

Call for Papers: IEEE Embedded Systems Letters

Special Issue on Approximate Computing

Approximate Computing exploits the inherent error resilience of many applications to optimize power consumption, run time, and/or chip area. Especially in audio, image and video processing, but also in machine learning, data mining or analytics, approximate results are “good enough” for many application domains and hard to distinguish from perfect results. But even in domains where accurate results are required, approximate computing can be applied in various layers of the computing stack. Approximate Computing promises to significantly increase computing efficiency (especially performance per power) and decrease power and energy consumption, and is therefore of particular interest for embedded computing where these metrics are key. Therefore, in the past few years, approximate computing has emerged as a “hot topic”.

Although the call for papers is open for all authors, it particularly encourages the presenters of the AC’16 Workshop on Approximate Computing (see <http://approximate.uni-paderborn.de>) to submit their work.

Objective and Scope

Approximate Computing has been addressed from various directions in the past. The goal of the Special Issue is to provide an interdisciplinary view on this highly active research area with specific focus on embedded architectures, algorithms and applications. Contributions may include but are not limited to the following topics:

- Approximate circuits, components, and micro-architectures
- Design and synthesis of approximate embedded systems
- Modeling, specification, and verification of approximate embedded systems
- Test and fault tolerance of approximate embedded systems
- Language, compiler, and operating system support for approximate embedded systems
- Applications and practical case studies of approximate embedded systems

Paper Submission Guidelines

Submitted manuscripts must be four pages or fewer, including all figures, tables, and references. Submissions exceeding this length will be returned without review. Papers should use 7.875 in x 10.75 in (20 cm x 27.30 cm) trim size and the IEEE transactions two-column format in 10-pt. font. In word counts, this corresponds to roughly 2200 words. Further details are available at: <http://ieeeced.org/publications/esl/paper-submission>

Submissions to IEEE ESL must consist of original work that has not been previously published and is not currently under review elsewhere. Please upload manuscripts using ScholarOne Manuscript Central at <https://mc.manuscriptcentral.com/les-ieee>

Important Dates

- Submission Deadline: January 15, 2017
- Notification of Authors: February 28, 2017
- Revisions Due (if necessary): March 31, 2017
- Notification of Final Acceptance: May 8, 2017
- Submission of Final Version: May 31, 2017

Guest Editors

- Sybille Hellebrand, Paderborn University, Germany
- Jörg Henkel, Karlsruhe Institute of Technology, Germany
- Anand Raghunathan, Purdue University, IN, USA
- Hans-Joachim Wunderlich, Stuttgart University, Germany