Special Session on
Integrated Sensing and Communications for 6G

Name and affiliation of organizers:

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Kaitao Meng the Ph.D. degrees from the School of Electronic Information, Wuhan University, China. He is currently a Marie Curie Fellow with the Department of Electronic and Electrical Engineering, UCL. His research interests mainly include integrated sensing and communication, cooperative sensing (ISAC), intelligent surfaces, multi-UAV collaboration, etc.

Christos Masouros received the Ph.D. degree in in Electrical and Electronic Engineering from the University of Manchester, UK. He is currently a Full Professor of Signal Processing and Wireless Communications with UCL. His research interests include Signal processing for Wireless Communications, 6G and Beyond Communication Networks ISAC, etc.

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Scope of the session

Radar sensing and wireless communication have traditionally been developed separately, resulting in inefficient spectrum usage. The growing spectrum shortage and the rise of applications requiring both functionalities have driven research into Integrated Sensing and Communication (ISAC), which aims to unify sensing and communication on a single platform. Recognized by the ITU as one of the six key scenarios for IMT-2030, ISAC is vital for 6G systems. To meet 6G's demands for high precision and low latency, Edge Sensing Intelligence has emerged, integrating sensing, communication, edge computing, and AI for real-time processing, reduced latency, and enhanced privacy. This special session gathers experts from academia and industry to explore the latest advances and future directions in ISAC and edge intelligence.

Prospective authors are invited to submit original and unpublished work on the following research topics related to this Special Session:

- Novel waveform design ISAC
- Network synchronization schemes for ISAC
- Multimodal data processing and fusion for ISAC
- Software and hardware platforms for ISAC
- Machine Learning/Artificial intelligence/edge computing ISAC
- MIMO/Massive MIMO/ Holographic MIMO surface and cell-free architectures for ISAC
- Resource management and allocation optimization for ISAC
- Network architectures / standardizations / transmission protocols designs for ISAC
- Air-space-ground edge intelligent for ISAC
- Security and privacy mechanisms in ISAC networks
- Environmental perception and reconstruction for ISAC