# IEEE Wireless Communications and Networking Conference
## 5-8 April 2027 // Panama City, Panama
## *Bridging Intelligence, Connectivity, and Innovation*

# CALL FOR PAPERS



### 6G-SAGA: AI-Native Algorithms and Digital-Twin Intelligence for Multi-Orbit NTN in 6G

The **6th** International Workshop on Intelligent Aerial and Spaceborne Systems for 6G (**6G-SAGA**) addresses this system-level intelligence layer beyond existing WCNC tracks, providing a focused venue for AI native orchestration and multi-orbit NTN decision frameworks.

Non-terrestrial networks (**NTNs**), including **LEO/MEO/GEO** satellites, **HAPS**, and **UAV** systems, are becoming essential components of future wireless and mobile 6G networks. However, their multi-orbit dynamics introduce challenges such as frequent **LEO handovers**, **heterogeneous latency**, **intermittent connectivity**, and complex **cross-domain interactions**. These issues require system level coordination across space–air–ground networks, which traditional PHY/MAC-centric methods cannot address. While WCNC technical tracks cover **physical layer design**, **MAC/networking protocols**, and **machine learning methods**, a critical gap exists in **AI native** system level orchestration and decision intelligence across integrated NTN–terrestrial environments. Future networks require learning-based coordination for **mobility continuity**, **multi-access selection**, **QoE/QoO** aware control, and service level optimization across heterogeneous infrastructures. At the same time, **Digital Twin (DT)** technologies provide new capabilities for **predictive modelling**, **closed-loop optimization**, and large-scale evaluation of NTN systems, enabling the practical deployment of AI-driven solutions. With emerging technologies such as Direct to Device (D2D) NTN, AI RAN, and hybrid connectivity, these challenges have become timely and critical.

## TOPICS

- AI-native orchestration for multi-orbit NTN–terrestrial integration
- Learning-based scheduling and Doppler/latency prediction for highly dynamic NTN links
- RL and multi-agent RL algorithms for routing and mobility management in dense LEO constellations
- QoE/QoO-aware system-level decision frameworks
- Cross-domain coordination across LEO–MEO–GEO/HAPS and terrestrial networks
- Learning-driven mobility continuity and service adaptation
- Multi-orbit decision intelligence for routing, traffic steering, and access selection
- Digital-twin-based modelling of NTN system behaviour and dynamics
- Digital-twin-enabled closed-loop optimization and control
- AI-native resource brokering and service-level orchestration
- System-level resilience and fault-tolerant NTN operation
- Intelligent direct-to-device NTN service and access management

## IMPORTANT DATES

**Paper Submission**
6 Nov. 2026

**Acceptance Notification**
22 Jan. 2027

**Camera-Ready:** 18 Feb. 2027

**Workshop Date:** 5 Apr. 2027

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**Full details of submission procedures are available at**
https://wcnc2027.ieee-wcnc.org/authors/call-workshop-papers
**Submission link**: Submit to WS07 via EDAS