

2020 SYMPOSIUM ON VLSI Technology

The Next 40 Years of VLSI for Ubiquitous Intelligence

Hilton Hawaiian Village, Honolulu, Hawaii, USA

Monday – Friday, June 15-19, 2020

(June 15 Short Course,

June 16-18 Technical Sessions,

June 19 Friday Forum)

Join us to celebrate the
40th Anniversary of the
VLSI Symposium!!

Paper Submission Deadline: 23:59 PST Monday, February 10, 2020

For complete conference, author, and registration information, visit:

<http://www.vlsisymposium.org>

Symposium Scope

Celebrating its 40th edition (1981-2020), the VLSI Technology symposium calls for papers in the following areas:

- **Technologies for IOT** including ultra-low power technologies; wearable devices/sensors, display, connectivity, power management; micro-controllers and application processors.
- **Technologies for AI** including CPU, GPU, in-memory computing, neuromorphic devices, and stochastic computing.
- **Stand-Alone and Embedded Memories** technology and reliability for SRAM, DRAM, 3D NAND and NOR Flash, MRAM, PCRAM, ReRAM, FeRAM and other new memories.
- **CMOS Technology, Microprocessors and SoCs** including scaling, VLSI manufacturing concepts, and yield optimization.
- **RF / Analog / Digital Technologies and Sensors** for mixed-signal SoC; RF front-end; analog, mixed-signal, I/O, high-voltage, MEMS, integrated sensors; power electronics.
- **Process and Material Technologies** including advanced transistor process and architecture, modeling and reliability; high mobility channels; wide bandgap semiconductors and 1D and 2D materials and devices; advanced lithography; heterogeneous integration; interconnects scaling.
- **Packaging Technologies and System-in-Package (SiP)** including through-silicon-vias (TSVs) and 3D-system integration.
- **Photonics Technology, Imaging, and Beyond CMOS Devices**

Papers will be selected based on technical innovation, advances relative to previously published work, credibility of claims, and quality of writing and illustrations

Best Student Paper Award

Best Student Paper Award selection will be based on quality and presentation of the paper at the Symposium. The winning student will be presented an award at the 2021 Symposium opening session. The student must be enrolled as a full-time student at the time of submission, be the leading author and presenter of the paper, and apply for the award when submitting the paper.

Information and Registration

To obtain assistance with any aspect of the Symposium, please contact the appropriate Secretariat.

Secretariat for VLSI Symposia (America and Europe): IEEE Meetings, Conferences & Events (MCE), Piscataway, NJ, USA,

+1 732 465 6620, vlsisymposium@ieee.org

Secretariat for VLSI Symposia (Asia and Japan): c/o JTB Communication Design, Inc., Tokyo, Japan

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Joint Technology and Circuits Focus Sessions

VLSI Symposium on Circuits will be held in parallel to Technology sessions. To synergize on topics of common interest Joint Technology and Circuits focus sessions will be offered in special areas of joint interest that enable ubiquitous intelligence, smart mobility and other applications of VLSI, such as:

- **Machine learning:** neuromorphic devices, circuits for ultra-low-power inference and training, in-memory computing
- **Design in scaled technologies:** scaling of digital, memory, analog and mixed-signal circuits in advanced CMOS processes
- **Design enablement:** design for manufacturing, process-design co-optimization, on-die monitoring of variability and reliability
- **Embedded memory technology and design:** SRAM, DRAM, NOR Flash, PCRAM, ReRAM, MRAM, FeRAM.
- **3D and heterogeneous integration:** power and thermal management, advanced packaging, inter-chip communication, SiP architectures and applications

Innovative System Directions

Authors are encouraged to submit papers on “big integration” that showcase innovations that extend beyond a single IC and into the module level. These include focus areas of **IoT, Industrial Electronics, Big data management, Biomedical Applications, VR (virtual reality), AR (augmented reality), and Robotics and Smart cars**. New focus sessions comprising invited and contributed papers will be offered.

Paper Submission

Prospective authors must submit two-page papers and abstracts using the Symposia's website, www.vlsisymposium.org. Accepted papers will be published as submitted, with **no revisions permitted**. Authors must follow detailed instructions provided within the “Authors” section of the website, including the Authors' Guide and Pre-publication Policy.



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