presenting novel technical research studies as well as broader position papers.

## Topics of Interest

The Green Communication Systems and Networks Symposium seeks original contributions in the following topical areas, plus others that are not explicitly listed but are closely related:

- Advanced metering infrastructure and smart meter technologies
- Architectures, models, security, and approaches for smart grids and smart grid networks relevant to energy efficiency
- Big data to meet green challenges
- Carbon-neutral communication and computing systems

- Collaborative Intelligence for Green Communication Systems
- Context-based green approaches & green awareness
- Cross-layer design and optimization for green communications and computing
- Economics and pricing for green systems and services
- Energy efficiency and scalability of communication networks and infrastructures
- Energy efficiency in 6G
- Energy footprint evaluation in networks and computing architectures
- Energy harvesting, storage, recycling, wireless power transfer
- Energy-aware communications and networking
- Experimental test-beds and results for green communications and computing
- Field trials and deployment experiences and green industrial processes
- Green communications via backscatter and metasurfaces
- Green edge computing
- Green Internet of Things
- Green machine learning and artificial intelligence
- Green management of communication networks
- Green optical communications, switching and networking
- Green optical wireless communications
- Green scheduling for communications and computing
- Green software, hardware, devices, and equipment
- Green storage, cloud and fog computing, and data centers
- Green traffic shaping and policy implementation
- Green transmission technologies and network protocols
- Green wireline communications and networking
- ICT for green buildings
- Low cost, energy-efficient antenna and RF designs
- Machine learning and AI for energy efficiency and green operation in communication systems and networks
- Measurement and profiling of green issues
- Mitigation of electromagnetic pollution
- Modelling and analysis for green communications and computing
- Non-energy based green topics, issues and approaches
- Physical layer approaches for green communications and computing
- Power consumption trends and reduction in communications and computing
- Power-efficient cooling and air-conditioning systems for communications and computing
- Renewable energies for ICT
- Renewable power at the service of data centers, edge, fog and cloud computing and networking
- Security in green communication and computing
- Standardization, policy and regulation for green communications and computing
- Sustainable network design
- Transport and logistics efficiency
- Use of cognitive principles to achieve green objectives
- Zero-emission base stations, communication devices, and networks

## Biographies of the Co-Chairs

**Zheng Chang** received Ph.D degree from the University of Jyväskylä, Jyväskylä, Finland in 2013 . He has published over 140 papers in journals and conferences, and received best paper awards from IEEE TCGCC and APCC in 2017, and has been awarded as the 2018 IEEE Best Young Research Professional for EMEA and 2021 IEEE MMTC Outstanding Young Researcher. He is an editor of Springer Wireless Networks, International Journal of Distributed Sensor Networks, and IEEE Wireless Communications Letters. He was the exemplary reviewer of IEEE Wireless Communication Letters in 2018. He also acted as a guest editor of IEEE Communications Magazine, IEEE Wireless Communications, IEEE Networks, IEEE Internet of Things Journal and IEEE Transactions on Industrial Informatics. He has participated in organizing workshop and special session in Globecom' 19, WCNC'18-'22, SPAWC'19 and ISWCS'18, and also served as Symposium co-chair of IEEE ICC'20, Publicity co-chair of IEEE Infocom'22, Workshop co-chair of ICC'22, TPC co-chair of IEEE iThing'22, and TPC member for many IEEE major conferences. His research interests include IoT, cloud/edge computing, security and privacy, vehicular networks, and green communications.

**Emad Alsusa** is a member at in the Department of Electrical and Electronics Engineering (EEE), The University of Manchester (UoM), where he is the Head of the Communication and Microwave Research Group. His research interest is in the area of Wireless Networks and Signal Processing with particular focus on future cellular generations through the design of novel techniques for beamforming, detection, cross-layer design, and performance analysis. Emad is a senior member of the Institute of Electrical and Electronic Engineers (IEEE, USA), a member of the IET, and a UK representative in the International Union of Radio Science (URSI). He served as a conference general co/Chair of the IEEE 5th EAI International Conference on 6G for Future Wireless Networks in 2022, the IEEE OnlineGreencom in 2017, and Sustainability through ICT Summit in 2019, as well as a TPC Symposia-co/Chair in several IEEE conferences including VTC'16, GISN'16, PIMRC'17, Globecom'18 and Globcom'23. Emad has published over 280 research papers and has received a number of awards including the best paper awards in the IEEE International Symposium on Power Line Communications (PLC'14) in 2014, the IEEE Wireless Communications and Networking Conference (WCNC'19) in 2019, and in the IEEE International Symposium on Networks, Computers & Communications (ISNCC'21).

## 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://globecom2023.ieee-globecom.org/>