

5th Workshop on Data-Driven and AI-Enabled Digital Twin Networks and Applications (TwinNetApp)

in conjunction with
IEEE Wireless Communications and Networking Conference (WCNC) 2027

5 - 8 April 2027, Panama City, Panama

CALL FOR PAPERS

Scope and Motivation

Digital Twin (DT) technology is becoming a key component of next-generation communication networks by enabling real-time synchronization between physical systems and their virtual counterparts. Moving beyond conventional simulation, DTs provide real-time monitoring, predictive modelling, data-driven decision-making, and advanced what-if analysis. Their integration with emerging technologies, such as 5G/6G, Generative AI, Intelligent IoT, Edge/Fog Computing, and quantum technologies further expands their potential.

In this context, the 5th TwinNetApp welcomes original research contributions on the design, implementation, and evaluation of DT-enabled applications. Bringing together researchers and industry professionals, the workshop provides a multidisciplinary environment to explore the role of DTs in developing sustainable and intelligent communication infrastructures.

Important Dates & Info

Submission Deadline
06 November 2026

Notification of Acceptance
22 January 2027

Camera Ready
18 February 2027

**Best Paper Award
for outstanding contributions**

wcnc-twinnetapp.bcrng.uk

Topics of Interest

Topics of interest include, but are not limited to:

- Data-driven DT networks for real-time communication systems
- DT-enabled IoT applications
- DT in Edge/Fog/Cloud Computing
- Real-time communication protocols for DT networks
- Security and privacy in DT networks
- Quantum-enabled DT networks
- DT-assisted AI applications for smart cities
- Communication protocols for enabling DT deployment in real-world applications
- Energy-aware DT networks
- DT for Reconfigurable Intelligent Surfaces (RIS)
- DT for enhanced Mobile Broadband (eMBB), massive Machine Type Communications (mMTC), and Ultra Reliable Low Latency Communications (URLLC) applications
- DT for network optimization and resource management
- Real-world DT prototypes and testbed demonstrations

General Chairs

- Dr. Kubra Duran, Edinburgh Napier University, UK (k.duran@napier.c.uk)
- Prof. Berk Canberk, Edinburgh Napier University, UK (b.canberk@napier.ac.uk)
- Prof. Octavia A. Dobre, Memorial University, Canada (odobre@mun.ca)
- Prof. Marco Di Renzo, Université Paris-Saclay, CNRS-CentraleSupélec, France & King's College London, UK (marco.l.di_renzo@kcl.ac.uk)