Call for Papers
SS08 – Exploring the Limits of Time Sensitive Networking (TSN)

Organized and Chaired by

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FOCUS

This special session aims to explore the advancements and challenges in deterministic networks, focusing on Time-Sensitive Networking (TSN). TSN identifies standards, algorithms, and protocols aiming to enhance the capabilities of communication networks for time-critical real-time dependable applications through accurate time synchronization, hard, non-negotiable time boundaries for transmission latency and fault tolerance mechanisms. TSN standards have triggered a significant amount of research that explores the limits of the technology and proposes techniques to go beyond them in four basic domains; real-time response of mixed traffic, fault tolerance, network configuration and the practical use of this technology in many application areas. For instance, recent developments in this field have brought TSN to wireless networks such as 3GPP 5G New Radio and IEEE 802.11 Wi-Fi. The application of TSN in hybrid networks is a captivating subject of study, as it would enable time-sensitive applications such as extended reality (XR), time-critical sensor networks, and real-time remote control in industrial, robotics, avionics, aerospace, and automotive devices. The session is open to all research aimed at exploring and going beyond the limits of this technology thereby showing its potential.

TOPICS

- Scheduling algorithms
- Fault-tolerance mechanisms for highly-dependable TSN networks
- Configuration of complex TSN networks
- Novel algorithms and protocols for wireless TSN
- Integration of TSN on Wi-Fi and 5G New Radio
- Innovative solutions for redundancy and dynamic routing
- Optimal network topology design
- Methodologies for metrological characterization of TSN networks
- Formal methods (FM) for the design of efficient, reliable and optimized hybrid TSN networks
- Development of simulation models
- Adoption of TSN in robotics applications
- Adoption of TSN in industrial applications
- Adoption of TSN in Smart/Micro Grids

AIM

The aim is to bring together researchers, practitioners, and experts to delve into various aspects of TSN, fostering discussions on its evolution, case studies, prototypes, implementations, testing best practices, and practical real-world applications.

SOLICITED PAPERS

♦ Original Research (Regular) ♦ Surveys ♦ Industry practice ♦ Work-in-progress
The working language of the conference is English, For submission rules, please refer to the Author's Instruction on the conference website.

PAPER ACCEPTANCE

Accepted, registered, and presented papers will be copyrighted by IEEE and published in the conference proceedings. The proceedings will be available in the IEEE Xplore® Digital Library. The final manuscript must be accompanied by a registration form and a registration fee payment proof and it is mandatory that at least one author attends and presents the paper at the conference. Failure to adhere to these guidelines may result in paper exclusion from post-conference distribution via IEEEXplore by the ETFA 2024 Organizing Committee. All conference attendees must pay the conference registration fee and cover their own personal expenses for travel and accommodations.

AUTHOR'S SCHEDULE 2024

❖Regular and special sessions papers		❖Work-in-progress/ Industry practice papers	
Submission deadline	**April 28th**	Submission deadline	**May 26th**
Acceptance notification	May 31st	Acceptance notification	June 17th
Deadline for final manuscripts	July 1st	Deadline for final manuscripts	July 1st

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