



## Monday July 03: Enabling Technologies For MPSoC

08:00 Registration continued

### Session 1: Keynote

08:30 Giovanni De Micheli, EPFL, Switzerland,  
*Emerging Technologies For Computing*

09:30 Break

### Session 2 : Mini-Keynote Presentations

10:00 Jishen Zhao, UCSC, USA, *Transaction Cache: A Persistent Memory Acceleration Approach*

10:12 Wei Zhang, Hong Kong University of Science and Technology, Hong Kong, *Exploration of Cache Coherence for CPU FPGA Heterogeneous System*

10:24 Tohru Ishihara, Kyoto Univ., Japan, *Minimum Energy Point Tracking for Self Powered IoT Processors*

10:36 Youn-Long Lin, National Tsing Hua University, Taiwan, *Multi-Core and GPGPU Acceleration of Video Coding*

10:48 Yoshinori Takeuchi, Osaka University, Japan, *Reliable multiprocessor system for low voltage MPSoC*

11:00 Masaaki Kondo, Tokyo Univ., Japan, *Energy Efficient Network-on-Chips with Opportunistic Circuit-Switching for MPSoCs*

11:12 Ittetsu Taniguchi, Ritsumeikan University, Japan, *An Autonomous Decentralized Mechanism for Energy Interchanges with Accelerated Diffusion Based on MCMC*

11:24 Panel discussion with the lecturers

12:30 Lunch

### Session 3 : In-Depth Presentations

14:00 Doris Keitel-Schulz, Infineon, Germany, *IoT –the world of connected devices*

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14:30 Marcello Coppola, STMicroelectronics, France, *Making Driving More Connected and More Secure*

15:00 Akihiko Shinya, NTT Nanophotonics Center, Japan, *Nanophotonics for low-latency optical integrated circuits*

15:30 Break

### Session 4 : In-Depth Presentations

16:00 Hironori Kasahara, Waseda University, Japan, *Automatic Cache and Local Memory Optimization for Multicores*

16:30 Yuichi Nakamura, NEC Corp., Japan, *From Software Defined Network (SDN) to Software Defined Infrastructure (SDI)*

17:00 Pieter Van Der Wolf, Synopsys, The Netherlands, *Processor Solutions for Energy-Efficient IoT Applications*

17:30 Panel discussion with the lecturers

20:00 Dinner

## Tuesday July 04: High Performance Computing

### Session 5: Keynote

08:30 Pankaj Mehra, Western Digital Corporation, USA, *Data-Centric Computer Architecture*

09:30 Break

### Session 6 : Mini-Keynote Presentations

10:00 Yoshifumi Sakamoto, IBM, Japan, *Neuromorphic device for Automotive*

10:12 Yuko Hara-Azumi, Tokyo Institute of Technology, Japan, *Energy-Efficient Multicore Processor For Large Stream Data In IOT Systems*

**10:24** Kees van Berkel, Eindhoven University of Technology, The Netherlands, **Exascale Computing for Radio Astronomy. How to program?**

**10:36** Koji Inoue, Kyushu University, Japan, **Predictive Sensing and Adaptive Management For RealTime Applications**

**10:48** Sungjoo Yoo, Seoul National University, Korea, **ZeNA: Zero-Aware Neural Network Accelerator**

**11:00** Norbert Wehn, University of Kaiserslautern, Germany, **DRAM Memory Controller From General Application Specific Architectures**

**11:12** Masaki Gondo, eSOL Co. Ltd., Japan, **Introduction to AUTOSAR Adaptive Platform and an Approach to high-performance computing**

**11:24** Panel discussion with the lecturers

### Session 7 : In-Depth Presentations

**14:00** K. Charles Janac, Arteris Inc., USA, **Resilient Interconnect for Functionally Safe Automotive SoCs**

**14:30** Benoît de Dinechin, Kalray, France, **Supporting Standard CNN inference on manycore processors**

**15:00** Eric Monchalain, ATOS, France, **Extreme Computing, strategic directions for the 2020s**

### Session 8 : In-Depth Presentations/Contest

**16:00** Victor Grimblatt, Synopsys, Chile, **MPSoC Latin America Contest 2017**

**16:05** Javier Carvajal, ImagineXYZ, Costa Rica, **Remora: Bringing back balance to the ocean**

**16:20** Takashi Miyamori, Toshiba Corporation, Japan, **Efficient Implementations of Deep Neural Network Hardware**

**16:50** John Goodacre, University of Manchester/Kaleao Ltd/ARM Ltd, UK, **Should the semiconductor industry embrace silicon modularity?**

**17:20** Panel discussion with the lecturers

**18:30** Boat Tour

**20:30** Dinner

## Wednesday July 05: Embedded Computing

### Session 9 :Keynote

**08:30** Ivo Bolsens, Xilinx, USA, **Unleashing the full performance of the All Programmable FPGA while abstracting the hardware details**

**09:30** Break

### Session 10 : Mini-Keynote Presentations

**10:00** Rolf Ernst, Technische Universität Braunschweig, Germany, **Effects of Dynamic NoC Resource Management for Mixed Criticality Applications**

**10:12** Jiang Xu, Hong Kong University of Science and Technology, Hong Kong, **Break Memory Wall Through Silicon Photonics**

**10:24** Frederic Rousseau, TIMA, France, **Accurate Study and Optimization of Synchronization Barriers in a NoC Based MPSoC Architecture**

**10:36** Fabien Clermidy, CEA-Leti, France, **Photonic MPSoC**

**10:48** Weihua Sheng, Silexica, Germany, **Multicore Use Cases in Automotive**

**11:00** Hiroki Matsutani, Keio University, Japan, **Accelerator Design for Big Data Processing Frameworks**

**11:12** Shinya Takamaeda, Hokkaido University, Japan, **Energy-Efficient In-Memory Neural Network Processor**

**11:24** Panel discussion with the lecturers

**12:30** Lunch

### Session 11 : In-Depth Presentations

**14:00** Julian Chesterfield, OnApp, UK,

**14:30** Ran Ginosar, Technion-Israel Institute of Technology, Israël, **Shared Memory Manycore with Hardware Scheduling**

**15:00** Gabriela Nicolescu, Ecole Polytechnique de Montréal, Canada, **Data Stream Clustering for IoT**

**15:30** Break

### Session 12 : In-Depth Presentations

**16:00** Arnaud Grasset, Thales Research Tech., France, **Designing Efficient and Dependable embedded systems for critical applications**

**16:30** Masahiko Yoshimoto, Kobe University, Japan, **A Wearable Biomedical Sensing System with Normally-off Computing Architecture**

**17:00** Hiroyuki Komori, Socionext, Inc., Japan, **Adhocracy Innovation with Imaging technology**

**17:30** Panel discussion with the lecturers

**18:30** Speakers Meeting

**20:00** Gala Dinner

## Thursday July 06: Automotive

### Session 13 : Keynote

**08:30** Hans-Joerg Voegel, BMW, Germany,  
*Driving and Being Driven: Thoughts on Future  
Mobility and Technological Drivers*

**09:30** Break

### Session 14 : Mini-Keynote Presentations

- 10:00** Rui Hou, Chinese Academy of Sciences,  
China, *RAGuard: A Hardware Based Mechanism  
for Backward-Edge Control Flow Integrity*
- 10:12** Marilyn Wolf, Georgia Tech, USA,  
*SystemLevel Thermal Modeling and Optimization*
- 10:24** Fumio Arakawa, Nagoya University, Japan,  
*Cipher IP for IoT Devices*
- 10:36** Anca Molnos, CEA-Leti, France,  
*AccuracyEnergy Trade-off with Dynamic  
Adequate Operators Using Run-Time Back Bias*
- 10:48** Tsuyoshi Isshiki, Tokyo Institute of  
Technology, Japan, *C++ Object-Oriented RTL  
Modeling for System-Level Synthesis/Verification  
on the C2RTL Framework*
- 11:00** Koichiro Yamashita, Fujitsu Laboratories  
LTD., Japan, *An Architecture Design for  
Integrated Traffic Control System*
- 11:12** Yoshihiko Hirota/Masahiro Murakami,  
Konica Minolta, Japan, *Designing Structure of  
Image Processing in MFP*
- 11:24** Panel discussion with the lecturers
- 12:30** Lunch

### Session 15 : In-Depth Presentations

- 14:00** Andreas Herkersdorf, TU Munich, Germany,  
*Information Processing Factory – Conquering  
MPSoC Complexity with Self-Aware Computing  
Platforms*
- 14:30** Yankin Tanurhan, Synopsys, USA,  
*Designing Scalable Multi Processor Embedded  
Vision Solutions*
- 15:00** Kees Vissers, Xilinx, USA, *A Framework for  
Reduced Precision Neural Networks on FPGAs*
- 15:30** Break

### Session 16 : In-Depth Presentations

- 16:00** Rocco Jonack, NetSpeed Systems, USA,  
*Machine Learning Based Intelligent Interconnect  
for Next Generation Autonomous Vehicle SoCs*

**16:30** Tsuyoshi Sato, Pioneer, Japan, *Technology  
for Highly Automated Driving*

**17:00** Nobuhiro Hosokawa, Research Laboratory,  
Japan, *How to assure the software quality for  
Artificial Intelligence?*

**17:30** Panel discussion with the lecturers

**20:00** Dinner

## Friday July 07: Deep Learning & NN

### Session 17 : Keynote

**08:30** Ren Wu, NuvoMind, USA, *POT- Embedded  
Vision and Embedded Intelligence*

**09:30** Break

### Session 18 : In-Depth Presentations

- 10:30** Yuan Xie, UCSB, USA, *Technology-driven  
and Application-driven Architecture Innovation:  
Past, Present and Future*
- 11:00** Shintaro Yamamichi, Tokyo Research  
Laboratory, Japan, *Neuromorphic hardware  
research for Cognitive Computing*
- 11:30** Song Yao, DeePhi Tech, China,  
*BandwidthCentric Deep Learning Processing  
through Software-Hardware Co-Design*

### Session 19 : Mini-Keynote Presentations

- 12:00** Nicolas Ventroux, CEA-List, France, *N2D2:  
An Open-Source Design Environment For DNN*
- 12:12** Frédéric Petrot, TIMA, France, *Scalable  
High-Performance Architecture for Convolutional  
Ternary Neural Networks*
- 12:24** Panel discussion with the lecturers
- 13:00** Lunch