IEEE CICC Call for Papers

Regular Paper Submission Deadline: November 3, 2020
Industry Session Papers: December 11, 2020

IEEE Custom Integrated Circuits Conference (CICC)

is sponsored by the IEEE Solid-State Circuits Society
and technically co-sponsored by the IEEE Electron Devices Society

April 25 – 28, 2021 at AT&T Hotel & Conference Center, Austin, TX

Submission of original unpublished work in following areas:

Analog & Digitally-Assisted Circuit Techniques and building blocks such as amplifiers, comparators, frequency generation and clocking, filters, references, and nonlinear signal processing circuits.

Data Converters including Nyquist and oversampled A/D, D/A, time-to-digital, frequency-to-digital and analog-to-information converters of all types driven by new techniques, architectures, technologies or applications.

Design Foundations for novel digital, analog, mixed-signal, and memory circuit techniques for present and emerging applications (deep learning, autonomous vehicles, IoT, security, quantum computing). Modeling and simulation of advanced and cryogenic CMOS (FinFET, UTTB-SOI), Non-volatile memories and beyond-CMOS devices (e.g. MEMS, GaN, STT) to improve design quality, efficiency, and reliability. Design for manufacturing, test, aging, security, and reliability (novel Design for Test circuits, system-level testing). High-level system modeling, digital/analog design infrastructure, and verification and emulation for complex SoCs (e.g. 2.5D and 3D SiP).

Digital Circuits, SoCs, & Systems solicits hardware papers in technologies that enhance efficiency, performance, or security of integrated systems. Areas of interest include processors, accelerators, interconnect fabrics, and memory systems, with applications in AI, autonomous transportation, low-temperature computing, quantum computing sub-systems, cloud computing, genome sequencing, sensing, edge computing, and communication.

Emerging Technologies, Systems, and Applications solicit hardware focused papers in the technologies of tomorrow extending from new device to system integration and applications with focus on, but not limited to:

- **Next-generation technology and sensors** including devices, integration, and packaging including nano-primitives, non-silicon based technology, and advanced assembly. Sensor interfaces for MEMS, mm-wave/THz, flexible, printed, large-area and organic electronics, electronic-photonic co-design, and silicon photonics.
- **Biomedical circuits, systems, and applications** including neural interfaces, microarrays, lab-on-a-chip, bio-inspired circuits, implantable and/or wearable systems, closed-loop systems with sensing and actuation, medical imaging, and other biosensors including biomedical signal processing SoCs, AI/Machine-Learning for mixed-signal/sensing.

Power Management circuits and design techniques including switched-mode integrated converters using inductive, capacitive, and hybrid architectures, energy harvesting circuits, wireless power transfer, power management circuits for automotive applications, linear regulators, control and management circuits, circuit techniques with novel wide-bandgap devices and drivers, and other methods to improve system overall efficiency and performance.

Wireless Transceivers and RF/mm-Wave Circuits and Systems for low-power, energy-efficient and high performance wireless links, biomedical and sensing networks, IoT applications, cellular connectivity including M2M applications (LTE-M, NB-IoT), emerging broadband and MIMO networks (5G, WLAN), vehicle-to-vehicle (V2V), millimeter-wave & THz systems (radar, sensing and imaging), frequency synthesis and LO generation.

Wireline and Optical Communications Circuits and Systems including serial links for intra-chip and chip-to-chip interconnections, high-speed memory and graphics interfaces, backplanes, long-haul, power line communications, high-voltage I/O; novel I/O circuits and signaling methods, clocking techniques including PLLs and CDRs; components such as equalizers, ADC /DAC/ DSP based transceivers, silicon photonics and optical interface circuitry.

Conference Technical Sessions and Events

Technical Sessions addressing a broad range of circuits, applications, design techniques, tools, test, reliability, and emerging technologies, and providing education on new, state-of-the-art developments is the core of the CICC technical program.

Industry Sessions (New This Year) highlighting the role of solid-state circuits and SoCs in the creation of novel products.

Educational Sessions instructed by recognized invited speakers who are among the best in the industry are included in the conference. They are valuable opportunities to refresh key skills in traditional circuit-design methods and acquire knowledge in vital new areas in analog, digital, and RF integrated circuit design.

Panels, ***Forums*** and a ***Plenary Session*** provide a platform for leaders from industry and academia to present highlights on new research and development related to circuit design and to debate key issues and controversial topics. CICC panels are well known for their lively and thought-provoking discussion and audience participation.

Our ***Welcome Reception*** and ***Conference Luncheon*** provide additional opportunities for discussion and peer networking.

Paper Submission

Technical Session Papers are **2 pages** in length (**new this year**). Papers should be camera-ready and submitted electronically in PDF format using the CICC website (www.ieee-cicc.org). **Blind review will be adopted this year. Please follow the instructions given at the submission website to submit a blind version for review and a complete version for publication.** Appropriate company and government clearances MUST be obtained prior to submission. Papers must report an **original unpublished work** and concisely explain how the state-of-the-art is advanced, including results. Circuit-design papers must include measured experimental results that substantiate performance claims. **Deadline for paper submission is 11:59 pm Pacific Time on November 3, 2020.** Authors of accepted papers will be notified by email by **January 10, 2021**. Top-rated papers will be invited to a special issue at ***IEEE Journal of Solid State Circuits***.

Industry Session Papers can range from a single paragraph abstract to 1 page with a maximum of 2 figures. These are non-blind submissions. **Deadline for paper submission is 11:59 pm Pacific Time on December 11, 2020.** Authors of accepted papers will be notified by email by **January 10, 2021**.

For more information, please visit www.ieee-cicc.org.

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