

# IEEE GLOBAL COMMUNICATIONS CONFERENCE

8–12 December 2024  
Cape Town, South Africa

**Call For Papers**

[globecom2024.ieee-globecom.org](http://globecom2024.ieee-globecom.org)



## Symposium on Selected Areas in Communications: Integrated Sensing & Communications Track

### SYMPOSIUM CHAIRS AND CO-CHAIRS

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### SCOPE AND MOTIVATION

6G wireless networks and beyond are expected to provide the high-accuracy site-specific services for many advanced applications such as autonomous driving, virtual/augmented reality, digital twins, etc.. Conventionally, the two functionalities of communication and sensing are designed independently with separated frequency bands, which results in a low spectrum efficiency and exacerbates the congestion of spectrum resources. With the wide deployment of massive MIMO and Millimeter wave (mmWave) towards TeraHertz (THz) technologies, the communication signals with high-resolution in both time and angular domain can be exploited to perform high-resolution sensing. Under this background, integrated Sensing and Communication (ISAC), in which the sensing and communication operations are tightly coordinated in the network, or even jointly designed via the shared use of a single hardware platform and a joint signal processing framework, has emerged as a key technology towards the next-generation wireless standards.

Despite having drawn huge attention from both academia and industry, many open problems still remain to be investigated. This SAC track aims at bringing together researchers from academia and industry to identify and discuss the major technical challenges, recent breakthroughs, and novel applications related to ISAC. Contributions devoted to the modeling, design, analysis, optimization, signal processing, implementation of ISAC algorithms, protocols, architectures, and systems are solicited. This track also welcomes topics on the channel measurements, system-level simulation, hardware-efficient design, experimental performance demonstrations, prototyping, and field-tests of ISAC.

### TOPICS OF INTEREST

- Fundamental information theoretical limits for ISAC
- Unified approaches/performance metrics for ISAC
- Network architectures/transmission protocols/frame designs for ISAC
- Precoding/waveform/sequence/coding/modulation/beamforming/receiver design for ISAC

- MIMO, massive MIMO, cell-free MIMO, and intelligent reflecting surface (IRS) technologies for ISAC
- Millimeter wave/THz technologies for ISAC
- Hardware-efficient technologies, antenna selection, hybrid analog-digital, few bit representations for ISAC
- Machine learning/AI enabled ISAC
- Sensing-assisted communication and communication-assisted sensing
- Cooperative sensing and communication in ISAC
- Network-level planning and design for ISAC
- Channel measurement and modeling for ISAC
- Wi-Fi sensing/indoor positioning/target detection for ISAC
- ISAC for vehicular-to-everything (V2X) networks
- Unmanned Aerial Vehicle (UAV) / environment side information aided ISAC
- Security and privacy issues in ISAC
- Emerging technologies for ISAC and synergies of ISAC with other network functions
- Standardization progress of ISAC
- System-level simulation, prototyping, and field-tests for ISAC

### **IMPORTANT DATES**

Deadline for paper submission: 1 April 2024

Date for notification: 1 August 2024

Deadline for final paper submission: 1 September 2024

### **SUBMISSION INSTRUCTIONS**

All papers for technical symposia should be submitted via EDAS through the following link:

<https://edas.info/N31420>