Call for Papers

Real-Time Communications Conference (RTC)

An IEEE International Conference at Illinois Tech @ Chicago, IL, USA – September 22-23, 2026

The functions and scope of real-time mixed media applications are expanding as these applications are integrated with Data, ML/AI, Blockchain, Voice- and Financial Technologies, Quantum Computing, IoT, 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 Conference Research Track is specifically interested in exploring the issues, opportunities and challenges associated with the integration of these disparate technologies. Here is the link to the Call for Papers to be presented in the Research Track.

The Research Track of RTC 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 as diverse as Artificial Intelligence and Machine Learning, Quantum Computing, Internet of Things, Vehicular Networking and Communications, Confidential Computing, Network Management, Programmable Network Services, Security, Privacy, Voice Technologies, Blockchain, Gaming, and Robotics. The Technical Program inherits the 17-year legacy of the IPTComm Conference. We invite submissions on a wide range of topics related to real-time communications, 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/N35449)
- Regular paper submissions should follow the guidelines and use the formatting tools available on the IEEE Manuscripts 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:** Friday, July 17, 2026 – 23:59h (Chicago time)
- **Notification of acceptance:** Monday, August 24, 2026
- **Final camera-ready submission:** Monday, September 7, 2026
- **Conference Dates:** September 22-23, 2026 (at Hermann Hall, IIT Main Campus, Chicago, IL, USA)

Conference Chair

- Alvin Chin (University of Illinois in Chicago, USA)

Program Chair

- Sandeep Kumar Davuluri (University of the Cumberlands, USA)

Research Track Chairs

- Mihaela Chelaru (University of Illinois in Chicago, USA)
- Eiji Oki (Kyoto University, Japan)
- Mounish Sunkara (Gamma Technologies LLC, USA)

Technical Program Committee

TBC (to be confirmed)

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