

ADVANCE PROGRAM

SUNDAY JULY 12

- 18.00 Registration
19.00 Welcome reception

MONDAY JULY 13

- 8.00 Registration continued

KEYNOTE

- 8.30 **Yanbing Li, VMWare, USA**
The Software Defined Data Center – a New Architecture for the Mobile-Cloud Era
- 9.30 Break

SESSION 1: MINI-KEYNOTE PRESENTATIONS

- 10.00 **Koichiro Yamashita, Fujitsu Laboratories, Japan**
Control System for Large-Scale Sensor Network
- 10.12 **Edith Beigné, CEA-LETI, France**
L-IOT: a flexible platform for IoT autonomous systems : from ultra low power to low power applications
- 10.24 **Tohru Ishihara, Kyoto University, Japan**
Practical Supply and Threshold Voltage Scaling for Energy Efficient Operation of Microprocessors
- 10.36 **Weihua Sheng, Silexica, Germany**
Towards a flexible compiler infrastructure for heterogeneous MPSoCs: Two case studies
- 10.48 **Fumio Arakawa, Nagoya University**
Nanoprocessor Cluster: Naturally Minimizing Active Portion for Dark-Silicon Era
- 11.00 Panel discussion with the lecturers
12.00 Lunch

KEYNOTE

- 13.30 **Karim Arabi, Qualcomm, USA**
Mega Trends Driving Architectures of Mobile Computing and IoT devices
- 14.30 Break

SESSION 2: IN-DEPTH TECHNICAL PRESENTATIONS

- 15.00 **Takashi Miyamori, Toshiba Corporation, Japan**
Design of Heterogeneous Multi-Core SoCs for ADAS and Image Recognition Applications
- 15.30 **Yankin Tanurhan, Synopsys, USA**
Embedding Vision Processing into Next Generation SOCs
- 16.00 **Kees Vissers, Xilinx, USA**
Integrating multiple memory technologies for Key Value Store implementations on FPGAs
- 16.30 Break

SESSION 3: MINI-KEYNOTE PRESENTATIONS

- 17.00 **Masaki Gondo, eSOL Co.,Ltd.**
A scalable RTOS for heterogeneous and manycore computing
- 17.12 **Yuichi Nakamura, University of Tokyo**
How to develop 4K realtime HEVC encoder by FPGA
- 17.24 **Marilyn Wolf, Georgia Tech, USA**
Distributed Smart Cameras and Long-Term Care of Special Needs People
- 17.36 Panel discussion with the lecturers
18.40 Attendees Presentation
19.30 Dinner

TUESDAY JULY 14

Chair: Chris Rowen, Cadance, USA

KEYNOTE

- 8.30 **Masaharu Imai, Osaka University, Japan**
An Efficient Performance Estimation Method of MPSoC with Configurable Multi-layer Bus System
- 9.30 Break

SESSION 4: MINI-KEYNOTE PRESENTATIONS

- 10.00 **Guy Bois, Polytechnique Montréal, Canada**
System-Level Exploration and Synthesis through Interoperability with HSL tools
- 10.12 **Jiang Xu, Hong Kong University of Science and Technology, Hong Kong**
Thermal Effects in Silicon-Photonic Interconnect Networks
- 10.24 **Gerhard P. Fettweis, TU Dresden, Germany**
The HAEC Research Center: Highly Adaptive Energy Efficient Computing
- 10.36 **Sorin Cotofana, Delft University of Technology, Netherlands**
Application-specific soft processor optimisation through instruction-level frequency scaling
- 10.48 **Andreas Herkersdorf, TU Munich, Germany**
What happens on an MPSoC stays on an MPSoC – unfortunately!
- 11.00 **Norbert Wehn, University of Kaiserslautern, Germany**
An Embedded Computing Architecture for Finding Similarities in Large Networks
- 11.15 Panel discussion with the lecturers
12.30 Lunch

SESSION 5: IN-DEPTH TECHNICAL PRESENTATIONS

- Chair: Pieter van der Wolf, Synopsys, NL
- 14.00 **Hiroyuki Tomiyama, Ritsumeikan University, Japan**

- PUF-based Security Enhancement for Automotive Software Update*
- 14.30 Arnaud Grasset, Thales Research & Tech., Paris, France**
Reliability Challenges of Critical Embedded Systems: a System-Provider Perspective
- 15.00 Qiong Cai, HP, USA**
Converging Memory and Storage for Big Data Applications
- 15.30 Break**
- 16.00 Jun Yao, Huawei**
Data center X-Ray machine: A deep analysis tool
- 16.30 Chris Rowen, Cadance, USA**
Pushing the Energy-Efficiency Envelope for "Always Alert" Sensor Nodes
- 17.00 Hironori Kasahara, Waseda University, Japan**
Parallelization and Power Reduction of Embedded Real-time Applications by OSCAR Compiler on ARM and Intel Multicores
- 17.30 Panel discussion with the lecturers**
- 19.30 Dinner**

WEDNESDAY JULY 15

Chair: Marilyn Wolf, Georgia Tech, USA

KEYNOTE

- 8.30 Sundari Mitra, Net Speed Systems**
Architecture Synthesis Platform for Multi-Core SoC
- 9.30 Break**

SESSION 6: MINI-KEYNOTE PRESENTATIONS

- 10.00 John Goodacre, ARM, UK**
Starting a push towards European Exascale: exaNODE/exaNEST/ecoSCALE and more
- 10.12 Markus Levy, EEMBC, USA**
Multicore Programming in Applications Ranging From IoT Edge Nodes to the Cloud
- 10.24 Tsuyoshi Isshiki, Tokyo Institute of Technology, Japan**
C-Based RTL Design Framework for Hardware-IP and ASIP Synthesis
- 10.36 Masaaki Kondo, University of Tokyo, Japan**
Assisting Cache Replacement by Helper-Threading for MPSoCs
- 10.48 Nicolas Ventroux, CEA-List, France**
Virtual prototyping acceleration on manycore architectures
- 11.00 Panel discussion with the lecturers**
- 12.30 Lunch**

SESSION 7: IN-DEPTH TECHNICAL PRESENTATIONS AND MINI-KEYNOTE PRESENTATIONS

Chair : Norbert Wehn, University of Kaiserslautern, Germany

- 14.00 Akihiko Shinya, NTT Nanophotonics Center, Japan**
Nanophotonics technology toward optical logic circuits
- 14.30 Ton Engbersen, IBM, USA,**
Where do we go now that core performance has stalled?
- 15.00 Sylvain Martel, Polytechnique Montréal, Canada**
Implementing actuation-navigation-sensory capabilities in cancer-fighting nanorobotic agents
- 15.30 Panel discussion with the lecturers**
- 16.30 Speakers' Meeting**
- 19.00 Social Event**

THURSDAY JULY 16

Chair: Anca Molnos, CEA-LETI, France

KEYNOTE

- 8.30 Ren Wu, Baidu Research Lab, USA**
Deep Learning and Heterogeneous Computing
- 9.30 Break**

SESSION 8: MINI-KEYNOTE PRESENTATIONS

- 10.00 Yuan Xie, University of California at Santa Barbara, USA**
Memory That Never Forgets: Exploring Nonvolatility of Emerging Memory Technologies for Architecture Design
- 10.12 Jishen Zhao, University of California at Santa Cruz, USA**
Memory Persistence: A New Dimension in Memory System Design
- 10.24 Kiyong Choi, Seoul National University, Korea**
Processing-in-Memory-Enabled Instruction
- 10.36 Giovanni Beltrame, Polytechnique Montréal, Canada**
Trading Off Lifetime, Fault-tolerance, and Power Consumption in Real-time MPSoC
- 10.48 Gerd Ascheid, RWTH, Aachen University, Germany**
Multiprocessor platform for a smart city infrastructure
- 11.00 Koji Inoue, Kyushu University, Japan**
NsimPower : Interconnect Simulator for Power and Performance Prediction
- 11.12 Panel discussion with the lecturers**
- 12.30 Lunch**

SESSION 9: IN-DEPTH PRESENTATIONS

- 14.00 Charlie Janac, Arteris, USA**
Using SoC Interconnect IPs to Improve Physical layout
- 14.30 Yoshifumi Sakamoto, IBM, Japan**
Study of Next Generation In-Vehicle Infotainment System Based on Automotive 2025
- 15.00 Break**

SESSION 10: MINI-KEYNOTE PRESENTATIONS

- 15.30 Anca Molnos, CEA-Leti, France**
SoC energy management via feedback control for data parallel applications with throughput constraints
- 15.42 Kees van Berkel, Ericsson, Eindhoven University of Technology, Netherlands**
Astronomical Workloads
- 15.54 James C. Hoe, Carnegie Mellon University, USA**
Pandora Smart-IP: Making Reusable IPs Usable
- 16.06 Pieter van der Wolf, Synopsys, NL**
Scalable Processor Solutions for IoT Applications
- 16.18 Emil Matus, Technical University Dresden, Germany**
Data Plane Framework for Software Defined Radio Access Networks
- 16.30 Wenguang Chen, Tsinghua University, China**
Single Node Machine Learning Systems - When big data meet Moore's Law
- 16.42 Yoshinori Takeuchi, Osaka University, Japan**
Higher reliable multiprocessor system for embedded systems considering power source fluctuation
- 16.54 Panel discussion with the lecturers**

19.30 Dinner

FRIDAY JULY 17

Chair: Jishen Zhao, University of California at Santa Cruz, USA

KEYNOTE

- 8.30 Katsuhiko Shimano, NTT Network Innovation Laboratories, Japan**
Programmable Network
- 9.30 Break**

SESSION 11: MINI-KEYNOTE PRESENTATIONS

- 10.00 Rui Hou, Chinese Academy of Sciences, China**
Venice: A Software- defined Architecture for Data Center Servers
- 10.12 Sungjoo Yoo, Seoul National University, Korea**
Memory Fast-Forward: A Low Cost Special Function Unit to Enhance Energy Efficiency in GPU for Big Data Processing
- 10.24 Frédéric Pétrot, TIMA, France**
A Few Open Problems in Vertically-Partially-Connected 3D-NoC
- 10.36 Gabriela Nicolescu, Polytechnique de Montréal, Canada**
Applications Security in IoT
- 10.48 Panel discussion with the lecturers**
- 12.30 Lunch**

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