

RTSS 2001 – Final Program

December 4, 2001

08:30 – 8:45	Welcome and Opening Remarks
08:45 – 10:15	Session 1: Processor Scheduling
10:15 – 10:30	Coffee Break
10:30 – 12:00	Session 2: Control Issues in Real-Time Systems
12:00 – 13:30	Lunch
13:30 – 15:00	Keynote Speech 1: Alberto Sangiovanni Vincentelli
15:00 – 15:30	Coffee Break
15:30 – 17:30	Session 3: Energy-Aware and Embedded Systems
19:00	Banquet

December 5, 2001

08:30 – 10:00	Session 4: Quality-Of-Service Issues
10:00 – 10:30	Coffee Break
10:30 – 12:00	Session 5: Resource Management
12:00 – 13:30	Lunch
13:30 – 15:00	Keynote Speech 2: Neil Gershenfeld
15:00 – 15:30	Coffee Break
15:30 – 17:30	Work-In-Progress Session
17:30 – 18:00	TC meeting

December 6, 2001

08:30 – 10:00	Session 6: Multiprocessor Scheduling
10:15 – 10:30	Coffee Break
10:30 – 12:00	Session 7: Off-Line Analysis
12:00 – 13:30	Lunch
13:30 – 15:00	Session 8: Design Methods and Tools
15:00 – 15:30	Coffee Break
15:30 – 17:30	Session 9: Distributed Systems and Networks
17:30	Concluding Remarks

December 4, 2001

08:30 – 8:45 **Welcome and Opening Remarks**

08:45 – 10:15 **Session 1: Processor Scheduling**

Chair: *Alan Burns*

HLS: A Framework for Composing Soft Real-Time Schedulers
John Regehr and John A. Stankovic

Window-Constrained Real-Time Periodic Task Scheduling
Aloysius K. Mok Weirong Wang

Guaranteed On-Line Weakly-Hard Real-Time Systems
Guillem Bernat and Ricardo Cayssials

10:15 – 10:30 **Coffee Break**

10:30 – 12:00 **Session 2: Control Issues in Real-Time Systems**

Chair: *Al Mok*

Jitter Compensation for Real-Time Control Systems
Pau Marti, Gerhard Fohler, Krithi Ramamritham, and Josep M. Fuertes

Jitter Control in On-line Scheduling of Dependent Real-time Tasks
L. David, F. Cottet and N. Nissanke

Feedback Control Scheduling in Distributed Real-Time Systems
John A. Stankovic, Tian He, Tarek Abdelzaher, Mike Marley, Gang Tao and Sang Son

12:00 – 13:30 **Lunch**

13:30 – 15:00 **Keynote Speech 1**

Chair: *John Stankovic*

Embedded Software Design for Real-Time Applications
Alberto Sangiovanni Vincentelli - University of California at Berkeley

10:15 – 10:30 **Coffee Break**

15:30 – 17:30 **Session 3: Energy-Aware and Embedded Systems**

Chair: *Hans Hansson*

Minimizing Memory Utilization of Real-Time Task Sets in Single and Multi-Processor Systems-on-a-chip
Paolo Gai, Giuseppe Lipari, Marco Di Natale

Scheduling with Dynamic Voltage/Speed Adjustment Using Slack Reclamation in Multi-Processor Real-Time Systems
Dakai Zhu, Rami Melhem, Bruce Childers

Dynamic and Aggressive Scheduling Techniques for Power-Aware Real-Time Systems
Hakan Aydin, Rami Melhem, Daniel Mosse, Pedro-Mejia Alvarez

Adaptive Power-Fidelity in Energy-Aware Wireless Embedded Systems
Vijay Raghunathan, Paleologos Spanos and Mani B. Srivastava

19:00 **Banquet**

December 5, 2001

08:30 – 10:00 Session 4: Quality-Of-Service Issues

Chair: *Daniel Mossé*

Quality-Assuring Scheduling --- Using Stochastic Behavior to Improve Resource Utilization

Claude-Joachim Hamann Jork Löser Lars Reuther Sebastian Schönberg Jean Wolter Hermann Härtig

Towards Compositionality in Real-Time Resource Partitioning Based on Regularity Bounds

Aloysius K. Mok, Xiang (Alex) Feng

Service Class based Online QoS Management in Surveillance Radar Systems

Chang-Gun Lee, Chi-Sheng Shih, Lui Sha

10:00 – 10:30 Coffee Break

10:30 – 12:00 Session 5: Resource Management

Chair: *Sanjoy Baruah*

A Bandwidth Inheritance Algorithm for Real-Time Task Synchronization in Open Systems

Gerardo Lamastra, Giuseppe Lipari, Luca Abeni

Aperiodic Servers with Resource Constraints

Marco Caccamo and Lui Sha

Resource Sharing in Reservation-Based Systems

Dionisio de Niz, Luca Abeni, Saowanee Saewong, and Ragunathan (Raj) Rajkumar

12:00 – 13:30 Lunch

13:30 – 15:00 Keynote Speech 2

Chair: *Kevin Jeffay*

Programming Bits and Atoms

Neil Gershenfeld - MIT Media Laboratory

15:00 – 15:30 Coffee Break

15:30 – 17:30 Work-In-Progress Session

Chair: *Gerhard Fohler*

17:30 – 18:00 TC Meeting

December 6, 2001

08:30 – 10:00 Session 6: Multiprocessor Scheduling

Chair: *Michael Gonzalez Harbour*

On-line scheduling on uniform multiprocessors

Shelby Funk, Joel Goossens, Sanjoy Baruah

Static-priority scheduling on multiprocessors

Bjorn Andersson, Sanjoy Baruah, Jan Jonsson

Guaranteeing Pfair Supertasks by Reweighting

Philip Holman and James H. Anderson

10:00 – 10:30 Coffee Break

10:30 – 12:00 Session 7: Off-Line Analysis

Chair: *Sang Lyul Min*

Statistical Analysis of WCET for Scheduling

Stewart Edgar and Alan Burns

Translating Off-line Schedules into Task Attributes for Fixed Priority Scheduling

Radu Dobrin, Gerhard Fohler, and Peter Puschner

An Efficient Algorithm for Scheduling Instructions with Deadline Constraints on ILP Processors

Hui Wu and Joxan Jaffar

12:00 – 13:30 Lunch

13:30 – 15:00 Session 8: Design Methods and Tools

Chair: *Andy Wellings*

MAST Real-Time View: A Graphic UML Tool for Modeling Object-Oriented Real-Time Systems.

Julio L. Medina Pasaje, Michael González Harbour, José M. Drake Moyano

Rapid Re-engineering of Embedded Real-Time Systems via Cost-Benefit Analysis with K-Level Diagonal Search

Jungkeun Park, Minsoo Ryu, Seongsoo Hong, and Lucia Lo Bello

Towards a Toolset for Architectural Design of Distributed Real-Time Control Systems

Jad El-khoury Martin Törngren

15:00 – 15:30 Coffee Break

15:30 – 17:30 Session 9: Distributed Systems and Networks

Chair: *Luis Almeida*

Fair Real-time Traffic Scheduling over A Wireless LAN

Maria Adamou, Sanjeev Khanna, Insup Lee, Insik Shin, Shiyu Zhou

Differentiated Services with Statistical Real-Time Guarantees in Static-Priority Scheduling Networks

Shengquan Wang, Dong Xuan, Riccardo Bettati, and Wei Zhao

End-to-end delay analysis for real-time distributed networks

Shu-Ngai Yeung John Lehoczky

Measuring Distributed Durations with Stable Errors

António Casimiro, Pedro Martins, Paulo Veríssimo, Luís Rodrigues
