# Technical Program Summary IEEE DTS 2019

## Sunday, April 28, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>14:00-18:00</td>
<td>Registration</td>
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<tr>
<td>16:00-17:00</td>
<td>Half Day Tutorial: &quot;High-Speed I/O Testing in High-Volume Manufacturing&quot; by Dr. Salem Abdennadher (Intel Corporation-USA) (Part 1) (VALETTA Room)</td>
</tr>
<tr>
<td>17:00-17:15</td>
<td>Coffee Break</td>
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</tbody>
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## Monday, April 29, 2019

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<tbody>
<tr>
<td>08:00-08:30</td>
<td>Registration</td>
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<tr>
<td>08:30-09:00</td>
<td>Opening (DIDON 3 Room)</td>
</tr>
<tr>
<td>09:00-10:00</td>
<td>Keynote 1: &quot;Energizing Miniaturized IoT Sensors&quot; By Prof. Gabriel A. Rincón-Mora (Georgia Institute of Technology, USA) (DIDON 3 Room)</td>
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<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
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<tr>
<td>10:30-12:30</td>
<td>Session 1-1: Analog &amp; Digital Design (VALETTA Room)</td>
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<tr>
<td>12:30-14:00</td>
<td>Lunch</td>
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<tr>
<td>16:30-18:30</td>
<td>Session 3-1: RF Design (VALETTA Room)</td>
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<td>08:00-09:00</td>
<td>Keynote 2: Industrial invitation papers (DIDON 3 Room)</td>
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<td>Paper 1: &quot;How enabling AI at the Edge and running on compact and low power IOT devices&quot; by Mr. Mohamed Ben Ahmed (ST Microelectronics)</td>
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<tr>
<td>10:30-12:30</td>
<td>Short oral Session: All Scopes (DIDON 3 Room)</td>
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<td>12:30-14:00</td>
<td>Lunch</td>
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<tr>
<td>14:00-15:15</td>
<td>Keynote 3: &quot;Broadband, Linear, and High-Efficiency Mm-Wave Power Amplifiers&quot;</td>
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<tr>
<td>15:30-16:00</td>
<td>Social Event</td>
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## Tuesday, April 30, 2019

<table>
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<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>09:00-10:00</td>
<td>Keynote 4: &quot;Droplet-based microfluidics: A new approach to design and study smart digital Microsystems&quot; By Prof. Abdel Ilah El Abed (Quantum and Molecular Photonics Laboratory (QPQM), Ecole Normale Supérieure Paris Saclay, Paris Saclay University, France) (DIDON 3 Room)</td>
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<td>10:00-10:30</td>
<td>Coffee Break</td>
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<tr>
<td>10:30-12:30</td>
<td>Session 4-1: MEMS Design and Sensors (VALETTA Room)</td>
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## Wednesday, May 01, 2019

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<tbody>
<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
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<tr>
<td>10:30-12:30</td>
<td>Session 4-2: Biomedical Systems Design &amp; Invited paper: &quot;Screen-printed electrodes as cost-effective and miniaturised analytical tools for environmental and biomedical analyses&quot; by Prof. Fabiana Arduini (University of Rome &quot;Tor Vergata&quot;, Italy) (DIDON 3 Room)</td>
</tr>
<tr>
<td>12:30-13:00</td>
<td>Closing Session (DIDON 3 Room)</td>
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</table>
IEEE DTS’2019 TECHNICAL PROGRAM

Day: Sunday. April - 28 - 2019

14:00 - 18:00  Registration
16:00 - 17:00  Half-Day Tutorial: High-Speed I/O Testing in High-Volume Manufacturing.
               Speaker: Dr. Salem Abdennadher (Intel Corporation USA) (Part 1)
17:00 - 17:15  Coffee Break
17:15 - 18:15  Half-Day Tutorial: High-Speed I/O Testing in High-Volume Manufacturing,
               Speaker: Dr. Salem Abdennadher (Intel Corporation USA) (Part 2)
Day: Monday. April - 29th - 2019

08:00 - 08:30  Registration
08:30 - 09:00  Opening
09:00 - 10:00  Keynote 1: Energizing Miniaturized IoT Sensors
Speaker: Gabriel A. Rincón-Mora (Georgia Institute of Technology, USA)
*Session Chairs: Chiheb Rebai, SUPCOM-Tunisia*
*Hassen Mnif, ENET'Com-Tunisia*

10:00 - 10:30  Coffee Break
10:30 - 12:30 Workshop 1: Challenges and Emerging Solutions in Testing Embedded IO interfaces in 2.5D and 3D Systems
Speaker: Salem Abdennadher (Intel Corporation, USA)
*Session Chair: Hatem Trabelsi, ENIS-Tunisia*

10:30 - 12:30  Session 1-1: Analog and Digital Design

*Session Chairs: Kamel Besbes, CRMN-Tunisia*
*Kamel Fakhfak, ENET’Com-Tunisia*

10:30 - 10:50  A Practical HfO2-based OxRAM Memristor Model Suitable for Circuit Design and Simulation; Khaoula Mbarek, Faten Rziga Ouaja, Sami Ghedira and Kamel Besbes; Microelectronics & Instrumentation Laboratory University of Monastir-Tunisia; Centre for Research on Microelectronics & Nanotechnology Sousse Technology-Tunisia.

10:50 - 11:10  The Nonlinear Bipolar and Unipolar Switching Behavior of a Memristor; Sami Ghedira, Khaoula Mbarek, Faten Rziga Ouaja and Kamel Besbes, Microelectronics & Instrumentation Laboratory, University of Monastir-Tunisia; Centre for Research on Microelectronics & Nanotechnology Sousse Technology-Tunisia.

11:10 - 11:30  Fault Attacks Resistant AES Hardware Implementation; Hassen Mestiri, Noura Benhadji youssef and Mohsen Machhout; Electronics and Micro-Electronics Laboratory, Faculty of Sciences of Monastir, Tunisia; Higher Institute of Applied Science and Technology of Sousse, University of Sousse, Tunisia.

11:30 - 11:50  On the Metamodeling of Analog Circuits with Discrete Components: Application to the optimal design of a multifunctional filter; Amel Garbaya, Mouna Kotti, Mourad Fakhfakh and Esteban Tlelo-Cuautle; University of Sfax-Tunisia; University of Gabes-Tunisia, INAOE-Mexico.
11:50 - 12:10  Smart Adaptable Indoor Lighting System (SAILS); Salah Eddine Bouzid, Mohamed Mbarki, Cherif Dridi and Mohamed Nazih Omri; MARS Research Laboratory, University of Sousse, Tunisia; LAUM Acoustics Laboratory of Le Mans University, France; NANOMISENE, CRMN of Sousse, Tunisia.

12:10 - 12:30  Architectural Choices for Implementing a Secure ECC-based Light weight RFID Tag; Souhir Gabsi, Vincent Beroulle, Hamdi Belgacem and Mohsen Machhout, ÉuElab Monastir, Faculty of Sciences of Monastir-Tunisia, Univ. Grenoble Alpes Grenoble INP, LCIS-France.

12:30 - 14:00  Lunch

14:00 - 16:00  Session 2-1: Analog and Digital Design

Session Chairs: Mohamed Abid, ENIS-Tunisia
Antonio Maffucci, Institute for Nuclear Physics Frascati, Italy

14:00 - 14:20  A new FPGA accelerator based on circular buffer unit per orientation for a fast and optimised GLCM and Texture feature computation; Mohamed Amin Ben Atitallah, Rostom Kachouri and Hassene Mnif; LETI (E.N.I.S.), University of Sfax, Tunisia ; National Engineering School of Gabes (ENIG), University of Gabes, Tunisia ; Gaspard Monge Computer Science Laboratory ESIEE-Paris University Paris-Est Marne-la-Vallée, France ; ENET’com Sfax, Tunisia.

14:20 - 14:40  Efficient embedded software implementation of a low cost robot localization system; Nader Ben Amor, Mouna Baklouti, Khaoula Barhoumi and Mohamed Jallouli; CES research lab, Tunisia.

14:40 - 15:00  Low-Complexity transform algorithm for Versatile Video Coding; Bouthaina Abdallah, Fatma Belghith, and Nouri Masmoudi; Electronics and Information Technology Laboratory, National School of Engineers of Sfax, University of sfax, Tunisia.

15:00 - 15:20  Implementation of convolutional-LSTM network based on CPU, GPU and pynq-z1 board; Amel Mahjoub and Mohamed Atri; Laboratory of Electronics and Micro-electronics, Faculty of Sciences, Monastir University, Tunisia.

15:20 - 15:40  Fast intra prediction decision algorithm for the QTBT structure; Naima Zouidi, Fatma Belghith, Amina Kessentini and Nouri Masmoudi; Electronics and Information Technology Laboratory, National School of Engineers of Sfax, University of sfax, Tunisia.

15:40 - 16:00  Electro thermal analysis of 3D Memristive 1D-1RRAM Crossbar with Carbon Nanotube Electrodes; Fakhreddine Zayer, Khitem Lahbacha, Wael Dghais, Hamdi Belgacem, Massimiliano de Magistris, Antonio Maffucci and Alexander V. Melnikov; Laboratory of
14:00 - 16:00  
**Session 2-2: Nano Electronic Systems**

**Session Chairs:** Kamel Besbes, CRMN-Tunisia  
Brahim Mezghani, ENIS-Tunisia

14:00 - 14:20  
**Electrical characterizations of Schottky diode with zinc oxide nanowires;** Ahlem Rouis, Neila Hizem and Adel Kalboussi; Faculty of Sciences of Monastir, Faculty of Sciences Gafsa, Tunisia.

14:20 - 14:40  
**Simulation of Pentacene Organic Transistor by Modifying the Gate Dielectric Thickness;** Aicha Boujnah, Aïmen Boubaker, Adel Kalboussi, Shou Li and Kamal Lmimouni, Laboratory of microelectronics and instrumentations, Faculty of sciences Monastir–Tunisia, IEMN, CNRS University Lille 1, France.

14:40 - 15:00  
**Fast and Accurate Simulation of Ultrascaled Carbon Nanotube Field-Effect Transistor Using ANN Sub-Modeling Technique;** Khalil Tamersit and Fayçal Djeffal, Department of Electronics and Telecommunications, University 8 May 1945 – Guelma, Algeria. LEA; Department of Electronics, University of Batna 2, Algeria. LEPCM, University of Batna 1, Algeria.

15:00 - 15:20  
**Numerical Study of a New Junctionless Tunneling Field-Effect Transistor Based on Graphene Nanoribbon;** Khalil Tamersit and Fayçal Djeffal, Department of Electronics and Telecommunications, University 8 May 1945 - Guelma, Algeria; LEA, Department of Electronics, University of Batna 2, Algeria. LEPCM, University of Batna 1, Algeria.

15:20 - 15:40  
**Atomistic Simulation of a New Label-Free DNA Nano sensor Based on Ballistic Carbon Nanotube Field-Effect Transistor;** Khalil Tamersit and Fayçal Djeffal, Department of Electronics and Telecommunications, University 8 May 1945 - Guelma, Algeria. LEA; Department of Electronics, University of Batna 2, Algeria. LEPCM, University of Batna 1, Algeria.

15:40 - 16:00  
**Reduction of an S-Bend structure size for optic telecommunication;** Brik Fatima, Harize Salha and Khalfi Redouane; Technological Sciences Faculty, University BMA, Annaba, Algeria.

16:00 - 16:30  
**Coffee Break**
### Special Session: NANOmaterials & MicroSystEmS for sustainable Development (NANOMISENE)

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<tbody>
<tr>
<td>16:30 - 16:50</td>
<td>Piezoelectric transducers for biological and medical applications</td>
<td>Skandar Basrour; TIMA Laboratory, Grenoble, France</td>
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<td>16:50 - 17:10</td>
<td>Humidity sensor using subthreshold regime of flexible organic field effect transistor: concomitant effect of gate leakage current and semiconductor conductivity</td>
<td>Mohsen Erouel, Abdou Karim Diallo, El Hadji Babacar Ly and Mane Seck; Laboratory of Physics of Materials and Nanomaterials Applied at Environment, Faculty of Sciences in Gabes, Gabes University, Tunisia; Department of Applied Physics, UFR S.A.T, Gaston Berger University, Saint Louis, Senegal.</td>
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<tr>
<td>17:10 - 17:30</td>
<td>Lanthanide activated phosphors for photovoltaic and biological applications</td>
<td>Mohamed Dammak, University of Sfax, Tunisia</td>
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<tr>
<td>17:30 - 17:50</td>
<td>Development of Single-Electron Transistor and Organic FET for memory and gas sensor applications</td>
<td>Aimen Boubaker, Abdelghaffar Nasri, Adel Kalboussi; Laboratory of Microelectronics and Instrumentation, University of Monastir, Tunisia.</td>
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<tr>
<td>17:50 - 18:10</td>
<td>Plasmonic silver nanoparticles for light trapping in silicon solar Cells</td>
<td>Bechir Dridi Rezgui, Leila Manai, Brahim Bessaïs, Damien Barakel, Philippe Torchi, Olivier Palais; Research and Technology Centre of Energy, Technopôle Borj-Cédria, Tunisia; Institut Matériaux Microélectronique et Nanosciences de Provence, (IM2NP), France.</td>
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### Session 3-1: RF Design

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<tr>
<td>16:30 - 16:50</td>
<td>Analysis and design of chirped pulse generator for WBAN transmitter</td>
<td>Benali Saif, Bettaieb Mouna, Bouzid Ghazi and Trabelsi Hatem; METS research Group, National Engineering School of Sfax, Tunisia.</td>
</tr>
</tbody>
</table>
16:50 - 17:10  **Analysis and optimization of RF Front-End for MICS Band Receiver;** Mouna Bettaieb, Saif Benali, Ghazi Bouzid and Hatem Trabelsi; METS research Group, National Engineering School of Sfax, Tunisia.

17:10 - 17:30  **Study of a dual longitudinal and shear acoustic wave ZnO transducer in the gigahertz frequency range: application to viscosity measurement and first step for device integration**; Hatem Dahmani, Ibrahim Zaourou, Pierre Campistron, Julien Carlier, Malika Toubal and Bertrand Nongaillard; Univ. Polytechnique Hauts-de-France, CNRS, Univ. Lille, ISEN, Centrale Lille, UMR 8520 - IEMN - DOAE – France ; Univ. Polytechnique Hauts-de-France, CNRS, UMR 2201- LAMIH –France.

17:30 - 17:50  **Design of LowCost Cognitive Radio Platform for Demonstration and Testing Purposes;** Moatz Bahgat; Faculty of Engineering, Alexandria University, Alexandria, Egypt.

17:50 - 18:10  **Design of UHF RFID body-worn textile Tag for wireless applications;** Faten Lagha, Sabri Beldi and Lasaad Latrach; MER Laboratory, Faculty of Sciences of Tunis, University of Tunis El Manar, Tunisia; Nanomisen Laboratory, Technology park CRMN, Sousse, Tunisia.

18:10 - 18:30  **Design and Implementation of Information Centered Protocol for Long Haul SHM Monitoring;** Hasan Tariq, Farid Touati, Mohammed Abdulla E Al-Hitmi, Damiano Crescini and Adel Ben Manouer; College of Engineering, Qatar University Doha-Qatar; Brescia University Brescia-Italy, Canadian University of Dubai Dubai-UAE.
Day: Tuesday. April - 30 - 2019

08:00 - 09:00  Registration

09:00 - 10:00  Keynote 2: Industrial invitation papers

**Session Chairs:** Salem Abdennadher, Intel Corporation-USA  
Chiheb Rebai, SUPCOM-Tunisia

09:00 - 09:30  How enabling AI at the Edge and running on compact and low power IOT devices

Speaker: Mr. Mohamed Ben Ahmed (ST Microelectronics, Tunisia)

09:30 - 10:00  Modern testing in today world

Speaker: Mrs. Emna Ayadi (Primatec Engineering, Tunisia)

10:00 - 10:30  Coffee Break

10:30 - 12:30  Workshop 2: Risk Storming & Brand your Strategy

Speaker: Emna Ayadi (Primatec Engineering, TUNISIA)

**Session Chair:** Hatem Trabelsi, ENIS-Tunisia

10:30 - 12:30  Short oral Session All Scopes

**Session Chairs:** Nader Ben Amor, ENIS-Tunisia  
Abdennaceur Kachouri, ENIS-Tunisia

An Efficient Fault Detection Method for Elliptic Curve Scalar Multiplication Montgomery Algorithm;  
Mouna Bedoui, Belgacem Bouallegue, Belgacem Hamdi and Mohsen Machhout, Electronics and Micro-Electronics Laboratory (E. μ. E. L), Faculty of Sciences of Monastir, University of Monastir, Monastir-Tunisia; College of Computer Science, King Khalid University, SaudiArabia, Université de Sousse; Institut Supérieur des Sciences Appliquées et de Technologie de Sousse, Sousse, Tunisia.

Design of NAND logic gate using a Single Molecule Transistor; Abdelghaffar Nasri, Aimen Boubaker, Wassim Khaldi and Adel Kalboussi, Microelectronics and Instrumentation Laboratory, Faculty of Science of Monastir, Monastir, Tunisia.

Design and Implementation of a Pipelined Median Filter Architecture; Amira Hadj Fredj and Jihene Malek, Electronics and Micro-Electronics Laboratory, Faculty of Sciences, Monastir, University of Monastir-Tunisia; Higher Institute of Applied Science and Technology of Sousse, University of Sousse-Tunisia.
Discrete Cosine Transform Space for Hiding Patient Information in the Medical Images; *Mohamed Ali Hajjaji, Mohamed Gafsi and Abdellatif Mtibaa*, Electronics and Micro-Electronics Laboratory, Faculty of Sciences, Monastir, University of Monastir-Tunisia

A fully automated intelligent system for vehicle storage and parking management; *Abdennour Najmeddine and Tarek Frikha*, ENET’COM-Tunisia; CES-Laboratory, National Engineering School of Sfax, University of Sfax, Sfax-Tunisia.

A Pipelined Energy-efficient Hardware Acceleration for Deep Convolutional Neural Networks; *Hmidi Alaeddine and Malek Jihene*, Electronics and Micro-Electronics Laboratory, Faculty of Sciences, Monastir University, Monastir-Tunisia; Higher Institute of Applied Sciences and Technology Sousse University, Sousse, Tunisia.

Alzheimer's detection through the association of neuro imaging neuropsychological and clinical data; *Zouhour Maâtar, Chokri Abdelmoula and Mohamed Masmoudi*, METS Research Group-National Engineers School of Sfax, Tunisia

Performances Comparison of Nature-Inspired Metaheuristic in Optimal Sizing of Analog Circuit; *Mouna Kotti, Mourad Fakhfakh, Bachir Benhala and Hanaa Hachimi*, University of Gabes, Tunisia; University of Sfax-Tunisia; University of Moulay Ismail, Faculty of Sciences, Meknes, Morocco; ENSA, Ibn Tofail University, Kenitra, Morocco

Study on wake-up receiver designs for IoT applications; *Mariem Bouraoui, Imen Barraj and Mohamed Masmoudi*, METS Research Group-National Engineers School of Sfax, Tunisia

Development of an organic resistive-type humidity sensor; *Tarek Sekrafi, Zouhour Denden, Florin Tudorache, Sorin Tascu, Habib Nasri and Chérif Dridi*, NANOMISENE Lab, CRMN of Technopole of Sousse, Sousse, Tunisia, University of Sousse; High School of Sciences and Technology of Hammam Sousse, Tunisia; RAMTECH, Science Research Departement, Alexandru Ioan Cuza, University of Iasi, Blvd Carol, Romania; University of Monastir, Laboratory of physico-chemistry of materials, FSM, Tunisia

Smart medical nanotechnology using outlier detection methods; *Aymen Abid, Abdennaceur Kachouri and Mohamed Abid*, CES lab: ENIS, Sfax University, Tunisia, LETI lab: ENIS, Sfax University, Tunisia.

Combining DWT/KLT for Secure Transfer of Color Images; *Mohamed Ali Hajjaji, Adnen Albouchi and Abdellatif Mtibaa*, Université de Monastir, Electronics and Micro-Electronics Laboratory, Faculty of Sciences, Monastir, University of Monastir-Tunisia

Second generation of the optoelectronic visual prosthesis: design and preliminary validation; *Hanen Ben Ayed, Jihene Masmoudi and Mohamed Masmoudi*, METS Research Group-National Engineers School of Sfax, Tunisia
12:30 - 14:00  Lunch

14:30 - 15:30  **Keynote 3:** Broadband, Linear, and High-Efficiency Mm-Wave Power Amplifiers The Unreasonable Quest for "Perfect" 5G Mm-Wave Power Amplifiers and Some Reasonable Solutions.
Speaker: Hua Wang (School of Electrical and Computer Engineering Georgia Institute of Technology)
**Session Chairs:** Noureddine Boulejfen, CRMN-Sousse
                        Brahim Mezghani, ENIS-Tunisia

15:30 - 23:00  Social Event
09:00 - 10:00  **Keynote 4:** A new approach to design and study smart digital Microsystems.  
**Speaker:** Abdel Illah El Abed (Quantum and Molecular Photonics Laboratory (LPQM), Normale Sup' Paris-Saclay, University, France.)  
**Session Chair:** Mouad Loulou, ENIS-Tunisia  
Hassen Mnif, ENET’Com-Tunisia

10:00 - 10:30  **Coffee Break**

10:30 - 12:10  **Session 4-1: MEMS Design & Sensors**

**Session Chairs:**  
**Fabiana Arduini, University of Rome-Italy**  
**Abdel Illah El Abed, Normale Sup' Paris-Saclay, University - France**

10:30 - 10:50  **Numerical DFT calculations on electronic, optical and charge transport properties of p-conjugated polymers for OLED application;**  
*Rihab Chouk, Manel Bergaoui, Nejmeddine Jaballah and Mohamed Khalfaoui;* Faculty of Sciences of Monastir, Tunisia.

10:50 - 11:10  **Dynamic Behaviour and Piezoresistive Analysis of a Single Mass 3-Axis Polymer MEMS Accelerometer;**  
*Awatef Khelifi, Brahim Mezghani, Shardul Pandit, Aftab Ahmed, Rajul Patkar, Pradeep Dixit, Maryam Shojaei Baghini and Farès Tounsi;* METS Research Unit-ENIS-Tunisia , Indian Institute of Technology Bombay, Mumbai, India

11:10 - 11:30  **Simultaneous Angular and Linear Motion Detection Circuitry for a MEMS 6-DOF Piezoelectric IMU ;**  
*Hela Almabrouk, Mohamed Hadj Said, Brahim Mezghani, Farès Tounsi and Yves Bernard;* Monastir University, FSM, Monastir-Tunisia ; METS Research Unit-ENIS-Tunisia ; Monastir University, ISIMM-Tunisia ; GeePs Laboratory, Paris Sud University-France.

11:30 - 11:50  **Morphological Study of PVDF-BaTiO3 Composites Based Humidity Sensors ;**  
*Shoaib Mallick, Abdul Rehman Habib Ur Rehman, Zubair Ahmad, Farid Touati ;* Rana Abdul Shakoor and Shaheen Abdulhafiz Sh. Almuhtaseb, Department of Electrical Engineering Qatar University, Doha, Qatar

11:50 - 12:10  **TCs Connectivities Effect Investigation in the LTCC-based Thermo generator for Automotive Waste Heat Recovery ;**  
*Nesrine Jaziri, Ayda Bouhamoura, Jens Muller, Farès Tounsi, Brahim Mezghani and Ammar Kouki ;* National Engineering School of Sousse (ENISO), University of Sousse, Tunisia National Engineering School of Sfax, University of Sfax, Tunisia; University of Monastir, National Engineering School of Monastir, LESTE Research Laboratory, Monastir, Tunisia; Electronics Technology Group, Institute of Micro and Nanotechnologies MacroNano, Technische Universität Ilmenau, Germany; LTCC@ÉTS Laboratory, Montréal-Canada.
10:30 - 11:10 Invited Paper

10:30 - 11:10 “Screen-printed electrodes as cost-effective and miniaturized analytical tools for environmental and biomedical analyses”
Speaker: Prof. Fabiana Arduini; University of Rome "Tor Vergata", Italy
Session Chairs: Manel Ben Romdhan, SUPCOM-Tunisia
Cherif Dridi, CRMN-Tunisia

11:10 - 12:30 Session 4-2: Biomedical Systems Design

Session Chairs: Manel Ben Romdhan, SUPCOM-Tunisia
Cherif Dridi, CRMN-Tunisia

11:10 - 11:30 Doppler Radar Architecture for Vital Signal Detection; Fatma Kraiem, Mohamed Dhib, Mongi Lahiani and Hamadi Ghariani; Information Technologies and Electronics laboratory National School of Engineers of Sfax, University of Sfax Sfax, Tunisia

11:30 - 11:50 Obstructive Sleep Apnea OSA detection through esophageal PressurePes; Ghada Ben Salah, Karim Abbes, Chokri Abdelmoula, Mohamed Masmoudi, Mohamed Hédi Abdelmoula and Mohamed Turki; METS Research Group-National Engineers School of Sfax, Tunisia

11:50 - 12:10 Design of low power discrete time FF sigma delta modulator for biomedical application; Dalila Laouej, Houda Daoud, Jihen mallek and Mourad Loulou; Information Technologies and Electronics Laboratory, ENIS, Tunisia.

12:10 - 12:30 NMR implantable microcoil FEM analysis for numerical brain model; Nasreddine Ben Mansour, Cherif Dridi, Nourdine Yaakoubi and Latifa Fakri-Bouchet; NANOMISENE Lab CRMN Sahloul, Sousse Tunisia; LAUM UMR CNRS Maine University, ENSIM Le Mans, France; ISA CNRS Villeurbanne, France.

12:30 - 13:00 Closing