September 30, 16:30 – 18:30

16:30 TRUDEVICE Presentations (30 minutes) + Posters

- ***Multi-stage Cross-layer Hardware Trojan Prevention, Detection and Tolerance*** - *Cristiana Bolchini, Luca Cassano, Giorgio Di Natale*
- ***Secure Test Method for Fuzzy Extractor*** - *Mafalda Cortez, Gijs Roelofs, Said Hamdioui, Giorgio Di Natale*
- ***Retrieving flip-flop localization and controlling them with lasers; Methodologies and practical results*** - *Franck Courbon*
- ***Design of bulk built-in current sensors to detect single event effects and laser-induced faults injection attempts*** - *J.M. Dutertre, R. Possamai Bastos, O. Potin, M.L. Flottes, B. Rouzeyre, G. Di Natale*
- ***Comparative Study of Side-Channel Metrics*** - *Baris Ege*
- ***A novel ring oscillator based PUF on FPGA*** - *Filip Kodytek, Robert Lorencz*
- ***Towards Increased Reliability and Hardware Security using Advanced Measurements and Data Processing on Modern Nanoscale FPGAs*** - *Petr Pfeifer*
- ***Towards Trusted Devices in FPGA by Modeling Radiation Induced Errors – First ALT Results*** - *Jan Pospisil, Tomas Vanat, Jan Schmidt*
- ***On the Optimization of S-Box Functionality, in 4G LTE Ciphers*** - *Anastasios N. Bikos, Nicolas Sklavos, Apostolos Fournaris*
- ***CRS Based Stateful Logic Operations for Future Cryptohardware Implementions*** - *Yuanfan Yang, Jimson Mathew, Marco Ottavi, Dhiraj K. Pradhan*
- ***Discovering tampered-with devices in CMOS circuit by ageing effect detection*** - *Radi Husin Ramlee, Mark Zwolinski*
- ***MRAM-based PUF*** - *Giorgio Di Natale, Paolo Prinetto, Elena I. Vatajelu*
- ***Dedicated Secure NoC on FPGA*** - *R. Druyer, P. Benoit, L. Torres, PV Bonzom*
- ***TAS_MRAM applications for secure applications*** - *S. Senni, L. Torres, B. Mussard*

Committee:

General Chairs: Marco Ottavi (Uni. Roma II, IT), Giorgio Di Natale (CNRS-LIRMM, FR)
Local Chair: Said Hamdioui (TU Delft, NL)

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TRUDEVICE

Joint MEDIAN – TRUDEVICE Open Forum

September 30, 2014
Mövenpick hotel, Amsterdam (The Netherlands)

This forum is organized in the framework of the COST Actions IC1103 (MEDIAN) and IC1204 (TRUDEVICE)
http://www.median-project.eu
http://www.trudevice.com

September 30, Morning

9:00 Welcome address, Introduction to MEDIAN and TRUDEVICE

9:45 Keynote on Security

Implementation attacks and defenses: closing the gap
Lejla Batina (Radboud University Nijmegen, The Netherlands)

In this talk we give an overview of implementation attacks with a special focus on fault attacks and countermeasures. We survey some of the previous works on fault attacks by glitching and the impact of temperature on fault analysis. Some new challenges are identified and possible directions for new research are listed.

10:45 Coffee Break

11:15 Keynote on Dependability

When failure is not an option: a (non) comprehensive review of fail-tolerant avionic systems in space
GIanluca Furano (European Space Agency, ESTEC-ESA, The Netherlands)

A modern satellite can be seen, from the on-board electronics (avionics) point of view, 'just' as a big and expensive embedded system.
Many modern spacecraft require fail-tolerant avionics, thus being able to self-reconfigure after an unexpected event. From the other side the ever-increasing complexity of flying hardware (and accompanying SW) multiplies the options and thus the test cases, making a full coverage of all the reconfiguration possibilities very difficult to pursue.
While automated test beds for embedded systems are a reality for industrial applications the small size of space market has so far limited both the standardization coverage and even the transfer of knowledge and lessons learnt across the European space sector.
Therefore challenging trade-offs, with high risk of design pitfalls are often inevitable for designers who are obliged in one side to deal with mission's demands in terms of objectives and criticality, and in the other side to take into account of the available resources and cost limits.

12:30 Lunch

September 30, 14:00 – 16:00

14:00 MEDIAN Presentations (30 minutes) + Posters

- ***Dynamic Reliability Management of FPGA based Multicores*** *- Jahanzeb Anwer, Marco Platzner*
- ***Impact of BTI on SRAM Sense Amplifier in the Presence of Temperature and Process Variation*** *- Innocent Agbo, Mottaqiallah Taouil, Said Hamdioui, Halil Kukner, Praveen Raghavan, Francky Catthoor*
- ***Study of DRAM data retention fault in DRAM devices for mass memory units*** *- Angelo Bacchini*
- ***Universal Generation of Test Vectors for Functional Verification*** *- Ondrej Cekan, Zdenek Kotasek*
- ***Effective Detection and Correction Techniques of Defective Pixels in Space Cameras*** *- Eliahu Cohen, Moriel Shnitser, Tsvika Avraham, Ofer Hadar, Yocheved Dotan*
- ***Low Power and Robust Neuromorphic Hardware for Mobile Computing Devices*** *- Masoud Daneshtalab and Masoumeh Ebrahimi*
- ***Router Fault Ignorance Using Non-Minimal Routing*** *- Masoumeh Ebrahimi, Letian Huang, Xiaofan Zhang, Junshi Wang, Masoud Daneshtalab*
- ***Distributed BIST Approach for Power Constrained Many-Core Systems*** *- Mohammad-Hashem Haghbayan, Amir-Mohammad Rahmani, Pasi Liljeberg, Juha Plosila, Hannu Tenhunen*
- ***System-level Approaches for the Design of Reliable Embedded Systems*** *- Cristiana Bolchini, Matteo Carminati, Antonio Miele*
- ***Basic Principles of Testing Fault-Tolerance Methodologies in Electro-mechanical Applications*** *- Jakub Podivinsky, Zdenek Kotasek*
- ***The unified model and criteria for hardware and software testing*** *- R. Seinauskas*
- ***Reliability Analysis of MIMO Channel Preprocessing by Fault Injection*** *- Victor Tomashevich, Christina Gimmler-Dumont, Norbert Wehn, Ilia Polian*
- ***Fault Tolerant Irregular Topology Design for Network-on-Chips*** *- Suleyman Tosun, Vahid Babaei Ajabshir, Ozge Mercanoglu, Ozcan Ozturk*
- ***On the Impact of Control Voltage Variation on the Reliability of Spin Transfer Torque Magnetic RAM*** *- Elena Ioana Vatajelu, Marco Indaco, Paolo Prinetto*
- ***Identification of Memristor Parameters Based on Limited Set of Measurements*** *- Zdenek Kolka, Dalibor Biolek, Jiri Vavra, Viera Biolkova*

16:00 Coffee Break