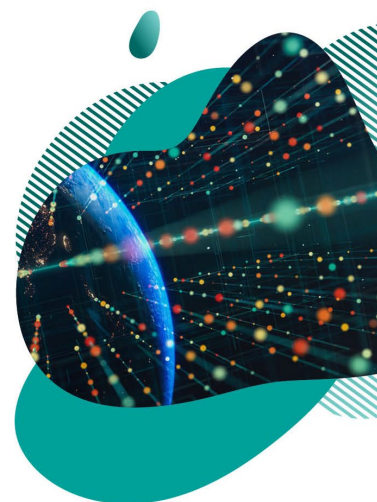The *ITU Journal on Future and Evolving Technologies (ITU J-FET)* is an international journal providing complete coverage of all communications and networking paradigms, free of charge for both readers and authors. The ITU Journal considers yet-to-be-published papers addressing fundamental and applied research. It shares new techniques and concepts, analyses and tutorials, and learnings from experiments and physical and simulated test beds. It also discusses the implications of the latest research results for policy and regulation, legal frameworks, and 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, on any topic within its scope.

Special issue on
Digital continuum and next generation networks
Call for papers

This special issue of the ITU J-FET on "Digital continuum and next generation networks" will address complementary aspects of emerging trends and innovative approaches in communications and networks research. The overall aim is to highlight selected driving technologies, techniques, and principles that will enable the next generation of networked communication systems and their effective take-up in smart society, production, and the economy.

The explosive growth and the rapid changes in the fields of communications and networking ask for innovative approaches to ensure efficient performance and the provision of advanced services to users. These innovative approaches include, but are not limited to, network optimization, efficient data management, cognitive computing, blockchain-based solutions and unconventional hardware and software design and deployment. Such approaches can be proven useful not only in the operations of current networks but also in the design of future network architectures – evolutionary or disruptive.

This special issue solicits papers that address the above-mentioned issues with an emphasis on the combination of innovative techniques with advanced system applications. Technical contributions with working implementations and practical evaluations are particularly welcome. We also welcome research work that explores new and compelling communications and networking scenarios and applications, particularly where this work goes beyond providing a general overview and instead offers compelling scientific insights.

Suggested topics

Multiaccess Edge Computing (MEC)

- Resource management
- Social computing and crowd-*
- Industry 5.0
- Challenged environments
- Sensor-oriented data modelling and analytics
- Peer-to-peer computing
- Data offloading and processing

Machine learning in future communications and networking

- Cognitive automation
- Bio-inspired computing in communications
- Distributed knowledge and processing
- Artificial intelligent systems applications in computers and communications

Privacy and security in an interconnected environment

- Data privacy
- Attacks and defenses
- Authentication, authorization and accounting
- Hardware security
- Intrusion detection
- Moving Target Defense (MTD)
- Role-based Access Protocols (RBAC)
- Trusted positioning, navigation, and timing services

Distributed ledger techniques

- Theoretical foundations
- Blockchain applications in management and control
- Privacy and security issues
- Efficient integration of DLTs in current and future infrastructures

Cloud computing in the new era

- Edge to fog to cloud continuum
- Cyber-physical convergence
- Digital continuum
- Distributed systems architecture and management

Keywords

Multiaccess edge computing, innovative software and hardware solutions, machine learning, blockchain

Additional information

Please visit the ITU Journal website at:
https://www.itu.int/en/journal/j-fet/Pages/default.aspx.
Inquiries should be addressed to Alessia Magliarditi at: journal@itu.int.

Deadlines extended
Paper submission: 9 May 2022
Paper acceptance notification: 4 July 2022
Camera-ready paper submission: 4 August 2022

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/N29199. Templates and guidelines can be found at: https://www.itu.int/en/journal/j-fet/Pages/submission-guidelines.aspx

Publication
As soon as they get accepted, papers will be continuously published on the ITU digital library. They will then be bundled into the special issue digital publication.

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