

# 2015 SYMPOSIA ON VLSI TECHNOLOGY & CIRCUITS

Semiconductor industry's premier event on advances in microelectronics technology & circuits

Rihga Royal Hotel  
KYOTO  
June 15-19, 2015

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## 2015 VLSI SYMPOSIA HIGHLIGHTS

The 2015 VLSI Symposia technical program consists of overlapping sessions from June 15 – 18 (Technology) and June 16 – 19 (Circuits), with more than 200 presentations, short courses and panel discussions by leading researchers and scientists. The program is designed to highlight recent advances in microelectronics technology and circuits, and to promote networking amongst participants.

### SYMPOSIUM ON VLSI TECHNOLOGY

#### PLENARY PRESENTATIONS

Tuesday morning, June 16

Robotics for Innovation

– Hirohisa Hirukawa, National Institute of Advanced Industrial Science and Technology (AIST)

System Challenges and Hardware Requirements for Future Consumer Devices: From Google Glass to Chrome Books and Devices in-between

– Eric Shiu and Simon Prakash, Google

#### EVENING PANEL DISCUSSION

Tuesday evening, June 16

Post scaling: What will be next?

– Moderators: Akira Nishiyama, Toshiba / Frédéric Boeuf, STMicroelectronics

– Expert panelists from: CEA-LETI, Google, IBM, imec, NAIST, Stanford University, etc.

#### TECHNOLOGY FOCUS SESSIONS

7nm Logic Technology and Beyond (incl. Ge, III-V, and TFET)

Session T3 (Tuesday, June 16, 1:30pm)

3D Systems and Packaging

Session T5 (Tuesday, June 16, 3:50pm)

### TECHNOLOGY SHORT COURSE

More-than-Moore and More Moore for IoT

Monday, June 15

Introduction: VLSI Implications of the Internet of Things, G. Yeric, ARM

More Moore

– Ultra-Low Leakage Switch, A. Thean, imec

– Embedded, low-power memory, S. Kimura, Hitach Ltd.

– RFIC design in Nanoscale CMOS, H. Lee, Intel

More-than-Moore (I): Sensors

– Application & Key Aspects, R. Beica, Yole Développement

– Essence of MEMS, S. Tanaka, Tohoku University

– Semiconductor-based biosensing, T. Sakata, University of Tokyo

More-than-Moore (II): Energy Transfer & Energy Harvesters

– Fundamental challenges and solutions for energy harvesting, M. Alioto, National University of Singapore

– Wireless Energy Transfer, H. Ishikuro, Keio University

– PV and Other Harvester, T. Skotnicki, STMicroelectronics

### JOINT PROGRAM HIGHLIGHTS

#### JOINT FOCUS SESSIONS

Wednesday, June 17 & Thursday, June 18

•Ultra Low Power for IoT

Session JFS1 (Wednesday, June 17, 10:30am)

•Emerging NVM (ReRAM, PCRAM, STT-MRAM)

Session JFS2 (Wednesday, June 17, 1:55pm)

•Advanced Technology and Circuits for IoT

Session JFS3 (Thursday, June 18, 2:20pm)

•3D and Heterogeneous Integration

Session JFS4 (Thursday, June 18, 4:15pm)

#### JOINT EVENING PANEL DISCUSSION

Tuesday evening, June 16

Semiconductor Industry in 2020 – Evolution or Revolution ?

– Moderators: T. Piliszczuk, SOITEC / J. Tham, Broadcom

– Expert panelists from Applied Materials, Intel Mobile, Murata, Renesas, TSMC, VeriSilicon, etc.

#### LUNCHEON

Thursday, June 18

DASSAI: Innovating Sake Brewing with Massive Usage of Data and IT

– Kazuhiro Sakurai, Asahi Shuzo Co., Ltd.

#### JOINT RECEPTION

Tuesday, June 16

#### JOINT BANQUET

Wednesday, June 17

### SATELLITE WORKSHOPS

IEEE Silicon Nanoelectronics Workshop

– June 14-15

Spintronics Workshop on LSI

– June 15

### SYMPOSIUM ON VLSI CIRCUITS

#### PLENARY PRESENTATIONS

Wednesday morning, June 17

The Principle of Making Money with IoT: Very-Large-Scale Happiness Integration – Kazuo Yano, Hitachi  
The Brain of Automated Driving - Electronics for the vehicle of tomorrow – Michael Fausten, Robert Bosch GmbH

#### EVENING PANEL DISCUSSION

Thursday evening, June 18

Is university circuit design research and education keeping up with industry needs? – Moderator: Patrick Yue, HKUST  
Expert panelists from: Intel, MediaTek, Tokyo Institute of Technology, TSMC, TU Delft, UC Berkeley, and University of Tokyo

Wearable Electronics: still an oasis or just a mirage for the semiconductor industry? – Moderator: Naveen Verma, Princeton  
Expert panelists from: Hitachi, Intel, KAIST, Texas Instruments, University of Michigan, and University of Tokyo

#### CIRCUITS FOCUS SESSIONS

Systems for Big Data Management

Session C8 (Thursday, June 18, 8:30am)

IoT and Smart Systems

Session C10 (Thursday, June 18, 10:30am)

### CIRCUITS SHORT COURSE

VLSI Design for Big Data Management

Tuesday, June 16

– High level overview,

K. Olukotun, Stanford University

– CPU Design Challenges for Big-Data, S. Borkar, Intel  
– Reconfigurable Computing in a Microsoft Datacenter, A. Putnam, Microsoft Research

– Memories in Big Data Era, A. Kawasumi, Toshiba

– Role of High Bandwidth I/O for Future Performance Growth of ICT Systems, H. Tamura, Fujitsu Laboratories  
– Digital Control of Power Supplies for Server and Telecom Applications, S. Choudhury, Texas Instruments

Analog and Digital Circuit Design for IoT Swarms

Tuesday, June 16

– Overview of IoT Nodes for Physical Data Collection, P. Urard, STMicroelectronics

– Ultra Low Power ADCs and Analog Front-Ends, P. Harpe, Eindhoven University of Technology

– Green RF: Ultra Low Power RF for the Internet of Things (IoT), A. Niknejad, UC Berkeley

– Powering the IoT - Batteries Optional,

Y. K. Ramadass, Texas Instruments

– Low Power Microcontrollers for IoT,

S. Ohtani, Renesas Electronics

– Normally-Off Computing: Synergy of Non-Volatile Memory and Power Management, H. Nakamura, University of Tokyo

For complete conference and registration information, visit: <http://www.vlssymposium.org/>



Join the Symposia on VLSI Technology & Circuits LinkedIn Group

