

IEEE Design&Test

Call for Contributions

Special Issue on “Critical and Enabling Techniques for Emerging Memories”

The severe concerns about continuous scaling of mainstream memories motivated recent global-wise research on emerging memory technologies. Many promising characteristics, i.e., high integration density, non-volatility, nanosecond access time, good CMOS compatibility and radiation resilience, are demonstrated by various emerging memory candidates. Some of these technologies – phase change memory, spintronic memory, resistive memory (memristor), and ferroelectric memory etc., have been also prototyped. However, there exist many technical obstacles that prevent emerging memories from being widely adopted in commercial applications. These challenges may come from device and design reliability, testing complexity and cost, architecture modification and adoptability, and innovative applications that can maximize the advantages of emerging memories. Critical techniques that can assure not only the performance and reliability of memory designs but also their easy and efficient use, become essential to the technology adoption and of particular interest to the industry practices. The special issue, hence, is looking for innovative research on the critical and enabling techniques that promise the adoption and long-term scaling of emerging memories from various research levels.

Topics of interest include, but are not limited to:

- (1) Circuit design techniques.
- (2) Testing methods and approaches.
- (3) Novel memory architectures and designs.
- (4) Security and reliability of memory and storage systems.
- (5) Hardware-Software co-design for memory optimization.
- (6) Novel applications (database, big data, Internet of Things, phone systems, cyber physical systems, smart cards, security applications, etc.)

The special issue particularly welcome the submissions from industry or collaborated works between industry and academia.

Submission Guidelines:

Guidelines for IEEE D&T paper are given at: <http://ieeecd.org/publications/d-t/paper-submission>

Please choose the special session category “EmergingMemory-SI” while submitting the manuscript to the ScholarOne Manuscripts website (<https://mc.manuscriptcentral.com/dandt>).

Paper Submission and Review Schedule:

Guest Editor Contacts

<i>Submission Deadline:</i>	30 June 2016	Yiran Chen, yic52@pitt.edu
<i>Notification of First Round:</i>	15 August 2016	Tei-Wei Kuo, ktw@citi.sinica.edu.tw
<i>Submission of Revisions:</i>	15 September 2016	Barbara DE SALVO, barbara.desalvo@cea.fr
<i>Final Notification:</i>	15 October 2016	
<i>Final Paper Due:</i>	30 October 2016	