

Call for Papers

Advances in Design of Energy-Efficient Circuits and Systems

IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS)
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Scope and Purpose

The IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS) seeks original contributions for an issue on Advances in Design of Energy-Efficient Circuits and Systems, scheduled to appear in June 2011.

Design for energy-efficiency requires modeling and simulation capabilities, design techniques, optimization methodologies and EDA tools applicable at all levels of abstraction, i.e., from device and circuit to architecture and system, and addressing different technologies, i.e., from digital to analog/RF, including discrete components and power devices. The purpose of this issue is to report on recent and original advances in all aspects related to the design of energy-efficient circuits and systems.

Topics of Interest

Topics of interest for this issue include, but are not limited to:

- Circuit and system design
Voltage over-scaled error-resilient circuits and systems. Ultra low voltage circuits. Alternative energy-efficient logic devices. Memory technologies and architectures for ultra low-power/low-energy operation.
- Design methodologies
Design optimizations for energy-efficient heterogeneous multiprocessor chips. Impact of low-power design on circuit aging. New thermal-aware and cooling solutions for the design of heterogeneous vertical chips
- Energy generation and management
Circuits and systems for energy conversion and scavenging. Hybrid (multi-source) power supplies. Dynamic power management for energy harvesting systems. Energy harvesting devices for smart sensors and (wireless) sensor nodes.
- Applications
Design of integrated circuits for smart metering. Design of devices, circuits and systems for solid-state lighting control. Design of implantable devices for bio-medical applications. Energy-estimation and optimization for large-scale systems (data centers) and mobile platforms.

Submission Procedure and Publication Timeline

Authors are encouraged to submit high-quality contributions following the instructions provided on the JETCAS web-site:

<http://jetcas.polito.it>

Prospective authors should submit PDF versions of their papers electronically no later than **December 31, 2010**. Acceptance/rejection decisions will be notified to the contact authors by **January 31, 2011**. In case some revisions will be necessary, authors will be requested to submit improved versions of their manuscripts by February 28, 2011. Final acceptance/rejection decisions will be taken by March 31, 2011. Camera-ready versions of the accepted manuscripts will be due April 30, 2011.