| | | ISORC 2025 Technical Program Schedule |
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| | | **DAY 1: MAY 26, 2025** |
| 08:00 | 08:30 | **Welcome Desk** |
| 08:30 | 08:40 | **Opening Ceremony** |
| | | **Short Papers – Networking, IoT & Edge Scheduling (Session chair: TODO)** |
| 08:40 | 09:00 | Time-Aware Packet Forwarding in Programmable Data Planes | Yuqun Song, Monowar Hasan |
| 09:00 | 09:20 | Optimization of Micromobility Integration in IoV Systems | Rima Boughariou, Hend Marouane, Mohamed Mosbah, Hassene Mnif, Amel Meddeb-Makhlouf |
| 09:20 | 09:40 | Cost- and Latency-Aware Scheduling for Microservices in Edge Computing | Amira Rayane Benamer |
| 09:40 | 10:00 | Evaluating Federated Learning in IoT: Advancing Scalability, Privacy, and Real-Time Intelligence | Karim Houidi, Marwa Said, Akram Hakiri, Nedra Mellouli, Hella Kaffel Ben Ayed |
| 10:00 | 10:30 | **Coffee Break** |
| | | **Short Papers – Machine Learning Performance & TinyML (Session chair: TODO)** |
| 10:30 | 10:50 | Impact of Network Data Complexity on ML Performance | Mustafa Al Lail, Alexis Huante, Mariem Belhor |
| 10:50 | 11:10 | 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 |
| 11:10 | 11:30 | Hardware in the Loop Evaluation on Autonomous Underwater Vehicles using an Edge Device | Joseph Hite, Nagabhushan Mahadevan, Daniel Stojcsics, Sandeep Neema, Gabor Karsai |
| 11:30 | 11:50 | Real-Time Detection of Bitstream Vulnerabilities in FPGAs | Mansour Alqarni, Akramul Azim |
| 11:50 | 12:50 | **Keynote Session : TODO** |
| 12:50 | 14:00 | **Lunch break (1h30)** |
| | | **Short Papers – Embedded Systems, Security & Smart Architectures (Session chair: TODO)** |
| 14:00 | 14:20 | Optimizing Stack Cache Usage Through Local Variable Promotion | Emad Jacob Maroun, Daniel Seifert, Johannes Gernedl |
| 14:20 | 14:40 | A Secure, Context-Aware Software Architecture for Real-Time IoT | Marshal Moncivais, Mustafa Al Lail |
| 14:40 | 15:00 | Bio-Inspired Coordination for Measurement Timing in Sensor Networks | Takashi Ikegami, Ichiro Satoh |
| 15:00 | 15:20 | Make Your Bench Testbed Driving: A Hybrid Testbed for Automated Driving Development and Testing | Yuanbin Zhou, Anthony Kee Teck Yeo, Sudipta Chattopadhyay |
| | | **Poster Presentations (Session chair: TODO)** |
| 15:20 | 15:25 | Distributed Consensus for Uncertainty in Medical Diagnosis | Alexandru Robert Vlasiu |
| 15:25 | 15:30 | TECS/Rust-OE: Optimizing Exclusive Control in Rust-based Component | Nao Yoshimura, Hiroshi Oyama, Takuya Azumi |
| 15:30 | 15:35 | TSN evaluation toolchain enabling Efficient and Reliable Network Design | Christophe Fradet, Philippe Veyssière |
| 15:35 | 15:40 | Towards Rule-based Defense Mechanisms in Distributed UAV-Swarms | Philipp Homann, Jonas Diegelmann, Uwe Brinkschulte |

| 15:40 | 15:45 | Organic Computing-Driven Vehicles in a Reproducible Test Setup for CARLA Simulator | Timo Kisselbach, Kevin Scherer, Uwe Brinkschulte |
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| 15:45 | 15:50 | ADNA-based Organic Computing Battery Management System | Joshua Leon Tobias, Timo Kisselbach, Uwe Brinkschulte |
| 15:50 | 16:30 | **Coffee Break + Poster Session** | |
| | | **Doctoral Symposium and Dissertation Digest (Session chair : TODO)** | |
| 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 |
| 17:30 | 17:45 | Optimized Constant Execution Time Code | Emad Jacob Maroun, Martin Schoeberl, Peter Puschner |
| 17:30 | 17:45 | Time-predictable Deep Noise Suppression on an Edge Device | Alessandro Cerioli, Tórur Biskopstø Strøm, Clément Laroche, Tobias Piechowiak, Luca Pezzarossa, Martin Schoeberl |
| 17:45 | 18:00 | Bringing Model-Based Systems Engineering to Diagnostics of Cyber-Physical Systems | Ömer Sayilir! |
| XX:YY | AA:BB | **EVENT** | |

# DAY 2: MAY 27, 2025

| 08:00 | 08:30 | **Welcome Desk** | |
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| | | **Session 1: Scheduling and Real-Time Systems (Session Chair: TODO)** | |
| 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** | |
| | | **Security and Mixed-Criticality (Session chair : TODO)** | |
| 11:00 | 11:30 | A Safety-Critical Object Controller with Inherited Trust | Clemens Tiedt, Katja Assaf, Andreas Polze, Robert Schmid, Lukas Pirl |
| 11:30 | 12:00 | 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 |

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| 12:00 | 12:30 | 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 |
| 12:30 | 13:30 | **Lunch break** | |
| 13:30 | 14:30 | **Keynote  TODO** | |
| | | **Session 2 : ML & AI in distributed CPS  (Session chair : TODO)** | |
| 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 | Optimizing CNN Inference on Multicore Scratchpad Architectures | Giuseppe Lipari, Chiara Daini, Houssameddine Zahaf, Pierre-Emmanuel Hladik |
| 15:30 | 16:00 | **Coffee break** | |
| 16:00 | 18:00 | **Airbus Final Manufacturing Plant** | |
| 19:00 | 22:00 | **Gala Dinner (19:00-22:00)** | |
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| | | **DAY 3: MAY 28, 2025** | |
| 08:00 | 08:30 | **Welcome Desk** | |
| | | **Session 3: Middleware, IoT, & CPS (Session chair: TODO)** | |
| 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 | Integrating VMD and Convolutional Transformers for Optimized Solar Energy Management in IoT Monitoring Systems | Abdellah Benbelghit, Ahmed Bali, Abdelouahed Gherbi, Pierre-Emmanuel Hladik |
| 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 4: Network, Architecture, and Emulation (Session chair: TODO)** | |
| 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 (1h30)** | |
| | | **Session 5: TSN and Network Optimization (Session chair: TODO)** | |
| 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 |
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| 14:30 | 15:00 | An unsupervised anomaly-based detection system for microservices applications on Kubernetes | Kostandinos Myrtollari, Charalampos Andreou, Kakia Panagidi, Stathes Hadjiefthymiades |
| 15:00 | 15:30 | Deep Reinforcement Learning-based Multi-Agent Framework for Dynamic Optimization of QoS in IoT Services | Fatima Zohra Bemrah, Samir Ouchani, Azeddine Chikh |
| 15:30 | 16:00 | **Coffee Break** | |
| | | **Session 6: Edge Computing (Session chair: TODO)** | |
| 16:00 | 16:30 | Simulating Contention and Timeout Caches for a Mixed-Criticality 5G Radio Base Station | Emad Jacob Maroun, Martin Schoeberl |
| 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 |