



Call for Papers

Real-Time Communications Conference (RTC)

An IEEE International Conference at Illinois Tech @ Chicago, IL, USA – October 7-8, 2025

co-located with the

International Communications Quality and Reliability (CQR) Workshop

The functions and scope of real-time mixed media applications are expanding as these applications are integrated with IoT, ML/AI, blockchain, voice- and financial technologies, and more. While there are conferences devoted to each of these technologies separately, and to the underlying networks and platforms that support them, the RTC & CQR Conference Research Track is specifically interested in exploring the issues, opportunities and challenges associated with the integration of these disparate technologies. The online version of this Call for Papers can be found [here](https://www.rtc-conference.com/2025/research-track-cfp/) (<https://www.rtc-conference.com/2025/research-track-cfp/>).

We are pleased to announce a unified Call for Papers (CfP) for the 2025 RTC & CQR Conference, following the merger of the IEEE International Communications Quality and Reliability (CQR) Workshop and the Real-Time Communications (RTC) Conference. This event aims to bring together researchers and practitioners from both communities to discuss advancements in communications quality, reliability, and real-time multimedia communications.

The Research Track of RTC & CQR invites paper submissions in interactive multimedia communications describing architectures, design, theoretical results, experiments, innovative systems, prototyping efforts, and case studies. Papers that are accepted and presented at the conference will be submitted for publication in IEEE Xplore.

We are interested in works at the intersection of multimedia interactive communications with technologies in internet of things, vehicular networking, confidential computing, machine learning, network management, programmable network services, security, privacy, machine learning, voice technologies, blockchain, gaming, and robotics. The Technical Program inherits the 17-year legacy of the IPTComm Conference (<http://iptcomm.org/archive.html>) as well as the over 30-year history of the CQR workshop (<https://cqr2024.ieee-cqr.org/about/past-workshops>).

We invite submissions on a wide range of topics related to **real-time communications** and **communications quality & reliability**, including but not limited to:

- **Real-Time and Multimedia Communications**

- WebRTC applications and protocols
- Interactive multimedia systems (video, audio, AR/VR, gaming, robotics)
- Cloud-based and distributed communications
- Time-sensitive networking and ultra-low latency applications
- Real-time streaming protocols and media transport optimizations
- Synchronization and jitter management

- **Network Technologies and Architectures for RTC applications**
 - 5G/6G networks and beyond
 - Software-defined networking (SDN) and network function virtualization (NFV)
 - Edge computing, fog computing, and cloud-native applications
 - Internet of Things (IoT) networks and industrial communications
 - Vehicular networking (V2X)
 - Programmable networks and service orchestration
- **AI and Machine Learning in RTC Applications and Services**
 - Explainable AI: Sparse Autoencoders, Visualization Techniques, Contrastive Explanations, SHAP/LIME/Permutation Importance
 - AI/ML applications in real-time network automation and optimization
 - Large language models and conversational AI
 - Speech recognition, synthesis, and natural language processing
 - AI-driven network security for detecting and mitigating threats in RTC environments
 - Predictive maintenance and anomaly detection for real-time network reliability
- **Security, Privacy, and Resilience in communication networks**
 - Identity management, authentication, and encryption
 - Intrusion detection and mitigation techniques
 - Blockchain applications for secure and trustworthy communications
 - Privacy-aware computation and data protection
 - Network reliability, resilience, and disaster recovery
 - Secure routing, access control, and zero-trust architectures
- **Quality, Performance, Reliability and Experience**
 - Quality of Service (QoS) and Quality of Experience (QoE) assessment
 - Performance metrics, measurement, and benchmarking
 - Network survivability, fault tolerance, and self-healing mechanisms
 - AI-driven predictive analytics for quality optimization
 - Service level agreements (SLAs) and compliance monitoring
 - Network congestion control and traffic engineering for improved communication quality
 - User experience and Customer Experience
 - Quantum Computing

Submission Guidelines

Paper submissions must describe original research, not published nor currently under review for another conference or journal. The program committee will referee all papers. At least one author of each paper must be registered and present their paper at the conference.

- All paper submissions must be done through [EDAS \(https://edas.info/N33703\)](https://edas.info/N33703)
- Regular paper submissions should follow the guidelines and use the formatting tools available on the [IEEE Manuscript Templates](#) page.
- Regular papers must be in between **4 to 8 pages**, double-column IEEE format, including figures, references and appendices.
- Work-in-progress papers should have no more than 4 pages in IEEE double-column format, including figures, references and appendices. Work-in-progress papers must include "Work in Progress" in the title.

Important Dates

- **Paper submission deadline:** Monday, July 7, 2025 - 1200 CDT
- **Notification of acceptance:** Monday, August 4, 2025 - 1200 CDT
- **Final camera-ready submission:** Monday, September 1, 2025 - 1200 CDT
- **Conference Dates:** October 7-8, 2025 (Hermann Hall, [IIT Mies Campus](#), Chicago, IL, USA)

Conference Chairs

- Carol Davids (Illinois Institute of Technology & School of Applied Technology, USA)
- Abby Knowles (retired from Verizon, USA)

Technical Program Committee Chairs

- [Ronald Marx](#) (Getronics GmbH, Germany)
- [José Aguerre](#) (Evercast & University of the Republic, Uruguay)
- [Eiji Oki](#) (Kyoto University, Japan)
- [Vijay K Gurbani](#) (Vail Systems, Inc. & Illinois Institute of Technology, USA)

Technical Program Committee

- *tbc*