2012 VLSI CIRCUITS SYMPOSIUM HONOLULU

2012 SYMPOSIUM ON VLSI CIRCUITS

Hilton Hawaiian Village, Honolulu, Hawaii

June 13 - 15, 2012

Sponsored by
the IEEE Solid-State Circuits Society and the Japan Society of Applied Physics
In Cooperation with the Institute of Electronics, Information and Communication Engineers
and the IEEE Electron Devices Society

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The three days of the 2012 Symposium on VLSI Circuits will provide designers of integrated circuits an opportunity to meet and present important new work on all aspects of VLSI circuits. The 2012 Symposium on VLSI Technology (please see the reverse side) will be held at the same location with two days of overlap. **A single registration allows participants to attend both of the Symposia**, and offers unique opportunities to interact and synergize on topics of joint interest.

The scope of the Symposium on VLSI Circuits includes innovations and advances in the following areas:

• **RF and wireless communication** circuits and architecture, including CMOS RF and mm-wave
• **Wireline transceiver and I/O design**, spanning chip-to-chip to long-reach applications
• **Digital circuit techniques** for processor, memory, and complex SOC architectures and implementations
• **Clock generation and distribution** for high frequency digital and mixed-signal applications
• **Analog and mixed signal** circuits such as data converters, PLL, amplifiers, and filters
• **Digitally-assisted analog and analog-assisted digital** circuits, including digital implementations of RF/analog
• **Memory circuits and architectures** for SRAM, DRAM, and non-volatile, including emerging memories
• **Power minimization** techniques, circuits for battery management, energy harvesting, and renewable energy
• **Power management** circuits, including linear and switching voltage regulators and voltage references
• **Sensor and display** circuits for current and emerging applications, including biomedical and healthcare.

NEW JOINT CIRCUITS AND TECHNOLOGY FOCUS SESSIONS

For the first time, joint circuit and technology focus sessions will be offered in the following special topics of joint interest. Paper submissions highlighting **major innovations and advances in circuits, designs, tools and methodologies** in these areas are strongly encouraged:

• **Design in scaled technologies:** novel device and interconnect materials and structures (e.g. FinFET, hybrid III-V, nanotubes, nanowires), scaling of analog and mixed-signal design
• **Design enablement:** design for manufacturing and robustness, process-design co-optimization for ultra-low voltage and power, on-die measurement and monitoring of variability and reliability
• **Memory technology and design:** embedded and stand-alone SRAM, DRAM, Flash, PCRAM, RRAM, MRAM, etc.
• **3D (TSV) and heterogeneous integration:** power and thermal management, inter-chip communication, SiP architectures and applications.

Papers will be considered on the basis of originality, innovation, and advancing the field. Prototype implementation and measured results will be considered favorably in the ratings. **Prospective authors must submit camera-ready papers in the format of two pages to the following web site:**

http://www.vlsisymposium.org

Please note that hard copy submissions will NOT be accepted. The papers, if accepted, will be published as submitted. The technical content beyond the abstract of the accepted paper must not be announced, published, or in any way put in the public domain prior to the Symposium. Submissions from industry and universities are encouraged. Partial travel expense support for students who are presenting papers is available upon request. Extended versions of selected papers from the Symposium will be published in a **Special Issue of the IEEE Journal of Solid-State Circuits**.

Paper Submission Deadline is January 23, 2012, 23:59 P.M. PST

BEST STUDENT PAPER AWARD

The selection will be based upon the quality of the written paper and the presentation. The student who receives the Best Student Paper Award will be presented a monetary award and a certificate at the opening session of the 2013 Symposium. The student must be enrolled as a full-time student at the time of submission, be the leading author and the presenter of the paper, and must indicate in the web submission form that this is a student paper to be considered for this award.

VLSI CIRCUITS SHORT COURSES on June 12, 2012

The Symposium offers two one-day short courses on major topics of current interest, instructed by selected international experts. The short courses will be held on the day before the Symposium. Details will be posted on the web by April 2012.

INFORMATION AND REGISTRATION

Prospective attendees can obtain further information and forms for registration and hotel reservations from the Symposium website by visiting www.vlsisymposium.org or from the closest secretariat.

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