The Third Workshop on Low-Power Dependable Computing (LPDC)

In conjunction with the 2016 International Green and Sustainable Computing Conference (IGSC)
Nov. 7-9, 2016, Hangzhou, China

Submission Deadline: Aug. 1, 2016

Submission Link: https://easychair.org/conferences/?conf=lpdc2016

Introduction:
As part of the IEEE-Technically sponsored International Green and Sustainable Computing conference, the workshop on Low-Power Dependable Computing (LPDC) will be organized to address various design aspects of power efficient and dependable computing infrastructures. Dependable computing is normally achieved through various error reduction, detection and recovery techniques at different levels (for instance, circuit, architecture, operating systems, compiler and application software) in the systems. With the continuous technology scaling and miniaturization of computing systems, faults will become more common and it is imperative for most modern computing systems to deploy various fault-tolerance techniques. On the other hand, fault-tolerance does not come for free, and generally has power/energy/temperature implications, which warrants careful consideration since power/energy is the first-class system resource and has been emerging as the limiting factor for multicore scaling.

This workshop aims at establishing a specialized forum for practitioners and researchers from both industry and academia who work on different aspects of fault tolerance and power/energy efficiency to exchange ideas on how to achieve low-power dependable computing. In particular, understanding the interdependencies between reliability and power are important to consider, e.g., high power consumption may lead to elevated temperature that can further aggravate the reliability. To cover a broad range of research related to energy efficiency and dependable computing, the workshop will consider various levels (from circuits to software), components (from memory to computation) and systems (from battery-powered embedded systems to large scale reliable servers). The topics of interest include, but are not limited to, the following:

- Energy-efficient redundant circuit design
- Energy-efficient fault-tolerance architecture
- Compilation techniques for redundancy and low-power
- Runtime management and scheduling algorithms for energy-efficiency and fault tolerance
- Emerging paradigms for low-power and dependable computing (e.g., approximate computing, cross-layer design etc.)
- Mitigating reliability threats (aging, soft errors, process variations) in Dark Silicon chips
- Low-power reliable memory and storage systems
- Low-power and reliable on-chip networks communications
- Case study on low-power dependable systems
**Author Information:**
The workshop invites authors to submit papers related to the theme of this workshop. The submitted paper should describe original and unpublished work that are not concurrently under review elsewhere. The papers submitted to this workshop is limited to be six (6) single-spaced, double-column pages (with IEEE Computer Society Proceedings Manuscripts style: 11-point fonts and 8.5 x 11 inch), which should include everything (e.g., abstract, research description, figures, tables, and references).

All submissions will be reviewed by the program committee. The accepted papers will be included in the supplementary proceedings of IGSC, which will be published by the IEEE Computer Society and indexed by EI, subject to (1) One author of each accepted paper must register for the conference following the instructions on IGSC webpage at the time of the submission of the final manuscript; and (2) One of the authors must appear to present the paper at the workshop. Papers should be in PDF format and submitted via EasyChair following the link: https://easychair.org/conferences/?conf=lpdc2016.

Please contact Dr. Xiaomin Zhu (xmzhu@nudt.edu.cn) if you have any question regarding to this workshop.

**Important Dates:**
- Submission deadline: **Aug. 1, 2016**
- Notification date: **Sept. 15, 2016**
- Final paper due: **Oct. 1, 2016**

**Workshop Organizers and TPC Chairs:**

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**Technical Program Committee:** TBD