RTSS 2011 - *Program Overview*

The 32nd IEEE Real-Time Systems Symposium
November 29-December 2, Vienna, Austria
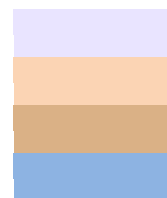
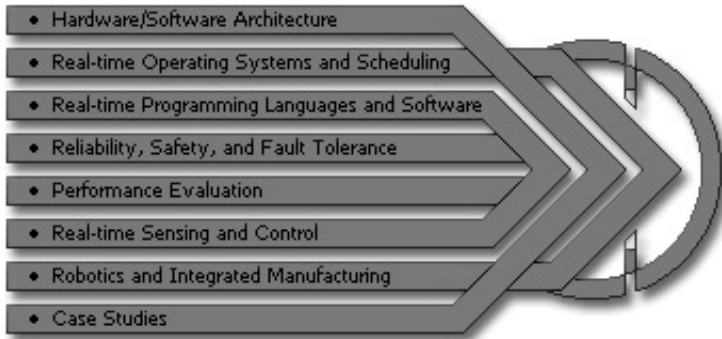| Time	November 29th				November 30th	December 1st	December 2nd
8:30-9:00	Registration *Prechtlsaal Lobby*				Registration *Prechtlsaal Lobby*		
9:00-9:30	CRTS *Prechtlsaal 1*	AVICPS *Prechtlsaal 2*	WCTT *Seminarraum Kuppel*	SOMRES *Seminarraum 225*	Award Speech *Kuppelsaal*	Keynote Address *Kuppelsaal*	Session 6: Multi-Core Systems *Kuppelsaal* **1.5 hours**
9:30-10:30					Panel *Kuppelsaal*		
10:30-11:00	Break *Kuppelsaal*				Break *Foyer Kuppelsaal*	Break *Foyer Kuppelsaal*	Break *Foyer Kuppelsaal*
11:00-12:30	CRTS *Prechtlsaal 1*	AVICPS *Prechtlsaal 2*	WCTT *Seminarraum Kuppel*	SOMRES *Seminarraum 225*	Session 1: Mixed-Criticality Systems *Kuppelsaal* **2 hours**	Session 3: Multiprocessor Scheduling *Kuppelsaal* **2 hours**	Session 7: Scheduling & Response Time Analysis *Kuppelsaal* **2 hours**
12:30-13:00							
13:00-14:00	Lunch *Kuppelsaal*				Lunch *Prechtlsaal*	Lunch *Prechtlsaal* / TC-RTS EC mtg	Lunch *Prechtlsaal*
14:00-15:30	CRTS *Prechtlsaal 1*	AVICPS *Prechtlsaal 2*	WCTT *Seminarraum Kuppel*	SOMRES *Seminarraum 225*	Session 2: Platforms & Implementation Issues *Kuppelsaal* **2 hours**	Session 4: WSN Algorithms, System Issues & Improvements *Kuppelsaal* **2 hours**	Session 8: CPS
15:30-15:45	Break *Walk to RTSS@Work*						& WSN Applications *Kuppelsaal* **2 hours**
15:45-16:00	RTSS@Work Presentations *Kuppelsaal*						
16:00-16:30					Break *Foyer Kuppelsaal*	Break *Foyer Kuppelsaal*	Break *Foyer Kuppelsaal*
16:30-18:00	RTSS@Work Demonstrations *Refreshments* *Kuppelsaal*				Work in Progress (WiP) Session *Kuppelsaal*	Session 5: Design & Verification I *Kuppelsaal* **1.5 hours**	Session 9: Design & Verification II *Kuppelsaal* **1.5 hours**
18:00-18:30					WiP Poster Session *Refreshments* *Kuppelsaal*	Open TC-RTS meeting *Kuppelsaal*	6:00pm Closing Toast *Foyer Kuppelsaal*
	7:00pm Welcome Reception Announcement of Best Workshop Papers *Prechtlsaal*				8:00pm Reception *Vienna City Hall* **Leave TU Wien at 7:30pm**	7:30pm Banquet *Hotel Stefanie* **Leave TU Wien at 7:10pm**	

Legend:

- Workshops
- Award Speech
- Panel
- Evening Activities
- Main Track
- Work in Progress
- TC-RTS meetings
- Keynote Address
- Wireless Sensor Networks
- Design & Verification
- Cyber Physical Systems

RTSS 2011

The 32nd IEEE

Real-Time Systems Symposium

November 29 – December 2

Vienna, Austria

Tuesday, November 29: Workshops in Prechtlsaal 1 & 2, Seminarraum Kuppel, and Seminarraum 225; Welcome Reception in Prechtlsaal	
9:00 – 15:30 *Prechtlsaal 1*	CRTS: The Fourth Workshop on Compositional Theory and Technology for Real-Time Embedded Systems.
9:00 – 15:30 *Prechtlsaal 2*	AVICPS: The Second Analytic Virtual Integration of Cyber-Physical Systems Workshop.
9:00 – 15:30 *Seminarraum Kuppel*	WCTT: 1st International Workshop on Worst-case Traversal Time
9:00 – 15:30 *Seminarraum 225*	SOMRES: Workshop on Synthesis and Optimization Methods for Real-time Embedded Systems
15:45 – 16:30 *Kuppelsaal*	RTSS@Work Presentations
16:30 – 18:00 *Kuppelsaal*	RTSS@Work: An Open Demos Session of Real-Time Techniques and Technologies.
19:00 – 21:00 *Prechtlsaal*	**Welcome Reception: Wine Tasting and Announcement of Best Workshop Papers**
Wednesday, November 30: Meetings in Kuppelsaal; Reception at Vienna City Hall	
8:55 – 9:30 **Welcome and Award Speech** *Kuppelsaal*	Welcome and Award Speech Introduction: **Scott Brandt** Award Speech: **Ted Baker**
9:30 - 10:30 **Industry/Government Panel** *Kuppelsaal*	Moderator: **Rolf Ernst** *FUELLING THE INNOVATION PIPELINE* With the participation of **Ted Baker** (NSF), **Jorge Pereira** (EC), **Stefan Poledna** (TTTech) and **Bert Boeddeker** (DENSO Automotive Deutschland)
10:30 – 11:00	Break in *Foyer Kuppelsaal*
11:00 - 13:00 **Session 1: Mixed-Criticality Systems** *Kuppelsaal* Chair: Sathish Gopalakrishnan	*CERTIFICATION-COGNIZANT TIME-TRIGGERED SCHEDULING OF MIXED-CRITICALITY SYSTEMS* Sanjoy Baruah and Gerhard Fohler *EFFECTIVE AND EFFICIENT SCHEDULING OF CERTIFIABLE MIXED-CRITICALITY SPORADIC TASK SYSTEMS* Nan Guan, Pontus Ekberg, Martin Stigge and Wang Yi *DESIGN OPTIMIZATION OF MIXED-CRITICALITY REAL-TIME APPLICATIONS ON COST-CONSTRAINED PARTITIONED ARCHITECTURES* Domitian Tamas-Selicean and Paul Pop *RESPONSE-TIME ANALYSIS FOR MIXED CRITICALITY SYSTEMS* Sanjoy Baruah, Alan Burns and Rob Davis
13:00-14:00	Lunch in *Prechtlsaal*
14:00-16:00 **Session 2: Platforms & Implementation Issues** *Kuppelsaal* (continues on next page)	*ANYTIME ALGORITHMS FOR GPU ARCHITECTURES* Rahul Mangharam and Aminreza Abrahimi Saba *SLEEPY SLOTH: THREADS AS INTERRUPTS AS THREADS* Wanja Hofer, Daniel Lohmann and Wolfgang Schroder-Preikschat *STACK MANAGEMENT FOR HARD REAL-TIME COMPUTATION IN A COMPONENT-BASED OS* Qi Wang, Jiguo Song and Gabriel Parmer

Hardware/Software Architecture

Real-time Operating Systems and Scheduling

Real-time Programming Languages and Software

Reliability, Safety, and Fault Tolerance

Performance Evaluation

Real-time Sensing and Control

Robotics and Integrated Manufacturing

Case Studies

Chair: Stefan Petters *(continuation of Session 2)*	*RGEM: A RESPONSIVE GPGPU EXECUTION MODEL FOR RUNTIME ENGINES* Shinpei Kato, Karthik Lakshmanan, Aman Kumar, Mihir Kelkar, Yutaka Ishikawa and Ragnunathan Rajkumar
16:00-16:30	Break in *Foyer Kuppelsaal*
16:30-18:00 *Kuppelsaal*	Work in Progress Session
18:00-18:30 *Kuppelsaal*	Work in Progress Poster Session – *Refreshments served*
20:00 – 21:30	**Reception at Vienna City Hall –** *Leave TU Wien at 7:30pm*
Thursday, December 1: Meetings in Kuppesaal; Banquet at Hotel Stefanie	

9:00-10:30
 	
Keynote Address
Kuppelsaal
	Keynote Introduction: **Luis Almeida**
	
	Keynote Speaker: **Bert Boeddeker[1], Rafael Zalman[2]**
	              [1] DENSO Automotive Deutschland GmbH, Germany
	              [2] Infineon Technologies AG, Germany
	
	AUTOSAR AT THE CUTTING EDGE OF AUTOMOTIVE TECHNOLOGY

10:30 – 11:00	Break in *Foyer Kuppelsaal*
11:00 - 13:00 **Session 3: Multiprocessor Scheduling** *Kuppelsaal* Chair: Bjorn Andersson	*SOFT REAL-TIME ON MULTIPROCESSORS: ARE ANALYSIS-BASED SCHEDULERS REALLY WORTH IT?* Christopher J. Kenna, Jonathan L. Herman, Björn B. Brandenburg, Alex F. Mills and James H. Anderson *RUN: OPTIMAL MULTIPROCESSOR REAL-TIME SCHEDULING VIA REDUCTION TO UNIPROCESSOR* Paul Regnier, George Lima, Ernesto Massa, Greg Levin and Scott Brandt *THE PARTITIONED EDF SCHEDULING OF SPORADIC TASK SYSTEMS* Sanjoy Baruah *WORKLOAD-AWARE PARTITIONING FOR MAINTAINING TEMPORAL CONSISTENCY UPON MULTIPROCESSOR PLATFORMS* Jianjun Li, Jian-Jia Chen, Ming Xiong and Guohui Li
13:00-14:00	Lunch in *Prechtlsaal* (Meeting of the TC-RTS Executive Committee)
14:00 – 16:00 **Session 4: WSN Algorithms, System Issues and Improvements** *Kuppelsaal* Chair: Chenyang Lu	*ON ENERGY-EFFICIENT TRAP COVERAGE IN WIRELESS SENSOR NETWORKS* Junkun Li, Jiming Chen, Shibo He, Tian He, Yu Gu and Youxian Sun *WIZSYNC: EXPLOITING WI-FI INFRASTRUCTURE FOR CLOCK SYNCHRONIZATION IN WIRELESS SENSOR NETWORKS* Tian Hao, Ruogu Zhou, Guoliang Xing and Matt Mutka *IMPROVING LINK QUALITY BY EXPLOITING CHANNEL DIVERSITY IN WIRELESS SENSOR NETWORKS* Manjunath Doddavenkatappa, Mun Choon Chan and Ben Leong *WICOP: ENGINEERING WIFI TEMPORAL WHITE-SPACES FOR SAFE OPERATIONS OF WIRELESS BODY NETWORKS IN MEDICAL APPLICATIONS* Yufei Wang, Qixin Wang, Zheng Zeng, Guanbo Zheng and Rong Zheng
16:00-16:30	Break in *Foyer Kuppelsaal*
16:30 - 18:00 **Session 5: Design & Verification I** *Kuppelsaal* Chair: Jian-Jia Chen	*MEETING END-TO-END DEADLINES THROUGH DISTRIBUTED LOCAL DEADLINE ASSIGNMENTS* Shengyan Hong, Thidapat Chantem and Xiaobo Sharon Hu *SCALABLE AND PRECISE REFINEMENT OF CACHE TIMING ANALYSIS VIA MODEL CHECKING* Sudipta Chattopadhyay and Abhik Roychoudhury *SCALABLE FIXED-POINT FREE INSTRUCTION CACHE ANALYSIS* Damien Hardy, Benjamin Lesage and Isabelle Puaut
18:00 – 18:30 (*Kuppelsaal*)	Open meeting of the TC-RTS – IEEE Technical Committee on Real-Time Systems
19:30 – 22:00	**Banquet at Hotel Stefanie** – *Leave TU Wien at 7:10pm*

Friday, December 2: Meetings in Kuppelsaal; Closing Toast in Kuppelsaal Lobby	
9:00 - 10:30 **Session 6: Multi-Core Systems** *Kuppelsaal* Chair: Wolfgang Schroder-Preikschat	*MULTI-CORE REAL-TIME SCHEDULING FOR GENERALIZED PARALLEL TASK MODELS* Abusayeed Saifullah, Kunal Agrawal, Chenyang Lu and Christopher Gill *OPTIMIZING TUNABLE WCET WITH SHARED RESOURCE ALLOCATION AND ARBITRATION IN HARD REAL-TIME MULTICORE SYSTEMS* Man-Ki Yoon, Jung-Eun Kim and Lui Sha *RESPONSE TIME ANALYSIS OF HIERARCHICAL SCHEDULING: THE SYNCHRONIZED DEFERRABLE SERVERS APPROACH* Haitao Zhu, Steve Goddard and Matthew Dwyer
10:30 – 11:00	Break in *Foyer Kuppelsaal*
11:00 - 13:00 **Session 7: Scheduling and Response Time Analysis** *Kuppelsaal* Chair: Enrico Bini	*IMPROVING FEASIBILITY OF FIXED PRIORITY TASKS USING NON-PREEMPTIVE REGIONS* Marko Bertogna, Giorgio Buttazzo and Gang Yao *CACHE-RELATED PRE-EMPTION DELAY AWARE RESPONSE TIME ANALYSIS FOR FIXED PRIORITY PRE-EMPTIVE SYSTEMS* Sebastian Altmeyer, Robert Davis and Claire Maiza *RESOURCE AUGMENTATION BOUNDS FOR APPROXIMATED DEMAND BOUND FUNCTIONS* Jian-Jia Chen and Samarjit Chakraborty *SCHEDULING PERIODIC REAL-TIME TASKS WITH HETEROGENEOUS REWARD REQUIREMENTS* I-Hong Hou and P.R. Kumar
13:00-14:00	Lunch in *Prechtlsaal*
14:00 - 16:00 **Session 8: CPS & WSN Applications** *Kuppelsaal* Chair: Karl-Erik Arzen	*ON THE FEASIBILITY OF LINEAR DISCRETE-TIME SYSTEMS OF THE GREEN SCHEDULING PROBLEM* Zheng Li, Pei-Chi Huang, Aloysius Mok, Truong Nghiem, Madhur Behl, George Pappas and Rahul Mangharam *TIME-PREDICTABLE COMPUTER ARCHITECTURE FOR CYBER-PHYSICAL SYSTEMS: DIGITAL EMULATION OF POWER ELECTRONICS SYSTEMS* Michel Kinsy, Dusan Majstorovic, Nikola Celanovic, Ivan Celanovic and Srinivas Devadas *PHOTONET: A SIMILARITY-AWARE PICTURE DELIVERY SERVICE FOR SITUATION AWARENESS* Md Yusuf Uddin, Hongyan Wang, Fatemeh Saremi, Guo-Jun Qi, Tarek Abdelzaher and Thomas Huang *TELOSCAM: IDENTIFYING BURGLAR THROUGH NETWORKED SENSOR-CAMERA MATES WITH PRIVACY PROTECTION* Shaojie Tang, Haitao Zhang, Xiang-Yang Li and Jiankang Han
16:00-16:30	Break in *Foyer Kuppelsaal*
16:30 – 18:00 **Session 9: Design & Verification II** *Kuppelsaal* Chair: Tullio Vardanega	*TIMING ANALYSIS OF A PROTECTED OPERATING SYSTEM KERNEL* Bernard Blackham, Yao Shi, Sudipta Chattopadhyay, Abhik Roychoudhury and Gernot Heiser *FEEDBACK-BASED ENERGY MANAGEMENT IN A STANDBY-SPARING SCHEME FOR HARD REAL-TIME SYSTEMS* Mohammad Khavari Tavana, Mohammad Salehi and Alireza Ejlali *PCM-FTL: A WRITE-ACTIVITY-AWARE NAND FLASH MEMORY MANAGEMENT SCHEME FOR PCM-BASED EMBEDDED SYSTEM* Duo Liu, Tianzheng Wang, Yi Wang, Zhiwei Qin and Zili Shao
18:00-18:30	**Closing Toast** – *Foyer Kuppelsaal*