

The *ITU Journal on Future and Evolving Technologies (ITU J-FET)* is an international journal providing complete coverage of all communications and networking paradigms, free of charge for both readers and authors. The ITU Journal considers yet-to-be-published papers addressing fundamental and applied research. It shares new techniques and concepts, analyses and tutorials, as well as learnings from experiments and physical and simulated testbeds. It also discusses the implications of the latest research results for policy and regulation, legal frameworks, the economy and society. This publication builds bridges between disciplines, connects theory with application, and stimulates international dialogue. Its interdisciplinary approach reflects ITU's comprehensive field of interest and explores the convergence of ICT with other disciplines. The ITU Journal welcomes submissions at any time, and on any topic within its scope.



Special issue on

## **Next generation computer communications and networks**

### **Call for papers**

The aim of this special issue is to examine various complementary aspects of cutting-edge trends and creative approaches in communications and networks research. The goal is to showcase selected driving technologies, methods, and principles that will support the development of the next generation of interconnected communication systems and facilitate their integration into smart society, industry, and economy.

The rapid expansion and transformation of the communication and networking industries requires creative solutions to ensure efficient performance and the delivery of advanced services to users. These solutions can include network optimization, effective data management, cognitive computing, block-chain solutions, and unconventional hardware and software design and implementation. These innovative approaches can be beneficial not only in the operation of existing networks but also in the design of future network architecture, whether it be evolutionary or disruptive.

This special issue invites submissions that tackle the previously mentioned challenges with a focus on combining creative techniques with state-of-the-art system applications. Papers with hands-on implementations and real-world evaluations are highly encouraged. The publication also invites proposals that examine new and innovative communication and networking scenarios and applications, as long as they go beyond simply presenting an initial concept.

#### **Keywords**

Wireless networks, 5/6G, security, Internet of Things, cloud computing, vehicular networks

## Suggested topics

### 5<sup>th</sup> and 6<sup>th</sup> generation networks (5/6G)

- Cognitive radio networking
- Wireless, cellular, and mobile communications
- Modeling and simulation
- Signal processing for communications
- Resource allocation
- Network slicing
- Machine learning approaches
- Topology management
- 5/6G Core network and service-based architecture
- C-RAN and backhaul
- Software Defined Networking (SDN) and Network Function Virtualization (NFV) for 5/6G
- Vehicular networks in the 5/6G era
- Cloud computing
- Network stability, control and optimization
- Standardization activities

### Security and privacy

- Privacy / anonymity
- Attacks and defenses
- Authentication, authorization and accounting
- Hardware security
- Intrusion detection
- Moving Target Defense (MTD)
- Blockchain
- Security on the edge

### Internet of Things (IoT)

- Low-Power Wide Area Network (LPWAN): LoRa, NB-IoT, LTE-M, Wi-SUN
- 6TiSCH, 6LoWPAN, Roll
- Rest API, CoAP, CBOR, OSCORE
- Operating systems
- Interoperability of Internet of Things (IoT) protocols and devices
- Simulation, emulation and testbed support
- Smart spaces: Design and applications
- Cyber Physical Systems (CPS)
- Telecare medical information system
- TinyML designed for microcontrollers and IoT-ready devices

### Deadlines extended

Paper submission: **31 October 2023**

Paper acceptance notification: 18 December 2023

Camera-ready paper submission: 18 January 2024

### Paper submission

This special issue calls for original scientific papers.

Submitted papers should not be under consideration for publication elsewhere.

Submissions must be made electronically using EDAS: Editor's Assistant at: <https://edas.info/N31162>.

Templates and guidelines can be found at:

<https://www.itu.int/en/journal/j-fet/Pages/submission-guidelines.aspx>

### Publication

Papers will be published in the ITU digital library.



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Inquiries should be addressed to Alessia Magliarditi at: [journal@itu.int](mailto:journal@itu.int).

