

## **Tuesday 16.04.2019**

**08:00 – 09:00**      **Registration**

**09:00 – 09:30**      **Opening Session**

Welcome address from the General Chairs  
Program description and statistics from the Program Chair and Program Vice-Chair

**09:30 – 10:30**      **Keynote**

### ***Fabrication, Design and Automation of Inorganic Printed Electronics***

**By Prof. Mehdi Tahoori, Karlsruhe Institute of Technology, DE**

*Moderator: Elena-Ioana Vatajelu*

**10:30 – 11:00**      **Poster Session**

### **A Low Power Hardware Architecture For Compression, Security, and Error Correction For IoT Wireless Communications**

Khaled Mohamed, *Mentor Graphics EG*

### **Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films**

George Saatsaki<sup>1</sup>, Christos Michail<sup>2</sup>, Christina Fountzoula<sup>2</sup>, Nektarios Kalyvas<sup>2</sup>, Konstantinos Ninos<sup>2</sup>, Athanasios Bakas<sup>2</sup>, Ioannis Sianoudis<sup>2</sup>, Ioannis Kandarakis<sup>2</sup>, George Fountos<sup>2</sup>, George Panayiotakis<sup>1</sup>, Ioannis Valais<sup>2</sup>, <sup>1</sup>*University of Patras, GR*, <sup>2</sup>*University of West Attica, GR*

### **Hierarchical Dependability Models based on Non-Homogeneous Continuous Time Markov Chains**

Jan Řezniček, Martin Kohlík, Hana Kubátová, *Czech Technical University in Prague, CZ*

### **LUT- Oriented Asynchronous Logic Design Based on Resubstitution**

Igor Lemberski, Artjoms Suponenkovs, Marina Uhanova, *Ventspils University College, LV*

### **Efficient Reed-Muller Implementation for Fuzzy Extractor Schemes**

Mario Barbareschi, Salvatore Barone, Antonino Mazzeo, Nicola Mazzocca, *University of Naples Federico II, IT*

### **Phase selector for RFID localization system based on RSSI filter**

H.Hadj-Mihoub-Sidi-Moussa<sup>1</sup>, Smail Tedjini<sup>2</sup>, RachidaTouhami<sup>1</sup>, <sup>1</sup>*Instrumentation Laboratory USTHB University, AL*; <sup>2</sup>*Grenoble Alpes University LCIS Laboratory, FR*

**11:00 – 12:00**      **Session 1 Hardware Security**

*Moderator: Apostolos Fournaris*

### **Providing Confidentiality and Integrity in Ultra Low Power IoT Devices**

Emanuele Valea<sup>1</sup>, Mathieu Da Silva<sup>1</sup>, Marie-Lise Flottes<sup>1</sup>, Giorgio Di Natale<sup>2</sup>, Sophie Dupuis<sup>1</sup>, Bruno Rouzeyre<sup>1</sup>, <sup>1</sup>*LIRMM FR*, <sup>2</sup>*TIMA FR*

### **Horizontal DPA Attacks against ECC: Impact of Implemented Field Multiplication Formula**

Ievgen Kabin, Zoya Dyka, Dan Klann, Peter Langendoerfer, *IHP*

### **Hardware Trojan Prevention Through Limiting Access to the Active Region**

Tareq Muhammad Supon, Mahasadat Seyedbarhagh, Rashid Rashidzadeh, Roberto Muscedere, *University of Windsor, CA*

**12:00 – 12:30**      **Embedded Tutorial**

*Moderator: Udo Schwalke*

### **Multiterminal Spintronic Devices based on Spin Orbit Torque**

**By Dr. Mihai Miron, CEA-Spintec/CNRS, FR**

**12:30 – 14:00**      **Lunch**

**14:00 – 15:00**

**Special Session**

*Moderator: Hassen Aziza*

**Neuromorphic Computing**

**Organizer: Farshad Moradi**

**Spin-Torque-Nano-Oscillator based neuromorphic computing assisted by laser**

Hooman Farkhani, Farshad Moradi, *Integrated Circuits and Electronics Lab, Aarhus University, DK*

**Memristors make spin Hall nano-oscillators synchronize and remember**

Mohammad Zahedinejad<sup>1</sup>, S. Fukami<sup>2</sup>, S. Kanai<sup>2</sup>, H. Ohno<sup>2</sup>, Johan Akerman<sup>1</sup>, <sup>1</sup>*Physics Department, University of Gothenburg, Gothenburg SE*, <sup>2</sup>*Laboratory for Nanoelectronics and Spintronics, Tohoku University JP*

**Learning weights with STDP to build prototype images for classification**

Ajay Vasudevan, Teresa Serrano, Bernabe Linares-Barranco, *IMSE-CNM-CSIC Sevilla ES*

**15:00 – 15:30**

**Poster Session**

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**15:30 – 16:30**

**Session 2 Analog Design**

*Moderator: TBD*

**Linear Current-to-Time Converter**

Spyridon Vlassis<sup>1</sup>, Orfeas Felouris-Panetas<sup>1</sup>, Geroge Souliots<sup>2</sup>, Fotis Plessas<sup>3</sup>, <sup>1</sup>*Electronics Laboratory Physics Department University of Patras GR*, <sup>2</sup>*Department of Electrical Engineering Technological Educational Institute of Western Greece GR*, <sup>3</sup>*Department of Electrical and Computer Engineering University of Thessaly GR*

**Millimeter-Wave Analog Pre-Distorted Power Amplifier at 65nm Node**

Lutfi Albasha<sup>1</sup>, Seyed Kashfi<sup>2</sup>, Amit Jain<sup>1</sup>, Nasir Quadir<sup>2</sup>, <sup>1</sup>*Department of Electronics and Communication Engineering CMR Institute of Technology IN*, <sup>2</sup>*Department of Electrical Engineering American University of Sharjah UAE*

**A Boost Converter for Energy Harvesting Utilizing MEMS Switch**

Maryam Eshaghi, Rashid Rashidzadeh, *Electrical and Computer Engineering University of Windsor CA*

**16:30 – 17:00**

**Coffee Break**

**17:00 – 17:40**

**Session 3 Functional Verification and Safety**

*Moderator: Paolo Bernardi*

**Symbolic Execution based Verification of Compliance with the ISO 26262 Functional Safety Standard**

Mazen Ahmed<sup>1</sup>, Mona Safar<sup>2</sup>, <sup>1</sup>*Mentor Graphics Electronics and Communications Department Faculty of Engineering, Cairo University EG*, <sup>2</sup>*Computer Engineering and Systems Department Faculty of Engineering Ain-Shams University EG*

**Functional Failure Rate Due to Single-Event Transients in Clock Distribution Networks**

Thomas Lange<sup>1,2</sup>, Maximilien Glorieux<sup>1</sup>, Dan Alexandrescu<sup>1</sup>, Luca Sterpone<sup>2</sup>, <sup>1</sup>*iRoC Technologies FR*, <sup>2</sup>*Dipartimento di Informatica e Automatica, Politecnico di Torino, IT*

**17:40 – 18:00**

**Project Dissemination Session**

**Sector Skills Alliance for the design of innovative VET programs to Data Science and Internet of Things (SEnDIng)**

## **Wednesday 17.04.2019**

**09:00 – 10:00**      **Embedded Tutorial**  
Moderator: Michel Renovell

**Memristive devices for computing: circuits, architectures and applications**  
By Prof. Said Hamdioui, *Delft University of Technology, NL*

**10:00 – 10:30**      **Coffee Break**

**10:30 – 11:30**      **Session 4 Emerging Devices for Neuromorphic Computing**  
Moderator: Farshad Morandi

**Neural Network for Circuit Models of Monolithic InAlN/GaN NAND and NOR logic gates**  
Aleš Chvála, Lukáš Nagy, Juraj Marek, Juraj Priesol, Daniel Donoval, Alexander Šatka, *Institute of Electronics and Photonics Slovak University of Technology, SK*

**An Augmented OxRAM Synapse for Spiking Neural Network (SNN) Circuits**

H. Aziza<sup>1</sup>, H. Bazzi<sup>1,2</sup>, J. Postel-Pellerin<sup>1</sup>, P. Canet<sup>1</sup>, M. Moreau<sup>1</sup>, A. Harb<sup>3</sup>, <sup>1</sup>*Aix Marseille Univ, IM2NP FR*, <sup>2</sup>*Lebanese International University, Department of Electrical and Electronics Engineering LB*, <sup>3</sup>*The International University of Beirut, Department of Electrical and Electronics Engineering LB*

**Perovskite based Low Power Synaptic Memristor Device for Neuromorphic application**

Vishal Gupta, Giulia Lucarelli, Sergio Castro, Thomas Brown, Marco Ottavi, *Department of Electronic Engineering, University of Rome IT*

**11:30 – 12:30**      **Special Session**  
Moderator: Emanuele Valea

**Hardware Security**

Organizer: Francesco Regazzoni

**Secure memory for tamperproof systems**

D. Serpanos and D. Stachoulis, *Industrial Systems Institute GR*

**Revisiting Rowhammer attacks in Embedded Systems**

Lidia Pocero Fraile, Apostolos P. Fournaris and Odysseas Koufopavlou, *University of Patras, GR*

**12:30 – 14:00**      **Lunch**

**14:00 – 15:00**      **Session 5 Quality of Integrated Systems**  
Moderator: TBD

**A Hybrid In-Field Self-Test Technique for SoCs**

S. Carbonara, P. Bernardi, M. Restifo, *Politecnico di Torino Dipartimento di Automatica e Informatica IT*

**An extended model to support detailed GPGPU reliability analysis**

B. Du, Josie E. Rodriguez Condia, Matteo Sonza Reorda, *Politecnico di Torino, Dept. of Control and Computer Engineering IT*

**On-Line Adjustable Precision Computing**

Ali Skaf, Mona Ezzadeen, Mounir Benabdenbi, Laurent Fesquet, *Univ. Grenoble Alpes, CNRS, Grenoble INP, TIMA FR*

**15:30 –**              **Social Event**

## **Thursday 18.04.2019**

**09:00 – 10:00**      **Keynote by Dr. Yervant Zorian, Synopsis, US**  
*Moderator: Ioannis Voyiatzis*

**10:00 – 10:30**      **Coffee Break**

**10:30 – 11:30**      **Session 6 Novel Technologies for Integrated Circuits**  
*Moderator: TBD*

**Modelling and measurements of thermomechanical stress induced drift on polysilicon resistors with different layout**

Lorenzo Benvenuti<sup>1</sup>, Paolo Bruschi<sup>1</sup>, Luca Fanucci<sup>1</sup>, Raffaele Coppeta<sup>2</sup>, Sara Carniello<sup>2</sup>, Luigi Di Piro<sup>3</sup>, Francesco Tinfena<sup>3</sup>, <sup>1</sup>University of Pisa IT, <sup>2</sup>ams AG AT, <sup>3</sup>ams AG IT

**Reliability issues and length dependence of nanocrystalline graphene field-effect transistors for gas sensing**

D. Noll, U. Schwalke, *Institute for Semiconductor Technology and Nanoelectronics Technische Universität Darmstadt, DE*

**The transport and optical sensing properties of Blue Phosphorene: A First-Principles Study**

F. Safari<sup>1</sup>, M. Moradinasab<sup>2</sup>, M. Fathipour<sup>3</sup>, U. Schwalke<sup>2</sup>, <sup>1</sup>Department of Electrical Engineering, Dezful Branch, Islamic Azad University IR, <sup>2</sup>Institute for Semiconductor Technology and Nanoelectronics, Technische Universität Darmstadt DE, <sup>3</sup>Device Modeling and Simulation Lab School of Electrical and Computer Engineering, Faculty of Engineering, University of Tehran IR

**11:30 – 12:00**      **Closing Session**

**12:00 – 14:00**      **Lunch**