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Guest Editorial: Special section on emerging trends and computing paradigms for testing, reliability and security in future VLSI systems

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Wen, Xiaoqing) proposes a chain-type time division multiplexing access (TDMA)-based fault tolerance technique showing huge area overheads reduction.

- In *Design and analysis of secure emerging crypto-hardware using HyperFET devices* by Delgado-Lozano, Ignacio María; Tena-Sánchez, Erica; Núñez, Juan; Acosta, Antonio J., Power Analysis attacks against FinFET device have been tackled by incorporating HyperFET devices to deliver a x25 factor security level improvement.
- In *Detection, Location and Concealment of Defective Pixels in Image Sensors* by TAKAM TCHENDJOU, Ghislain; SIMEU, Emmanuel, image sensors are empowered with online diagnosis and self-healing methods to improver their dependability.
- In *Defect and Fault Modeling Framework for STT-MRAM Testing* by Wu, Lizhou; Rao, Siddharth; Taouil, Mottaqiallah; Cardoso Medeiros, Guilherme; Fieback, Moritz; Marinissen, Erik Jan; Kar, Gouri Sankar; Hamdioui, Said, a framework to derive accurate STT-MRAM fault models is described, together with its employment to model resistive defects in interconnect and pinhole defects in MTJ devices, allowing test solutions for detecting those defects.
- In *Online Safety Checking for Delay Locked Loops via Embedded Phase Error Monitor* byHuang, Shi-Yu; Chu, Wei, the Automotive Safety Integrity Level (ASIL) is targeted by proposing a phase error monitoring scheme for Delay-Locked Loops (DLLs).
- In *Protecting Memories against Soft Errors: The Case for Customizable Error Correction Codes* by Li, Jiaqiang; Reviriego, Pedro; Xiao, Li; Wu, Haotian, the memory protection is supported by a tool able to automate the error correction code design.
- In *Autonomous Scan Patterns for Laser Voltage Imaging* by Tyszer, Jerzy; Cheng, Wu-Tung; Milewski, Sylwester; Mrugalski, Grzegorz; Rajski, Janusz; Trawka, Maciej, authors demonstrates how to reuse on-chip EDT compression environment to generate and apply Laser Voltage Imaging-aware scan patterns for advanced contactless test procedures.

We sincerely hope that you enjoy reading this special issue, and would like to thank all authors and reviewers for their tremendous efforts and contributions in producing these high-quality articles. We also take this opportunity to thank the IEEE Transactions on Emerging Topics in Computing (TETC) Editor-in-Chief (EIC) Prof. Cecilia Metra, past Associate Editor Ramesh Karri, the editorial board, and the entire editorial staff for their guidance, encouragement, and assistance in delivering this special issue.