2019 IEEE 25th International Symposium on On-Line Testing and Robust System Design (IOLTS 2019)

Rhodes, Greece
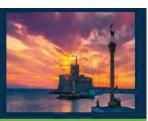**1 – 3 July 2019**

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Technical Papers

Special Session S1	Reliability Simulation from Device to Circuit Level
Date/Time	Monday, 1 July 2019 / 12:15 – 13:15 hrs
Organizers/Moderators	F.Cacho, A.Michard *(STMicroelectronics)*

Special Session S2	Memory Robustness
Date/Time	Monday, 1 July 2019 / 12:15 – 13:15 hrs
Organizer/Moderator	G.Harutyunyan *(Synopsys)* D.Alexandrescu *(iRoC)*

Session 4	Accelerators
Date/Time	Monday, 1 July 2019 / 14:30 – 15:30 hrs
Moderator	H.-J.Wunderlich *(U Stuttgart)*

4.1	**Cost-effective Resilient FPGA-based LDPC Decoder Architecture** *Eduardo N. de Souza and Gabriel L. Nazar*	84
4.2	**Software-only Diverse Redundancy on GPUs for Autonomous Driving Platforms** *Sergi Alcaide, Leonidas Kosmidis, Carles Hernandez and Jaume Abella*	90
4.3	**Testing Permanent Faults in Pipeline Registers of GPGPUs: A Multi-kernel Approach** *Josie E. Rodriguez Condia and Matteo Sonza Reorda*	97

Session 5	Hardware Security
Date/Time	Monday, 1 July 2019 / 14:30 – 15:30 hrs
Moderator	M.Michael *(U Cyprus)*

5.1	**On a Side Channel and Fault Attack Concurrent Countermeasure Methodology for MCU-based Byte-sliced Cipher Implementations** *Ehsan Aerabi, Athanasios Papadimitriou and David Hely*	103
5.2	**HATE: a Hardware Trojan Emulation Environment for Microprocessor-based Systems** *Cristiana Bolchini, Luca Cassano, Ivan Montalbano, Giampiero Repole, Andrea Zanetti and Giorgio Di Natale*	109
5.3	**On the Encryption of the Challenge in Physically Unclonable Functions** *Elena Ioana Vatajelu, Giorgio Di Natale, Mohd Syafiq Mispan and Basel Halak*	115

Special Session S3	Resilient and Secure Mixed-Signal/RF Circuits and Systems
Date/Time	Monday, 1 July 2019 / 15:45 – 16:45 hrs
Organizers/Moderators	A.Chatterjee *(Georgia Tech.)*

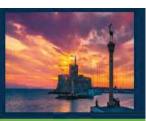|		
S3.1	**Self-Monitoring, Self-Healing Biomorphic Sensor Technology** *Andrew Richardson and David Cheneler*	121
S3.2	**BIST Solutions for Industrial Mixed-signal Circuits** *S.Mir, M.Barragan and M.Mammasse*	N/A
S3.3	**Trusted and Secure Design of Analog/RF ICs: Recent Developments** *Kiruba Subramani, Georgios Volanis, Mohammad-Mahdi Bidmeshki, Angelos Antonopoulos and Yiorgos Makris*	125

Special Session S4	Modern Hardware Margins: CPUs, GPUs, FPGAs: System-Level Studies
Date/Time	Monday, 1 July 2019 / 15:45 – 16:45 hrs

Special Session S5	Cost-Effective Resilience-I: Advanced Cross-Layer Analysis and Optimization Techniques
Date/Time	Monday, 1 July 2019 / 17:15 – 18:15 hrs
Organizers/Moderators	M.Shafique *(TU Wien)* P.Kindt *(TU Munich)*

Special Session S6	Hardware Security for Emerging Applications
Date/Time	Tuesday, 2 July 2019 / 08:30 – 09:30 hrs
Organizers/Moderators	M.Maniatakos *(NUYAD)* R.Karri *(NYU)*

Special Session S7	Memristors: The Missing Applications Found
Date/Time	Tuesday, 2 July 2019 / 08:30 – 09:30 hrs
Organizers/Moderators	M.Ottavi *(U Rome Tor Vergata)* A.Jabir *(Oxford Brookes U)*

Session 6	Error Correcting Codes
Date/Time	Tuesday, 2 July 2019 / 09:45 – 10:45 hrs
Moderator	N.Foutris *(U Manchester)*

Session 7	Attacks
Date/Time	Tuesday, 2 July 2019 / 09:45 – 10:45 hrs
Moderator	R.Canal *(UPC)*

Special Session S8	Cost-Effective Resilience-II: Reliable Edge Computing
Date/Time	Tuesday, 2 July 2019 / 11:15 – 12:15 hrs
Organizer/Moderator	M.Shafique *(TU Wien)*

Special Session S9	Advance Radiation-Hard Circuits and Systems - Design and Implementation
Date/Time	Tuesday, 2 July 2019 / 15:00 – 16:00 hrs
Organizer/Moderator	Z.Stamenkovic, M.Krstic *(IHP)*

Special Session S10	Design for Robustness vs Design for Low Power
Date/Time	Wednesday, 3 July 2019 / 08:30 – 09:30 hrs
Organizer/Moderator	P.Girard *(LIRMM)*

Session 8	Posters
Date/Time	Wednesday, 3 July 2019 / 09:30 – 10:30 hrs

Session 9	Aging/Wearout
Date/Time	Wednesday, 3 July 2019 / 10:30 – 11:30 hrs
Moderator	B Becker *(U Freiburg)*

Session 10	Power Issues
Date/Time	Wednesday, 3 July 2019 / 10:30 – 11:30 hrs
Moderator	C.Lopez Ongil *(UC3M)*

Session 11	Timing Issues
Date/Time	Wednesday, 3 July 2019 / 11:45 – 12:45 hrs
Moderator	Y.Tsiatouhas *(U Ioannina)*

Session 12	Error and Attack Detection
Date/Time	Wednesday, 3 July 2019 / 11:45 – 12:45 hrs
Moderator	A.Hatzopoulos *(Aristotle U Thessaloniki)*