2019 SYMPOSIUM ON VLSI TECHNOLOGY & CIRCUITS
Semiconductor industry's premier event on advances in microelectronics technology & circuits
RIHGA Royal Hotel
KYOTO
June 9-14, 2019

2019 VLSI SYMPOSIUM THEME
Pushing the Limits of Semiconductors for United and Connected World
The 2019 Symposia on VLSI Technology and Circuits feature a fully overlapped program to highlight recent semiconductor advances for a united and connected world. The Symposia start on Sunday, June 9th with three Sunday workshops, followed by short courses, demo and focus sessions, panel discussions, and a Friday forum, in addition to many exciting contributed papers.

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June 11
Managing Moore's Infection: DARPA's Electronics Resurgence Initiative
-William Chappell, Office Director, MTO, DARPA
June 12
Si Platform for Developing Spin-based Quantum Computing
-Seigo Tarucha, Professor, The Univ. of Tokyo / RIKEN Center for Emergent Matter Science

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June 11
Augmented Human (TBD)
-Masahiko Inami, Professor, The Univ of Tokyo
June 12
TBD

JOINT PROGRAM HIGHLIGHTS
JOINT EVENING PANEL DISCUSSION
Monday evening, June 10
The economics (and future) of our industry, new business models, what can fab provide?
- Moderator: Koichi Hamashita, AKM
Panelists: Jonathan Jensen/Intel, Michael Pate/Google, Yukihiro Kato/Denso, Masayuki Mizuno/NICT, Yasunori Kimura/Fujitsu, Pat O’Connor/Microsoft
The world will see many new and exciting technologies at the upcoming Olympic Games. The panel will give us a look behind these technologies and the innovative circuits that make them possible. (Note that this panel is not affiliated with the Tokyo Olympics)

JOINT EVENING PANEL DISCUSSION
Tuesday evening, June 11
Technology We Will See Coming Out of the Tokyo Olympics and Beyond
- Moderator: Koichi Hamashita, AKM
Panelists: Jonathan Jensen/Intel, Michael Pate/Google, Yukihiro Kato/Denso, Masayuki Mizuno/NICT, Yasunori Kimura/Fujitsu, Pat O’Connor/Microsoft
What will the foundries of the future do?
- Moderator: TBD
Panelists: Top technology and business experts from foundries and fabless companies, as well as from academia.

SHORT COURSE 1
CMOS Technology Enablers for Pushing the Limits of Semiconductors: Materials to Packaging
Monday, June 10
This short course highlights the key technologies that will push semiconductor performance forward through materials, advanced devices, design, materials and packaging.
1. Breaking the Limitations of FinFET Scaling: Mark Liu, Intel
2. Emerging Interconnect Technologies for Nanoelectronics, Krishna Saraswat, Stanford
3. Advanced Process Technologies Required for Future Scaling and Devices, RobertCarl, TSMC
4. DTCO in 2019: The Precious Metal Stack and the Route to Better Designs, Brian Cline, ARM
5. 3D Integration for More Moore and More than Moore, Chih-Hung Tung, TSMC
6. Recent STT-MRAM Technology: From Lab to Fab, Yongjung Song, Samsung
7. Emerging FETs, Sayeed chocolates, UCSB
8. 1D Nano Flash, NTT, Kumamoto, Toshiba Memory

SHORT COURSE 2
Advanced 5G Circuits, Systems and Applications
Monday, June 10
The course demystifies recent advances in 5G wireless circuit technologies covering transceivers, PLE, Filter, MIMO beam forming, as well as system architectures and applications.
1. 5G Real and Future, Takehiro Nakamura, NTT Docomo
2. 5GmmWave, HPF Transceiver for 5G Base Station Applications, Sung-Qi Yang, Samsung
3. 5G for Handset, Hyung-In Lee, Intel
4. Low Phase Noise Core Source for 5G/6G-Hyoun Choi, LKEST
5. Acoustic Filter for 5G Smartphones, Hiroki Nakamura, Sony
6. Integration Technology for mm-wave Module, Kazuo Suzuki, Murata
7. MIMO Beam Forming Circuit and Algorithm of 5G, Hui Kang, Georgia Tech Univ
8. Analog-beam Forming THz in Passive Production, Built-in Test, Brian Floyd, NCSU

SUNDAY WORKSHOPS
WS1: Impact of Atomic Layer Patterning and Selective Area Patterning on Device Fabrication and Performance
WS2: Two Dimensional Materials and Applications
WS3: Low thermal budget dopant activation for sequential-3D integration

FRIDAY FORUM
Enabling Technologies for Autonomous Driving
Friday, June 14

For complete conference and registration information, visit: http://www.vlsisymposium.org/