Conference Program

	Sunday, 16 December 2018	Monday, 17 December 2018			Tuesday, 18 December 2018			Wednesday, 19 December 2018	
08:00-08:30		*Registration*			*Registration*			*Registration*	
08:30-09:00		**Conference Opening**			**Keynote Speaker II Prof. Yong Ping Xu**			**Keynote Speaker III Prof. A. B. Apsel**	
09:00-09:30		**Keynote Speaker I Prof. M. Ismail**							
09:30-10:00					**Lecture Sessions B1L-A (SS)**		**Lecture Sessions (B1L-B)**	**Lecture Sessions (C1L-A)**	**Invited paper**
10:00-10:30		*Coffee Break*							**Tutorial (T3)**
10:30-11:00		**Lecture Sessions (A1L-A)**	**Lecture Sessions (A1L-B)**	**Lecture Sessions A1L-C (SS)**					
11:00-11:30					*Coffee Break* **/Poster Sessions BPI**			*Coffee Break*	
11:30-12:00								**Panel**	
12:00-12:30					**Lecture Sessions (B2L-A)**	**Lecture Sessions B2L-B (SS)**	**Tutorial (T2)**		
12:30-13:00		*Lunch Break*							
13:00-13:30								**Conference Closing and Award Ceremony**	
13:30-14:00	*Registration*				*Lunch Break*			*Lunch Break*	
14:00-14:30		**Lecture Sessions (A2L-A)**	**Lecture Sessions (A2L-B)**	**Lecture Sessions (A2L-C)**					
14:30-15:00									
15:00-15:30	**Tutorial (T1)** *Part 1*				**Social Event**				
15:30-16:00		*Coffee Break* **/Poster Sessions API**							
16:00-16:30									
16:30-17:00	*Coffee Break*								
17:00-17:30	**Tutorial (T1)** *Part 2*	**Lecture Sessions (A3L-A)**	**Lecture Sessions (A3L-B)**	**Lecture Sessions A3L-C (SS)**					
17:30-18:00									
18:00-18:30									
18:30-19:00									
19:00-19:30					**Conference Banquet**				
19:30-20:00									

Sunday, 16th of December

13:30-15:00: Registration
15:00-16:30: Tutorial (T1) Part 1

- Machine Learning for EDA
- Dr. Eman El Mandouh, Mentor Graphics, Egypt

16:30-17:00: Coffee Break
17:00-18:30: Tutorial (T1) Part 2

Monday, 17th of December

08:00-08:30: Registration
08:30-09:00: Conference Opening
Chairs: Mohamed Abid and Mohamad Sawan
09:00-10:00: Keynote Speaker1

A Self-powered IoT SoC Platform for Wearable Health Care

Professor, Mohamed Ismail, Wayne State University, Detroit USA

Chairs: Mourad Loulou and Ahmed Madian

10:00-10:30: Coffee Break

10:30-12:30: A1L-A: Digital Signal processing
Chairs: Mohammad Baker

- **Optimization of Energy Consumption and Bandwidth used in Elastic Optical Network**

Sabi Yari Moïse Bandiri, Tales Pimenta and Danilo Spadoti Khouloud

- **A low-cost Exp_Golomb hardware architecture for H.264/AVC entropy coder**

Asma Ben Hamida, Salah Dhahri and Abdelkrim Zitouni

- **Joint NIR-BIS Based Non-Invasive Glucose Monitoring System**

Mariam Fouad, Duha Yasser and Mohamed Abdelghany

- **Security and Efficiency of Feistel Networks Versus Discrete Chaos for Lightweight Speech Encryption**

Mohammed F. Tolba, Ahmed G. Radwan, Salwa K. Abd-El Hafiz and Ahmed M. Soliman

- **Performance Metrics of Imprecise Multipliers Based on Proximate Compressors for IIR Filters**

Lavanya Maddisetty and J.V.R. Ravindra

- **Hardware Speech Encryption Using a Chaotic Generator, Dynamic Shift and Bit Permutation**

Mohammed F. Tolba, Wafaa S. Sayed, Ahmed G. Radwan, Salwa K. Abd-El-Hafiz and Ahmed M. Soliman

10:30-12:30: A1L-B: Biomedical circuits and systems
Chairs: David Cordeau

- **An Ultra-Low-Power, Low-Noise, Linear Preamplifier with Wide Dynamic Range for Electret Microphones**

Lobna El-Fadali, El-Sayed Hasaneen, Ahmed Galal and Hesham Hamed

- **Fully automated CADx early breast cancer detection with image processing and machine learning**

Monica Gaid, Mariam Fouad, Mohamed Abd El Ghany and Klaus Hofmann

- **Implementation of a Pulsed-Wave Spectral Doppler Module on a Programmable Ultrasound System**

Momen Abubakr, Ahmed Elnokrashy, Amr Hendy, Yasser Kadah, Ahmed Madian and Ahmed Radwan

- **A Simple, Easy to Fabricate Miniaturized Microfluidic Gradient Generator for Drug Testing devices**

Shilpa Sivashankar, Kholod Alamoudi, Sumeyra Agambayev, Yousof Mashraei, Hend Mkaouar, Niveen M. Khashab and Khaled Nabil Salama

- **Asthma Irritant Monitoring**

A. Aoun, E-J. Maalouf, J. Bou Abdo, N. Marina, M. Hamad and Abdallah Kassem

- **Multiple Hybrid Compression Techniques for Electroencephalography Data**

Mohamed Adel, Mohamed El-Naggar, M. Saeed Darweesh and Hassan Mostafa

10:30-12:30: A1L-C (SS): Dimension Reduction Technique in Signal Processing and Machine Learning

Chairs: Nasar Aldian Ambark Shashoa, Adel Saad Emhemmed and Sliman KA. A. Yaklaf

- **Design of Efficient Quantum-Dot Cellular Automata (QCA) MAC Unit**

Ismail Gassoumi, Lamjed Touil and Bouraoui Ouni

- **Performance of Spatial Modulation for Multiple- Antenna Wireless Systems Over Uncorrelated Rayleigh Flat Fading Channel**

Abdulati Abdullah, Ibrahim Shati, Ahmed Elshoshi and Abubaker Algatlawi

- **Modeling and Simulation Metamaterial Effects on Radiation Pattern of Microstrip Antenna**

Adel Emhemmed, Abdulbast Kriama, Mahmoud Almodi and Ali Rhoma

- **Fuzzy Aggregation of Medical Image based on Average Operator**

Habiba Khemila and Belgacem Chibani Rhaimi

- **Concentration Estimation of Industrial Gases for Electronic Nose Applications**

Atiq Rehman and Amine Bermak

- **Intelligent Control Design for Linear Model of Active Suspension System**

Ahmed Abougarair, Abdulhamid Oun and Adel Emhemmed

12:30-14:00: Lunch

14:00-15:30: A2L-A: CAD Tools and design

Chairs: Eman El Mandouh

- **Analytical and Numerical Analysis and Validation of an LTCC-based Fabricated TEG**

Nesrine Jaziri and Brahim Mezghani

- **Framework for Developing Behavioral Models From Physical Designs**

Abderaouf Kouhoul, Larbi Talbi, Tahar Haddad, Naim Benhamida, Sadok Aouini and Youssef Karmous

- **An Automated Light weight UVM Tool**

Esraa Mohamed, Khaled Salah, Ahmed Madian and Ahmed Gomaa

- **Performance Enhancement of an Improved Design of 6-axis Single-Mass Piezoelectric IMU**

Hela Almabrouk, Sinda Kaziz and Brahim Mezghani

- **Design Presentation and Induced-Stress Study of a 6-axis Single-Mass Piezoelectric IMU**

Hela Almabrouk, Sinda Kaziz and Brahim Mezghani

14:00-15:30: A2L-B: Memristive based system
Chair: Mohammed Ismail

- **Memristor-CNTFET based Ternary Comparator unit**

Nancy Soliman, Mohammed Fouda, Lobna Said, Ahmed Madian and Ahmed Radwan

- **FPGA Speech Encryption Realization Based on Variable S-Box and Memristor Chaotic Circuit**

Abdulaziz Elsafty, Mohammed Tolba, Lobna Said, Ahmed Madian and Ahmed Radwan

- **Incremental Grounded Voltage Controlled Memristor Emulator**

Abdulaziz El-Safty, Ahmed Magdy Hosney, Lobna Said, Ahmed Madian and Ahmed Radwan

- **A Re-configurable Memristor Array Structure for In-Memory Computing Applications**

Yasmin Halawani, Baker Mohammad and Mahmoud Al-Qutayri

14:00-15:30: A2L-C: FPGA Design
Chair: Smail Niar

- **An Effective FPGA Placement Flow Selection Framework using Machine Learning**

Abeer Al-Hyari, Ziad Abuowaimer, Dani Maarouf, Shawki Areibi and Gary Grewal

- **The Implementation of Communication Hub for EEG Active Electrodes**

Leandro Ribeiro and Tales Pimenta

- **Modified Scaled Min Sum LDPC Decoder for DVB-S2/S2X/T2**

Fady Tadros, Hanady Issa, Saleh Eisa and Khaled Shehata

- **Accelerating Deep Neural Networks Using FPGA**

Esraa Adel, Rana Magdy, Sara Mohamed, Mona Mamdouh, Eman Elmandouh and Hassan Mostafa

15:30-17:00: Coffee Break/ Poster Sessions API
Chairs: Tales Pimenta and Khaled Salah

- **Design and Investigation of Configurable Source Coupled Logic**

Hossam Hassan

- **Seizure Detection Using Gilbert's Algorithm**

Abdel-Malik M. Sabreen, Adel A. Samir, Lojaine A. Elmahdy, Mirna H. Ibrahim, Mohamed H. Tawfik, Omneia O. Elshaer and Hassan Mostafa

- **Design and low-cost FPGA implementation of the Fuzzy Decision System**

Egidio Ieno Junior, Luis Manuel Garces Garcés Socarrás and Tales Cleber Pimenta

- **HEVC Implementation for IoT Applications**

Mahmoud Salah, Bahaaeldin El-Shweky, Karim El-Kholy, Amr Helmy, Yehea Ismail and Khaled Salah

- **CLA based Floating-point adder suitable for chaotic generators on FPGA**

Hossam Hassan and Samar Ismail

- **A Study of Authentication Encryption Algorithms(POET, Deoxys, AEZ, MORUS, ACORN, AEGIS, AES-GCM) For Automotive Security**

Sahar Sharaf and Hassan Mostafa

- **Exploring Hybrid NoC Architecture for Chip Multiprocessor**

Sirine Mnejja, Yassine Aydi and Mohamed Abid

- **Compartive study of MPPT methods for PV systems : Case of Moroccan house**

Asmae Chakir, Mohamed Tabaa, Fouad Moutaouakkil, Hicham Medromi and Karim Alami

- **A Low Power Hardware Implementation of Izhikevich Neuron using Stochastic Computing**

Aya Ismail, Zeinab Shaheen, Osama Rashad, Khaled N. Salama and Hassan Mostafa

17:00-19:00: A3L-A: Wireless communications systems
Chair: Lotfi Kamoun

- **Passive E-textile UHF RFID Tag for Wireless Body Centric Communications**

Faten Lagha, Sabri Beldi and Lassaad Latrach

- **On-body Investigation of Textile Antenna for Wearable RFID Applications**

Wahida Bouamra and Lotfi Osman

- **A new clustering technique with better connectivity and node coverage in Multihop Wireless Sensor Networks**

Atef Boubaker, Saoussen Rekhis and Wassim Jerbi

- **Delay modeling and analysis of the IEEE 802.11p EDCA mechanism under error-prone channel in VANET**

Yacine Harkat, Abderrahmane Amrouche and Elseddik Lamini

- **Optimization of Handover Problem Using Q-Learning for LTE Network**

Mohamed Adel, M. Saeed Darweesh, Hassan Mostafa, Hanan Kamal and Mona Elghoneimy

- **Measuring QoS for Broadcasting Task in Vehicular Ad Hoc Networks based on Fuzzy Logic Projection**

Abir Mchergui, Tarek Moulahi and Salem Nasri

- **IoT-Based Online Access Control System for Vehicles in Truck-Loading Fuels Terminals**

Moatz Bahgat, Hania H. Farag and Bassem Mokhtar

17:00-19:00: A3L-B: Analog and RF circuits
Chair: Jean-Marie Paillot

- **Examining the Performance of Low Power – Area Efficient OTA Designs that are Based on Different Current Shunting Techniques**

Imtinan Attili and Soliman Mahmoud

- **Low Power CMOS Digital Variable Gain Amplifier Design For WiMAX/LTE Receiver**

Sawssen Lahiani, , Samir Ben Selem and Mourad Loulou

- **A Novel Method To Correct The Delay Causing By The Path Transmission Chain With Coupled Oscillators In Network Antenna**

Kaouthar DJEMEL , Rahma ALOULOU , Dorra MELLOULI ,David CORDEAU, Hassene MNIF, Jean-Marie PAILLOT and Mourad LOULOU

- **Fractional-Order Relaxation Oscillators Based on Op-Amp and OTRA**

Omar Elwy, Lobna Said, Ahmed Madian and Ahmed Radwan

- **A subthreshold low-power NMOS LC-VCO Design for Autonomous Connected Objects**

Imen Ghorbel, Fayrouz Haddad, Wencelass Rahajandraibe and Mourad Loulou

- **A Fully Integrated 5.8 GHz BiCMOS SiGe:C tunable active phase shifter for Beamforming**

Mariem Kanoun, Bhanu Pratap Singh Jadav, David Cordeau, Jean-Marie Paillot, Hassen Mnif and Mourad Loulou

17:00-19:00: A3L-C (SS): Smart IoT, IoT-platforms, Embedded Systems & Industry4.0

Chairs: Abderrazak Jemai and Habib Smei

- **60 GHz Voltage Controlled Load for LINC PA Analogue SCS in SiGe BiCMOS**

Hendrik Nel and Tinus Stander

- **Solving the Total Coverage Problem using a Multiple Mobile Sensor Network**

Amani Lamine, Fethi Mguis, Hichem Snoussi and Khaled Ghedira

- **Cell Association for Multi Band 5G Cellular HetNets based on NBS**

Ahmed Zakaria and Aziza Hussein

- **Particle Swarm Optimization on FPGA**

Monia Ettouil, Habib Smei and Abderrazak Jemai

- **An area-efficient hybrid high-voltage charge pump design for IoT applications**

Bartas Abaravicius, Sandy Cochran and Srinjoy Mitra

- **Improvement of security system level in the Cyber-Physical Systems (CPS) architecture**

Anwer Mbiriki, Ahmed Badreddine, Chaker Katar

Tuesday, 18th of December

08:00-08:30: Registration
08:30-09:30: Keynote SpeakerII

Neural Signal Recording Amplifiers

Professor, Yong Ping Xu, University of South Australia, Australia

Chair: Brahim Mezghani

09:30-11:00: B1L-A (Special Session) Energy Efficient on Cyber Physical Systems

Chairs: Davide Patti

- **DEMO: Multi-Grain Adaptivity in Cyber-Physical Systems**

Alfonso Rodríguez and Tiziana Fanni

- **Energy Efficiency Exploration on the ZYNQ Ultrascale+**

Roberto Giorgi, Farnam Khalili and Marco Procaccini

- **Architecture-aware design and implementation of CNN algorithms for embedded inference: the ALOHA project**

Paolo Meloni

- **Approximation-Conscious IC Testing**

Mahmoud Masadeh, Osman Hasan and Sofiene Tahar

09:30-11:00: B1L-B VLSI Circuits
Chair: Mouna Baklouti

- **DDR2 Memory Controller for Multi-core Systems with AMBA AXI interface**

Esraa Ragab, Mohamed Abd El-Ghany and Klaus Hofmann

- **Design of Hybrid CMOS Non-Volatile SRAM Cells in 130nm RRAM Technology**

Adnan Harb, Hussein Bazzi, Mathieu Moreau and Hassen Aziza

- **Multi-Bit RRAM Transient Modelling and Analysis**

Essam R. Berikaa, Ahmed Khalil, Hagar Hossam, Mohamed Dessouky and Hassan Mostafa

- **Improved TiO2 TEAM Model Using a New Window Function**

Fakhreddine Zayer, Wael Dghais and Hamdi Belgacem

- **Formal Verification of AUTOSAR Watchdog Manager Using Symbolic Execution**

Mazen Ahmed and Mona Safar

11:00-12:00: Coffee Break/ Poster Sessions BPI
Chairs: Abderrazek Jemai and Abbas Dandache

- **Evaluation of the bit error rate in Classic NoCs and Optical NoC**

Moez Balti and Abderrazek Jemai

- **Design of an Advanced System-on-Chip Architecture for Internet-Enabled Smart Mobile Devices**

Mohammed S. Bensaleh, Syed Manzoor Qasim, Abdullah A. Aljuffri and Abdulfattah M. Obeid

- **Design of Configurable CMOS Capacitive Fingerprint**

Hossam Hassan

- **Monitoring System Based in Wireless Sensor Network for Precision Agriculture**

Fekher Khelifi

- **Modeling a Ka-Band Resonator Cavity with SIW 3-D Technology**

Aloui Radhoine, Houaneb Zied and Zairi Hassen

- **Clustering Algorithm in wireless sensor networks based on shortest path**

Salim El Khediri, Adel Thaljaoui and Adel Dallali

- **Fractional-Order Image Edge Detector on FPGA**

Amr Helmy and Samar Ismail

- **Monomodal geometrical registration Applied to intra-patient CT sections**

Habiba Khemila and Belgacem Chibani Rhaimi

12:00-13:30: Tutorial (T2)

Cyber-physical system design challenges

Prof. Sofiène Tahar, Concordia University, Montreal, Quebec, Canada

12:00-13:30: B2L-A Real-Time systems and ASIC Design
Chair: Mohamed Abid

- **Parallel Implementation for Real Time Person Matching System**

Nesrine Abid, Tarek Ouni, Kais Loukil, Ahmed Chiheb Ammari and Mohamed Abid

- **Real-Time Car Detection-Based Depth Estimation Using Mono Camera**

Mohamed Elzayat, Mahmoud A. Saad, M. Mohamed Mostafa, Rania Mahmoud Hassan, Mohamed Saeed Dawrweesh, Hossam Abdelmunim and Hassan Mostafa

- **Automatic RTL coding correction Linting tool for critical issues**

Nancy Soliman, Khaled Salah and Ahmed Madian

- **Low Energy ASIC Design for Main Memory Data Compression/Decompression**

Mervat Mahmoud, Dalia El-Dib and Hossam Fahmy

- **ASIC Implementation of Energy-Optimized Successive Cancellation Polar Decoders for Internet of Things**

Omar Alsherbini, Mohamed Wael, Eslam Fahmy, Yehea Ismail, Khaled Salah and Amr Helmy

12:00-13:30: B2L-B (Special Session) :New Architectures and Design for Intelligent and Connected Transportation Systems

Chairs: Atika Rivenq and Ihsen Alouani

- **Safe Driving : Driver Action Recognition using SURF Keypoints**

Imen Jegham, Anouar Ben Khalifa, Ihsen Alouani and Mohamed Ali Mahjoub

- **LIDAR and Stereo-Camera fusion for reliable Road Extraction**

Mohammed Yazid Lachachi, Mohamed Ouslim, Smail Niar and Abdelmalik Taleb-Ahmed

- **Computational and Communication Reduction Technique in Machine Learning Based Near Sensor Applications**

Mohamed Ayoub Neggaz and Smail Niar

- **Wireless Sensor Network used to improve the energy efficiency in connected railway vehicles**

Sylvie Baranowski and Michael Bocquet

- **Adaptive Channel estimation technique for ITS-G5 inter- vehicular communication systems**

Aymen Sassi, Yassin Elhillali and Atika Rivenq

13:30-15:00: Lunch
15:00-19:00: Social Event
19:00-22:00: Conference Banquet

Wednesday, 19th of December

08:00-08:30: Registration
08:30-09:30: Keynote Speaker III

Flexible Radios and Flexible Networks

Alyssa. B. Apsel, Cornell University, New-York USA

Chair: Hassene Mnif

09:30-11:00: C1L-A Micro/ Nanoelectronics

Chair: Hassene Mnif

- **Programmable Clock Delay for Hysteresis Adjustment in Dynamic Comparators**

Leila Khanfir and Jaouhar Mouine

- **Nonenzymatic Glucose Sensor Using MIM Pt/CuO/Pt**

Heba Abunahla, Baker Mohammad, Anas Alazzam, Maguy Abi Jaoude, Mahmoud Al-Qutayri and Said Al-Sarawi

- **Simulation of p-type Schottky Diode Based on Al0.29Ga0.71As with Titanium/Gold Schottky Contact**

Walid Filali, Slimane Oussalah, Noureddine Sengouga, Mohamed Henini, David Taylor

- **A 0.14-3.5 GHz All Digital PLL with improved fast frequency-lock and a novel TDC-based self-calibration capability**

Sehmi Saad, Mongia Mhiri, Aymen Ben Hammadi and Kamel Besbes

- **Design of graphene patch array antenna for 5G applications**

Aymen Hlali, Zied Houaneb and Hassen Zairi

09:30-10:00: Invited Paper

A path to 1Tb/s Coherent Optical Modem: From Light to Silicon

Dr.Naim Ben-Hamida, Ciena Corporation, Canada

Chair: Mohamad Sawan

10:00-11:00: Tutorial (T3)

Automotive Digital Twin: ADAS System verification

Dr. Ashraf Salem, Mentor Graphics, Egypt

11:00-11:30: Coffee Break
11:30-13:00: Panel
13:00-13:30: Conference Closing and Awards Ceremony Banquet
13:30-15:00: Lunch