



Call for Contributions

Special Issue on Self-Awareness in Systems on Chip

Inspired by biological examples, self-awareness has become a hot research topic in a variety of disciplines and its applicability has been explored in various application domains. The topic owes its attractiveness to its promise to facilitate highly resilient, adaptive and outstandingly efficient behaviors. Thus, self-awareness holds the promise to promote dependability in all types of smart gadgets and artificial agents in the interconnected world of future.

However, the challenges raised by these new promising features are also significant, not least because they have a profound impact on the way we design, validate and test incorporating self-awareness. If a system smartly adapts to changing needs and environment, how do we validate its functionality at design time? How do we specify the correct functionality in the first place? What are the relevant trade-offs? How can we quantify uncertainties and variabilities in a meaningful way to deal with them in the design process? These are only some of the pressing questions that have to be addressed before these new features can be exploited.

IEEE Design and Test seeks original manuscripts for a special issue on “Self-Awareness in Systems on Chip” which will cover recent development on architecture, design, validation and test of Systems on Chip that exhibit a degree of self-awareness.

Topics of interest include but are not limited to

- Design, validation and test of self-aware systems
- On-chip sensors and monitoring
- Adaptive management of on-chip resources at the circuit and architecture level
- Adaptive management of on-chip resources at the OS and application level
- Machine learning techniques for on-chip self-awareness

Submission Guidelines:

Guidelines for IEEE D&T papers are given at: <http://ieeeced.org/publications/d-t/paper-submission>. Please choose the special session category “Self-Awareness-SoC” while submitting the manuscript to the ScholarOne Manuscripts website (<https://mc.manuscriptcentral.com/dandt>).

Paper Submission and Review Schedule:

Submission Deadline:	31 January 2017
Notification of First Round:	17 March 2017
Submission of Revision:	14 April 2017
Final Notification:	9 June 2017
Final Paper Due:	21 July 2017

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