



IEEE Conference on Standards for Communications and Networking

15–17 December 2021 // Virtual Conference

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Call for Papers

On behalf of the Organizing Committee, we have great pleasure in inviting you to submit your work to the 2021 IEEE Conference on Standards for Communications & Networking (IEEE CSCN'21). The sixth edition of this highly successful conference will be held virtually this year due to the COVID-19 pandemic.

Standards play a key role in the success of the communications industry, as enablers of global systems inter-operability and economies of scale. The finalization of the 3GPP release 15 in June 2018 was a major milestone. With the first 5G specifications now complete, the industry has achieved critical progress on technology readiness, and operators around the world are starting the commercial rollout. This represents the culmination of years of concerted industry and academia efforts in scoping out and designing the next generation of mobile systems. Past editions of IEEE CSCN have played their own part in these efforts.

IEEE CSCN is a unique conference on the networking circuit in that it aims to close the gap between researchers, scientists and standards experts from academia, industry and different standardization bodies. It will serve as a platform for presenting and discussing standards-related topics in the areas of communications, networking and related disciplines, facilitating standards development as well as cooperation among the key players. IEEE CSCN 2019 will deliver high quality technical as well as visionary papers, which will be reviewed and selected by an international Technical Program Committee (TPC) representing both academia and industry, with a strong standardization background.

Submissions

All submissions have to comply with IEEE's guidelines. Initial submissions for review are limited to seven (7) pages. Camera-ready papers should not exceed six (6) pages for long papers, and (4) pages for short papers, including figures without incurring additional page charges (maximum 1 additional page with over length page charge). Papers must be written using the IEEE conference proceedings style format (two-column and 10-point font). Only timely submissions through EDAS will be accepted for review. Submit your paper online: cscn2021.ieee-cscn.org

IMPORTANT DATES

Submission Deadline: 1 October 2021

Acceptance Notification: 5 November 2021

Camera-Ready: 30 November 2021



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TRACKS

Track on 5G and Beyond Emerging Wireless Communications

- Physical layer and MAC layer design for 5G-enabling wireless networks.
- Dynamic scheduling, power control, interference management, and QoS management in 5G.
- Techniques for latency reduction in 5G.
- Resource management and control in 5G RAN.
- Service-oriented user-plane design concepts.
- Topology, deployment, and optimization of wireless networks.
- Wireless technology for high speed.
- mmWave access, backhaul and self-backhauling.
- Application of SDN, NFV, and cloud computing to 5G (and legacy) RAN and core network architectures and implementations, such as network slicing.
- 3GPP phased work on NR.
- Green and energy efficient wireless networks.
- Solutions for battery-conserving, interference-mitigating terminal design.
- Massive and FD-MIMO communications, hybrid and coordinated beamforming technology.
- New control signaling for heterogeneous networks.
- Next-Generation Wi-Fi (IEEE 802.11ax/ay).
- 5G-LTE interworking and 5G/LTE — Wi-Fi/Wi-Gig interworking technology.
- 5G operation and coexistence in unlicensed and shared spectrum bands.
- Next-generation non-RF communications systems.
- 5G Radio Results from simulation, prototyping, and experiments.
- Emerging candidate technologies and business use-cases for Beyond 5G.

Track on IoT, URLLC and Automotive

- IoT architecture design options and system optimizations.
- IoT security and privacy of IoT devices and services.
- System optimization to support ultra-low complexity devices.
- Radio access optimizations for ultra-low power devices.
- Standardized semantic data description framework and technologies.
- IoT communication procedure enhancements.
- Experience and lessons learnt from IoT large-scale pilots.
- IoT standards platforms interworking.
- IoT interoperability methodologies.
- IoT standards gap analysis.
- 5G networks, IoT and Tactile Internet.
- Software Defined Network (SDN) and IoT.
- Industrial Internet of Things.
- Factory of things.
- Edge computing, fog computing and IoT.
- IPv6-based IoT networks.
- IoT protocols such as IPv6, 6LoWPAN, RPL, 6TiSCH, WoT.
- IoT security aspects for massive IoT deployments, e.g., embedded SIM management.
- Ultra-Reliable Low-Latency Communications (URLLC).
- URLLC for mission-critical IoT.
- V2X standards and architectures.
- Private LTE/ 5G networks.

Track on Verticals, Services and Applications

- Specific applications/services for automotive and cooperative vehicles
- Specific applications/services for robotics and factories of the future
- Specific applications/services for eHealth and mHealth
- Specific applications/services for media and entertainment vertical
- Specific applications/services for the energy industry
- Introduction of ETSI MEC technology and applications on vertical market segments
- New introduction of end-user applications at the edge of the communication network
- Standardization under W3C and standards for future web interoperability
- Web standardization for interactivity and human interactions with web platforms
- Specific applications/services for eEducation
- Interoperability for end-to- end mobile services
- Standard architectures for service enablers including integrated networks such as mobile, fixed,satellite and optical
- Open interfaces and open source platforms
- IETF standardization for CPS
- Development of mobile service enablers specifications & Standards
- Standard architectures for delivery of Augmented Reality, Virtual Reality and/or Object-Based-Broadcasting by next generation communication systems

Track on Softwarization, Slicing, Automation and Network Management

- Architectures and protocols for network automation and zero-touch management.
- Intelligent-, intent-based and cognitive networking and network management.
- Programmable architectures and systems for 5G services and verticals.
- Analysis and considerations for common VNFs across fixed and mobile networks.
- 5G service-based architecture evolution.
- Network functions placement in distributed clouds.
- 5G functional decomposition and deployment.
- Secure operations in future virtualized networks.
- Resource management and sharing for network slicing.
- Scalability and reliability in 5G networks and 5G network slicing.
- Dedicated and shared network functions in network slices.
- Cross-slice management for end-to-end QoS.
- Progress on network slicing standardization (e.g. 3GPP, GSMA, etc.).
- Evaluation of network softwarization and fundamental trade-offs.
- Test-bed experience in softwarization and network slicing.
- SDN architectures and interfaces.
- SDN programming languages and data models.
- Progress and future challenges in standardization (e.g. ETSI NFV, IETF/IRTF, etc.).
- Orchestration and management in SDN and NFV.
- Multi-domain and multi-tenancy considerations in SDN and NFV.
- Open Source efforts in relation to SDN and NFV (e.g., ONAP, OPNFV, OpenStack, Open Source MANO).
- QoS/QoE aspects related to SDN and NFV based network services.

Track on Access Network, Edge Computing and Transport for 5G

- Multi-Access Edge Computing, Edge-Fog Computing.
- Routing protocols, segment routing and VPN extensions for 5G slicing.
- Multi-tenancy, slicing, and control of multi-domain heterogeneous infrastructures.
- SDN and NFV in access, edge, and transport for 5G
- Transporting 5G mobile services over optical access networks.
- SDN solutions for mobile networks and fixed IP cross layer transport and routing.
- 5G architectures supporting Cloud-RAN and functional split options.
- 5G architectures supporting fronthaul/middlehaul/backhaul integration.
- Network slicing issues with multi-RATs devices.
- End-to- end resource optimization for 5G mobile services: from radio head to data center.
- Integrated backhaul/middlehaul/fronthaul
- Backhaul/middlehaul/fronthaul considerations for dynamic capacity and mobility management.
- Delivering services over ICN in 5G within a framework enabling network slicing.
- Enhancing 5G backhaul/middlehaul/fronthaul with ICN.
- Mechanisms and protocol enhancements for Hybrid Access networks.
- Introduction of ETSI MEC technology and applications on vertical market segments.
- New user applications at the edge of the communication network.
- Vertical industry implications to transport, edge computing, and 5G access networks.
- Insights on pilots, proof-of-concept, and prototypes on access, edge, and transport networks.

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