CALL FOR PAPERS

IEEE Transactions on Computers
Special Section on Computer Arithmetic
August Issue of 2014

IEEE Transactions on Computers seeks original manuscripts for a Special Section on Computer Arithmetic scheduled to appear in the **August issue of 2014**.

Computer arithmetic is fundamental to the design of general-purpose and domain-specific processors. Novel arithmetic algorithms and hardware designs are needed to satisfy the power-performance requirements of numerically-intensive applications in a variety of areas including scientific computing, cryptography, multimedia, graphics and digital signal processing. Specialized number representations and encodings play a significant role in the design of arithmetic algorithms and their implementations. Additionally, understanding the fundamental properties of finite precision number systems is essential in the engineering of efficient arithmetic algorithms, as well as the current and future emerging technologies are important in influencing the design and the implementation of such algorithms.

Topics of interest are recent advances in all aspects of computer arithmetic, including, but not limited to:

- Foundations of number systems and arithmetic
- Arithmetic processor designs and implementations
- Arithmetic algorithms and their analysis
- Highly parallel arithmetic units and systems, including multicore
- Floating-point units and systems
- Standards for number representation and arithmetic
- Impact of high-level languages on arithmetic systems
- Special function implementations
- Low-power computer arithmetic
- Industrial implementations of arithmetic units
- Test and verification techniques for computer arithmetic implementations
- New approaches to fault- and error-tolerance in arithmetic implementations
- Arithmetic for FPGA's and configurable logic
- Design automation for computer arithmetic implementations
- Applications of computer arithmetic:
  DSP, Multimedia, Graphics, GPUs, Cryptography, Data compression, etc.

Submitted articles must not have been published or currently submitted for journal publication elsewhere. As an author, you are responsible for understanding and adhering to our submission guidelines. You can access them by clicking on http://www.computer.org/portal/web/peerreviewjournals/author. Please thoroughly read these before submitting your manuscript at https://mc.manuscriptcentral.com/tc-cs. For questions regarding the submission procedure, please contact the Transactions on Computers administrator (tc@computer.org). Please address all other correspondence regarding this Special Section to the Guest Editors.

Authors of accepted papers are invited to prepare a short *"abstract video"* of their manuscript to be published as supplemental material in the TC media page http://www.computer.org/portal/web/tc/multimedia.

IMPORTANT DATES

Submission deadline: September 15, 2013.
First decision to authors: November 24, 2013.
Second decision to authors (for major/minor revisions): February 23, 2014.
Publication material for final manuscripts due: March 1, 2014.
Special section publication: August issue of 2014.

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