

		ISORC 2025 Technical Program Schedule	
		DAY 1: MAY 26, 2025	
08:00	08:30	Welcome Desk	
08:30	08:40	Opening Ceremony	
Networking, IoT & Edge Scheduling (Session chair: Daniel Casini)			
08:40	08:55	Time-Aware Packet Forwarding in Programmable Data Planes	Yuqun Song, Monowar Hasan
08:55	09:10	Optimization of Micromobility Integration in IoV Systems	Rima Boughariou, Hend Marouane, Mohamed Mosbah, Hassene Mnif, Amel Meddeb-Makhlouf
09:10	09:25	Cost- and Latency-Aware Scheduling for Microservices in Edge Computing	Amira Rayane Benamer
09:25	09:40	Evaluating Federated Learning in IoT: Advancing Scalability, Privacy, and Real-Time Intelligence	Karim Houidi, Marwa Said, Akram Hakiri, Nedra Mellouli, Hella Kaffel Ben Ayed
09:40	10:00	Coffee Break	
Machine Learning Performance & TinyML – (Session chair: Robert Pettit)			
10:00	10:15	Impact of Network Data Complexity on ML Performance	Mustafa Al Lail, Alexis Huante, Mariem Belhor
10:15	10:30	Real-Time Performance Benchmarking of TinyML Models in Embedded Systems (PICO: Performance of Inference, CPU, and Operations)	Abhishek Dey, Saurabh Srivastava, Gaurav Singh, Robert Pettit
10:30	10:45	Hardware in the Loop Evaluation on Autonomous Underwater Vehicles using an Edge Device	Joseph Hite, Nagabhushan Mahadevan, Daniel Stojcsics, Sandeep Neema, Gabor Karsai
10:45	11:00	Real-Time Detection of Bitstream Vulnerabilities in FPGAs	Mansour Alqarni, Akramul Azim
11:00	11:30	Optimizing CNN Inference on Multicore Scratchpad Architectures	Giuseppe Lipari, Chiara Daini, Houssameddine Zahaf, Pierre-Emmanuel Hladik
11:30	12:30	Keynote Session : Prof. Frédéric Boniol Modular and Open-Hardware Architectures for Embedded Processors: Emerging Trends and Research Challenges	
12:30	14:00	Lunch break	
Embedded Systems, Security & Smart Architectures (Session chair: Al Lail, Mustafa)			
14:00	14:15	Optimizing Stack Cache Usage Through Local Variable Promotion	Emad Jacob Maroun, Daniel Seifert, Johannes Gernedl
14:15	14:30	A Secure, Context-Aware Software Architecture for Real-Time IoT	Marshal Moncivais, Mustafa Al Lail
14:30	14:45	Bio-Inspired Coordination for Measurement Timing in Sensor Networks	Takashi Ikegami, Ichiro Satoh
14:45	15:00	Make Your Bench Testbed Driving: A Hybrid Testbed for Automated Driving Development and Testing	Yuanbin Zhou, Anthony Kee Teck Yeo, Sudipta Chattopadhyay
15:00	15:15	A Data-Driven Platform for Visualizing and Analyzing Public Transit Schedule Deviations	Emna Boudabbous, Mohamed Karaa, Lokman Sboui, Julio Montecinos, Omar Alam
Poster/Demo Presentations (Session chair: Nedra Mellouli)			
15:15	15:20	Distributed Consensus for Uncertainty in Medical Diagnosis	Alexandru Robert Vlasiu
15:20	15:25	TECS/Rust-OE: Optimizing Exclusive Control in Rust-based Component	Nao Yoshimura, Hiroshi Oyama, Takuya Azumi

15:25	15:30	TSN evaluation toolchain enabling Efficient and Reliable Network Design	Christophe Fradet, Philippe Veyssière
15:30	15:35	Towards Rule-based Defense Mechanisms in Distributed UAV-Swarms	Philipp Homann, Jonas Diegelmann, Uwe Brinkschulte
15:35	15:40	Organic Computing-Driven Vehicles in a Reproducible Test Setup for CARLA Simulator	Timo Kisselbach, Kevin Scherer, Uwe Brinkschulte
15:40	15:45	ADNA-based Organic Computing Battery Management System	Joshua Leon Tobias, Timo Kisselbach, Uwe Brinkschulte
15:45	16:30	Coffee Break + Poster/Demo Exhibition	
Doctoral Symposium and Dissertation Digest (Session chair : Pascal Berthou)			
16:30	16:45	A Survey on TDoA-based localization schemes for Long Range Wide Area Networks	Feras Hamdan, Nicola Accettura, Pascal Berthou
16:45	17:00	Time Synchronization and Packet Scheduling for Satellite LoRaWAN Networks	Mohammad Afhamisis, Maria Rita Palattella
17:00	17:15	Ubiquitous IoT Through Space Communications	Zheng Zhou, Nicola Accettura, Pascal Berthou
17:15	17:30	Designing Scalable yet Energy-Efficient Low-Power Wide-Area Networks	Laurent Chasserat, Nicola Accettura, Pascal Berthou
17:30	17:45	Optimized Deep Learning for Anomalous Traffic Classification in Resource-Constrained IoT Networks: A Novel Approach	Yayathi Pavan Kumar S, Sudeepta Mishra
17:45	18:00	Optimized Constant Execution Time Code	Emad Jacob Maroun, Martin Schoeberl, Peter Puschner
18:00	18:15	Time-predictable Deep Noise Suppression on an Edge Device	Alessandro Cerioli, Tórrur Biskopstø Strøm, Clément Laroche, Tobias Piechowiak, Luca Pezzarossa, Martin Schoeberl
18:15	18:30	Bringing Model-Based Systems Engineering to Diagnostics of Cyber-Physical Systems	Ömer Sayilir!
20:30	00:00	Social Event - Gala Dinner Unforgettable evening & Entertainment in perspective	
DAY 2: MAY 27, 2025			
08:00	08:30	Welcome Desk	
Session 1: Scheduling and Real-Time Systems (Session Chair: Mariem Belhor)			
08:30	09:00	Global versus local schedulability analysis of a two-level hierarchical system	Luc Descharmes, Henri Bauer, Frederic Ridouard, Annie Choquet-Geniet
09:00	09:30	Energy-aware Resource reservation for Multicore architectures	François Illien, Houssam eddine Zahaf, Audrey Queudet
09:30	10:00	Decreasing Utilization of Systems with Multi-Rate Cause-Effect Chains While Reducing End-to-End Latencies	Luiz Maia, Gerhard Fohler
10:00	10:30	Supporting Soft Real-Time Tasks in Zephyr with Constant Bandwidth Servers	Alexander Paschoaletto, Paulo Baltarejo Sousa, Luis Miguel Pinho, Tiago Carvalho
10:30	11:00	Coffee break	
11:00	12:00	Keynote Distinguished Prof. Gabor Karsai New Directions in Software-Integrated Systems: Assurance of Learning-Enabled Cyber-Physical Systems	
Session 2: Security and Mixed-Criticality (Session chair : Pascal Berthou)			
12:00	12:30	A Safety-Critical Object Controller with Inherited Trust	Clemens Tiedt, Katja Assaf, Andreas Polze, Robert Schmid, Lukas Pirl

12:30	13:30	Lunch break	
13:30	14:00	User-Centric and Privacy-Preserving Attribute-Based Authentication in Healthcare Systems Leveraging zk-SNARKs and Soulbound Tokens	Biagio Boi, Franco Cirillo, Marco De Santis, Christian Esposito
14:00	14:30	Mad Monk: Arbitrary Criticality Escalation in Mixed Criticality Real-Time Systems	Mitchell Duncan, Ao Li, Nathan Fisher, Ning Zhang, Ryan Gerdes, Tanmaya Mishra, Thidapat (Tam) Chantem
14:30	15:00	MemGuard-RW: Improved Real-Time Memory Bandwidth Regulation within a Hypervisor	Everaldo Gomes, Adrien Jakubiak, Giovani Gracioli, Tomasz Kloda
15:00	15:30	Coffee break	
15:30	18:30	Airbus Final Manufacturing Plant	
19:00	23:00	Gala Dinner (19:00-23:00)	
DAY 3: MAY 28, 2025			
08:00	08:30	Welcome Desk	
Session 4: Middleware, IoT, & CPS (Session chair: Claire Pagetti)			
08:30	09:00	FEDS: An Intuitive Model-Driven Middleware for Automated Orchestration and Resource Configuration Across Federated Testbeds	Sanjana Das, Ruiqing Lan, Caroline Rinks, Aniruddha Gokhale, Abdelilah Essiari, Xi Yang, Paul Ruth
09:00	09:30	An unsupervised anomaly-based detection system for microservices applications on Kubernetes	Kostandinos Myrtollari, Charalampos Andreou, Kakia Panagidi, Stathes Hadjiefthymiades
09:30	10:00	Energetic SmartData: a Data-driven Power Management Approach for Cyber-Physical Systems	Antônio Augusto Fröhlich, Leonardo Passig Horstmann, Jozimar Xavier
10:00	10:30	ROS 2 Agnocast: Supporting Unsized Message Types for True Zero-Copy Publish/Subscribe IPC	Takahiro Ishikawa-Aso, Shinpei Kato
10:30	11:00	Coffee break	
Session 5: Network, Architecture, and Emulation (Session chair: Ahlem Mifdaoui)			
11:00	11:30	Towards a validated core memory model through (MP)SoC events	Alfonso Mascarenas Gonzalez, Frédéric Boniol, Benjamin Lesage, Claire Pagetti
11:30	12:00	Mobility in 5G Emulators: Implementation and Evaluation	Massamaesso Narouwa, Léo Mendiboure, Sassi Maaloul, Ndeye Birame DIA, Hakim Badis, Dereje M. Molla, Marion Berbineau, Rami Langar
12:00	12:30	Experimental Evaluation of a CAN-to-TSN Gateway Implementation	Aldin Berisa, Saad Mubeen, Mohammad Ashjaei, Masoud Daneshtalab, Mikael Sjodin, Benjamin Kraljusic, Nejla Zahirovic
12:30	13:30	Lunch break	
Session 6: TSN and Network Optimization (Session chair: Uwe Brinkschulte)			
13:30	14:00	A Cost-efficient Credit-Based Shaper Deployment Framework for Time-Sensitive Networks	Santiago Torres-Borda, Ahlem Mifdaoui
14:00	14:30	Efficient Placement Optimization of LoRaWAN Gateways Using K-Means Clustering	Marwa Said, Maher Jabberi, Akram Hakiri, Karim Houidi, Nedra Mellouli-Nauwynck, Hella Kaffel Ben Ayed
14:30	15:00	Integrating VMD and Convolutional Transformers for Optimized Solar Energy Management in IoT Monitoring Systems	Abdellah Benbelghit, Ahmed Bali, Abdelouahed Gherbi, Pierre-Emmanuel Hladik

15:00	15:30	Simulating Contention and Timeout Caches for a Mixed-Criticality 5G Radio Base Station	Emad Jacob Maroun, Martin Schoeberl
15:30	16:00	Coffee Break	
Session 7: Edge Computing (Session chair: Thierry Gayraud)			
16:00	16:30	Deep Reinforcement Learning-based Multi-Agent Framework for Dynamic Optimization of QoS in IoT Services	Fatima Zohra Bemrah, Samir Ouchani, Azeddine Chikh
16:30	17:00	HIL robustness testing and validation of computer vision and C-ITS for vehicle fault mitigation	Andrea Marchetta, Marcello Cinque, Angelo Coppola, Martina Togna
17:00	17:30	Energy-Efficient Real-Time Localization for Distributed IoT Sensing: Novel CNN-based Models	Maher Jabberi, Bassem Sellami, Akram Hakiri, Mohamed Adel Alimi
17:30	18:00	A Meta-heuristic Real-time Task Graph Scheduler for Partially Occupied Edge Computing Platforms	Adity Ghosh, Arnab Sarkar, Arijit Mondal