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IEEE International Conference on Communications

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Sustainable Communications for Renaissance

Call for Papers
Next-Generation Networking and Internet Symposium

Symposium Co-Chairs

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Scope and Motivation

There have been unprecedented advances in developing technologies to enable the next generation networks, which will seamlessly integrate the computing equipment with networking to provide the computing-harvesting next generation services. Thanks to the huge enhancement of computing processor and interface architectures, communication networks can now handle network functions implemented as virtualized machines or docker containers making large use of software elements. Communication devices can now host very advanced applications, and data centers can be pervasively distributed down to network access points. Networks, applications and clouds control layers can so leverage intelligent decision-making solutions to target full automation in Internet and next-generation service delivery. In addition, quantum Internet is emerging with vast amount of computing power, which opens new possibilities. This trend also greatly affects next-generation broadband wireless networks, such as spectrum efficiency, energy efficiency, and mobility management. The NGNI symposium welcomes original research work in technical areas focusing on the innovations on next-generation networks.

Topics of Interest

The Next-Generation Networking and Internet (NGNI) Symposium seeks original contributions in the following topical areas, plus others that are not explicitly listed but are closely related to:
- Addressing and naming with the presence of mobility and portability
- Centralized-RAN, Cloud-RAN, and Fog-RAN architectures
- Cloud-based and fog-based networking
- Content-centric networking and named data networks
- Converged networks and applications
- Data center network architectures and performance
- Deep space and Interplanetary Networks
- Free Space Optical (FSO) networks and Visible Light Communication (VLC)
- Future Internet and next-generation networking architectures
- Energy-efficient green communications

- Heterogeneous multi-layer and multi-domain wireless-wireline internetworking
- High speed and parallel processing architectures for next generation routers and switches
- Intent-based network control and management
- Internet economics, pricing, accounting, and growth modelling
- Internet of Things (IoT), M2M, D2D, MTC
- Internet survivability and network resilience strategies
- Integrated networking, storage and computing
- Mobile Cloud Computing (MCC) and Mobile Edge Computing (MEC)
- Mobile security: device, application, and data
- Networking flying vehicles such as UAVs and drones
- Next-generation access networks
- Next-generation anomaly, intrusion, and attack detection/prevention
- Next-generation flow management: resource sharing, congestion control
- Next-generation Internet applications and services
- Next-generation networking protocols
- Next-generation network management and control
- Open communities, open API, open source
- Operational and research issues with IPv6
- Overlay and Peer-to-Peer (P2P) networking
- Packet classification and forwarding mechanisms at ultra-high link rates (terabits)
- Quality of Service (QoS) and Quality of Experience (QoE) in next-generation networks
- Quantum Internet
- Resource orchestration in next-generation networks
- Routing and switching
- Self-protection and self-organization networking
- Software Defined Networking (SDN) and Network Function Virtualization (NFV)
- Software Defined Radio (SDR) and cognitive radio networks
- Terahertz wireless communications
- Traffic measurement, analysis, modelling, visualization, and engineering
- Vehicular networking (IoV/V2V/V2I/V2X)

Important Dates

Paper Submission: 11 October 2022
Notification: 18 January 2023
Camera Ready and Registration: 15 February 2023

Important Note

The authors of selected papers from this symposium will be invited to submit an extended version of their work for fast-track review and possible publication in the IEEE Open Journal of the Communications Society.

How to Submit a Paper

All papers for technical symposium should be submitted via EDAS. Full instructions on how to submit papers are provided on the IEEE ICC 2023 website: https://icc2023.ieee-icc.org/