RTCSA 2023 Advance Program

August 30 Wed	9:00	Opening and Keynote	
	10:30	Break	
	11:00	Session 1: Best Paper Candidates	NVMSA 1: Solid-State Drive
	12:30	Lunch Break	
	13:30	Session 2: Real-Time Systems 1	NVMSA 2: Invited Talk
	15:00	Break	
	15:30	Session 3: Embedded Systems 1	NVMSA 3: Security and Isolation
		Welcome Reception & Poster Presentations	
August 31 Thu	9:30	NVMSA Keynote	
	10:30	Break	
	11:00	Session 4: IoT, CPS, and Emerging Applications 1	NVMSA 4: Machine Learning in Memory
	12:30	Lunch Break	
	14:00	Sponsor Talk	
	15:00	Break	
	15:30	Session 5A: Real-Time Systems 2	Session 5B: Embedded Systems 2
		Banquet (Crowne Plaza - ANA Niigata, 15 min walk from TOKI MESSE)	
September 1 Fri	9:00	Session 6: Real-Time Systems 3	NVMSA 6: Tool and System Software
	10:30	Break	
	11:00	Session 7A: IoT, CPS, and Emerging Applications 2	Session 7B: Short Presentations
		Closing	

August 30 (Wed) 9:00 - 10:30
Opening and Keynote
- Personalized Predictions of Clinical Outcomes and Treatment Response with Wearables and Machine Learning
  Chenyang Lu (AIM Institute, Washington University in St. Louis)

August 30 (Wed) 11:00 - 12:30
Session 1: Best Paper Candidates
Chairs: Nan Guan (City University of Hong Kong) and Hiroyuki Tomiyama (Ritsumeikan University)
- Timing Analysis of Embedded Software Updates
  Ahmed El Yaacoub, Luca Mottola, Thiemo Voigt and Philipp Rümmer
- PELSI: Power-Efficient Layer-Switched Inference
  Ehsan Aghapour, Dolly Sapra, Andy Pimentel and Anuj Pathania
- Self-supervised multi-LiDAR object view generation using single LiDAR
  Yi-Hung Kuo, Chi-Sheng Daniel Shih and Jerry Lin

August 30 (Wed) 13:30 - 15:00
Session 2: Real-Time Systems 1
Chair: Pablo Gutiérrez Peón (TTTech Auto AG)
- Hardware Acceleration with Zero-Copy Memory Management for Heterogeneous Computing
  Oren Bell, Chris Gill and Xuan Zhang
- BandWatch: A System-Wide Memory Bandwidth Regulation System for Heterogeneous Multicore
  Eric Seals, Michael Bechtel and Heechul Yun
- IRQ Coloring and the Subtle Art of Mitigating Interrupt-generated Interference
  Diogo Costa, Luca Cuomo, Daniel Oliveira, Ida Maria Savino, Bruno Morelli, Jose Martins, Alessandro Biasci and Sandro Pinto

August 30 (Wed) 15:30 - 17:00
Session 3: Embedded Systems 1
Chair: Shuo-Han Chen (National Taipei University of Technology)
- Memory-Aware DVFS Governing Policy for Improved Energy-Saving in the Linux Kernel
  Philkyue Shin, Dahun Kim and Seongsoo Hong
- TEEVseL4: Trusted Execution Environment for Virtualized seL4-based Systems
  Borna Blazevic, Michael Peter, Mohammad Hamad and Sebastian Steinhorst
- Improving Read Performance for LDPC-Based SSDs with Adaptive Bit Labeling on Vth States
  Jia-Xin Hou and Li-Pin Chang

August 30 (Wed) Evening
Poster Presentations
- Parameter Optimization for EDF-Like Scheduling of Self-Suspending Tasks
  Mario Günzel and Jian-Jia Chen
- Response-time Analysis of Fault-Tolerant Hard Real-Time Systems under Global Scheduling
  Pourya Gohari, Jeroen Voeten and Mitra Nasri
- Investigating Requirements and Expectations of Wearable Telexistence Robotic Systems
  Abdullah Iskandar, Mohammed Al-Sada, Osama Halabi and Tatsuo Nakajima
- Designing a 3D Human Pose Estimation-based VR Tennis Training System
  Yuichiro Hiramoto, Mohammed Al-Sada and Tatsuo Nakajima
- Visualization System Using Virtual Reality for Work Improvement in Small and Medium Manufacturing Industries
  Shogo Ogihara, Tetsuro Kato, Takafumi Kawasaki, Yuki Okura and Takeshi Iwamoto
- A Robot Arm-based Haptic Feedback System for Augmented Reality Applications
  Daichi Watanabe, Mohammed Al-Sada, Kodai Fuchino and Tatsuo Nakajima
- Make PLOR Real-time and Fairly Decentralized
  Tung Nguyen and Hideyuki Kawashima
- T2Remoter: a Remote Table Tennis Coaching System Combining VR and Robotics
  Kodai Fuchino, Mohammed Al-Sada and Tatsuo Nakajima
- Extending ROS Transform Library for Massive Autonomous Robots
  Yushi Ogiwara and Hideyuki Kawashima
- Analyzing Digital Services across the Compute Continuum using iFogSim
  Saeedeh Baneshi, Ana Lucia Varbanescu, Anuj Pathania, Benny Akesson and Andy Pimentel
- ILP based Mapping for Elastic CGRAs
  Makoto Saito, Takuya Kojima, Hideki Takase and Hiroshi Nakamura

August 31 (Thu) 9:30 - 10:30
NVMSA Keynote
- To be announced

August 31 (Thu) 11:00 - 12:30
Session 4: IoT, CPS, and Emerging Applications 1
Chair: TBD
- Shared Dictionary Compression for Efficient Mobile Software Distribution
  Jinheng Li, Qiao Li, Qingan Li and Chun Jason Xue
- A Comparison of Transformer and AR-SI Oracle For Control-CPS Software Fault Localization
  Shiyu Zhang, Wenxia Liu, Qixin Wang, Lei Bu and Yu Pei
- Accelerating Scan Transaction with Node Locking
  Kodai Doki, Takashi Hoshino and Hideyuki Kawashima

August 31 (Thu) 14:00 - 15:00
Sponsor Talk
- To be announced

August 31 (Thu) 15:30 - 17:00
Session 5A: Real-Time Systems 2
Chair: Mario Guenzel (TU Dortmund)
- LAG-based Analysis for Preemptive Global Scheduling with Dynamic Cache Allocation
  Yuhan Lin, Jinghao Sun, Qingxu Deng, Meiling Han, Zhiwei Feng and Shumo Wang
- Reducing Response-Time Bounds via Global Fixed Preemption Point EDF-like Scheduling
  Joseph Goh and James H. Anderson
- Dynamic Deterministic Quality of Service Model with Behavior-Adaptive Latency Bounds
  Robin Laidig, Frank Dürr, Kurt Rothermel, Stefan Wildhagen and Frank Allgöwer

August 31 (Thu) 15:30 - 17:00
Session 5B: Embedded Systems 2
Chair: Li-Pin Chang (National Yang Ming Chiao Tung University)
- RDMA-Based Deterministic Communication Architecture for Autonomous Driving
  Hazem Abaza, Abhinaba Habishyashi, Debayan Roy, Andrea Bastoni, Zain A. H. Hammadeh, Shiqing Fan, Selma Saidi and Sergey Tverdyshev
- Machine Learning Techniques for Understanding and Predicting Memory Interference in CPU-GPU Embedded Systems
  Alessio Masola, Nicola Capodieci, Benjamin Rouxel, Giorgia Franchini and Roberto Cavicchioli
- Traffic Injection Regulation Protocol based on free-time slots requests
  Yilian Ribot González, Geoffrey Nelissen and Eduardo Tovar

September 1 (Fri) 9:00 - 10:30
Session 6: Real-Time Systems 3
Chair: Diogo Costa (Universidade do Minho)
- Time-Sensitive Networking's Scheduled Traffic Implementation on IEEE 802.11 COTS Devices
  Pablo Gutiérrez Peón, Paraskevas Karachatzis, Wilfried Steiner and Elisabeth Uhlemann
- Advanced Modeling and Analysis of Individual and Combined TSN Shapers in OMNeT++
  Rubi Debnath, Philipp Hortig, Luxi Zhao and Sebastian Steinhorst
- DDS Implementations as Real-Time Middleware - A Systematic Evaluation
  Vincent Bode, David Buettner, Tobias Preclik, Carsten Trinitis and Martin Schulz

September 1 (Fri) 11:00 - 12:00
Session 7A: IoT, CPS, and Emerging Applications 2
Chair: TBD
- Safety-Aware Implementation of Control Tasks via Scheduling with Period Boosting and Compressing
  Shengjie Xu, Bineet Ghosh, Clara Hobbs, P.S. Thiagarajan, Prachi Joshi and Samarjit Chakraborty
- Timing-Aware ROS2 Architecture and System Optimization
  Harun Teper, Tobias Betz, Georg von der Brüggen, Kuan-Hsun Chen, Johannes Betz and Jian-Jia Chen

September 1 (Fri) 11:00 - 12:15
Session 7B: Short Presentations
Chair: Toshiaki Aoki (Japan Advanced Institute of Science and Technology)
- An Integrated Real-Time and Security Scheduling Framework for CPS
  Kriti Kansal, Thidapat Chantem, Nathan Fisher and Sanjoy Baruah
- Efficient Response Time Bound for Typed DAG Tasks
  Qingqiang He, Yongzheng Sun, Mingsong Lv and Weichen Liu
- Parameterized Workload Adaptation for Fork-Join Tasks with Dynamic Workloads and Deadlines
  Marion Sudvarg, Jeremy Buhler, Roger Chamberlain, Chris Gill, James Buckley and Wenlei Chen
- Improved Bus Contention Analysis for 3-Phase Tasks
  Jatin Arora, Syed Aftab Rashid, Geoffrey Nelissen, Cláudio Maia and Eduardo Tovar
- Accelerating The Permute And N-gram Operations For Hyperdimensional Learning in Embedded Systems
  Pere Vergés, Igor Nunes, Mike Heddes, Tony Givargis and Alexandru Nicolau