



MEETING ROOM

Amphitheatre Mohamed Ali ANNABI, 432

Wednesday, November 27th, 2019

14:00-16:00	Early Registrations
14:30-16:00	Visit of ENIT Platforms

Thursday, November 28th, 2019

8:00-8:30	Registration
8:30-9:15	Opening speech
9:15-9:45	KEYNOTE 1 <i>Chairs : Ilhem SLAMA-BELKHODJA, Mohamed BEN SLIMANE</i> Overview of solar energy: From material to use Abdelaziz EL GHZIZAL, Université Sidi Mohamed Ben Abdellah Fès, Maroc
9:45-10:30	OS 1: Oral Session 1 : Power Electronics, <i>Chairs : Houda BEN ATTIA –SETHOM , Abdelaziz EL GHZIZAL,</i> Paper ID : 57, 80, 129.
10:30-11:00	Coffee break.
11:00-12:30	OS 2: Oral Session 2: Control and Systems <i>Chairs : Faouzi BOUANI, Zakaria CHALH</i> Paper ID : 32, 39, 67, 83,109, 118
12:30-13:30	Lunch.
13:30-14:30	PS 1: Poster Session 1 <i>Chairs : Sondes SKANDER-MUSTAPHA, Mohamed BOUSSETTA</i> Paper ID : 48, 55, 87, 100, 126, 133 , 134
14:30-16:00	OS 3: Oral Session 3: Power Electronics <i>Chairs: Houda BEN ATTIA–SETHOM, Lahcen OUGHDIR</i> Paper ID: 27, 78, 96, 106,123, 130
16:00-16:30	Coffee break.
16:30-17:30	OS 4: Oral Session 4: Energy and Environment <i>Chairs: Leila CHAABANE, Djamel OUNNAS</i> Paper ID: 17, 23, 33, 64



Friday, November 29th, 2019

8:00-8:30	Registration
8:30-9:00	KEYNOTE 2 <i>Chairs : Ilhem SLAMA-BELKHODJA, Mohamed BEN SLIMANE</i> AC and DC MICRO-GRIDS: the key enablers of the distributed generation paradigm Aissa CHOUDER, Université Mohamed Boudiaf M'Sila, Algérie
9:00-10:30	OS 5 : Oral Session 5 : Control and Systems, <i>Chairs : Faouzi BOUANI, Abdelali IBRIZ</i> Paper ID: 28, 49, 65, 95, 114, 131
10:30-11:00	Coffee break.
11:00-12:30	OS 6 : Oral Session 6: Energy and Environment <i>Chairs : Sondes SKANDER-MUSTAPHA, Slami SAADI</i> Paper ID: 14, 72, 104, 107, 135 , 139
12:30-13:30	Lunch.
13:30-14:30	PS 2 : Poster Session 2, <i>Chairs : Najiba MRABET-BELLAAJ, Lahcen OUGHDIR</i> Paper ID: 5, 7, 12, 26, 84, 99, 101, 120,
14:30 -15:45	OS 7 : Oral Session 7 : Energy and Environment <i>Chairs : Soukeina Amel CHERIF, Said ALEM</i> Paper ID: 18, 21, 22, 45, 46
15:45-17:00	OS 8 : Oral Session 8 : Embedded Systems and Computational Intelligence <i>Chairs : Najiba MRABET-BELLAAJ, Mohamed BOUSSETTA</i> Paper ID: 54, 94, 105, 122, 132
17:00-17:30	Closure

OS: Oral Session, PS: Poster Session,



Thursday, November 28th, 2019

8:00-8:30	Registration
8:30-9:15	<p>Opening speech</p> <p>Fethi SELLOUATI, <i>President of University of Tunis El Manar, Tunisia</i></p> <p>Hatem ZENZRI, <i>Head of ENIT, Ecole Nationale d'Ingénieurs de Tunis, Tunisia</i></p> <p>Ferid KOURDA, <i>Head of Laboratory of Electrical Systems, L.S.E., Tunisia</i></p> <p>Abdelaziz EL GHZIZAL, <i>Meeting Chair, University Sidi Mohamed Ben Abdellah, Morocco</i></p> <p>Ilhem SLAMA-BELKHODJA, <i>Meeting Chair, University of Tunis El Manar, Tunisia</i></p>
9:15-9:45	<p>KEYNOTE 1</p> <p><i>Chairs : Ilhem SLAMA-BELKHODJA, Mohamed BEN SLIMANE</i></p> <p>Overview of solar energy: From material to use</p> <p><i>Abdelaziz EL GHZIZAL, University Sidi Mohamed Ben Abdellah, Morocco</i></p>
9:45-10:30	<p>Oral Session 1 : Power Electronics, (PE)</p> <p><i>Chairs : Houda BEN ATTIA –SETHOM , Abdelaziz EL GHZIZAL,</i></p>
OS 1	<p>ID 57 : Comparing FSC-MPC and PI in current control of grid-connected parallel inverters with common AC and DC buses</p> <p><i>Saad Bella, Azeddine Houari, Ali Djerioui, Aissa Chouder, Mohamed Machmoum, Mohamed-Fouad Benkhoris, Kaci Ghedamsi, Nantes university, France</i></p> <hr/> <p>ID 80 : Numerical approach for parameter extraction of photovoltaic module based on datasheet and five parameters model with Maximum Power Point estimation,</p> <p><i>Fatima Cheddadi, Youssef Cheddadi Fatima Errahimi and Ahmed Gaga, Université Sidi Mohamed Ben Abdellah Morocco</i></p> <hr/> <p>ID 129 : Modeling of a PMSG based wind turbine assisted by a diode rectifier and boost converter</p> <p><i>Marwa GANNOUN, Jihen ARBI-ZIANI, Mohamed Wissem NAOUAR, Eric MONMASSON Université de Tunis El Manar, Tunisia</i></p>
10:30-11:00	Coffee break.
11:00-12:30	<p>Oral Session 2 : Control and Systems (CS)</p> <p><i>Chairs : Faouzi BOUANI, Zakaria CHALH</i></p>
OS 2	<p>ID 32: H_{∞} Control For Full Vehicle Active Suspension Systems In Finite Frequency Domain</p> <p><i>Loubna Mrabah, Ouahi Mohamed, El Houssaine Tissir, and Zakaria CHALH , Université Sidi Mohamed Ben Abdellah, Fes, Morocco</i></p> <hr/> <p>ID 39: Fault Diagnosis for Hybrid Systems based on a Bank of Linear Observers and a Discrete Automato</p> <p><i>Gara Héla and Kamel Ben Saad, Université de Tunis El Manar, Tunisia</i></p> <hr/> <p>ID 67: Inspection of Very High Voltage Transmission Lines with UAVs</p> <p><i>Lamyae Fahmani, Jamila Garfaf, Khalid Boukhdir , Siham Benhadou and Hicham Medromi, Université Hassan II, Morocco</i></p> <hr/> <p>ID 83: Constrained Model Predictive Control Based on State Space Approach</p> <p><i>Rim Jaouani, Amira Kheriji Abbes and Faouzi Bouani, Université de Tunis El Manar, Tunisia</i></p> <hr/> <p>ID 109: Digital Twins: Development and implementation challenges within Moroccan context</p> <p><i>Mezzour Ghita, Benhadou Siham, Medromi Hicham, Ait El Mahjoub Abdelhafid and Deshayes Laurent, Université Hassan II, Morocco</i></p> <hr/> <p>ID 118 Performance analysis of two standalone residential solar system configurations</p> <p><i>Marwa Ben Saïd-Romdhane, Sondes Skander-Mustapha and Ilhem Slama-Belkhodja, Université de Tunis El Manar, Tunisia</i></p>



Thursday, November 28th, 2019

12:30-13:30	Lunch.
13:30-14:30	Poster Session 1 <i>Chairs : Sondes SKANDER-MUSTAPHA, Mohamed BOUSSETTA</i>
PS 1	ID 48: A New Bond Graph Approach for MPPT Control of a Photovoltaic Pumping System <i>Said Alem, Billal Benchabla, Sofiane Berrazouane, Mahdi Ouziala And Djamel Benazzouz, Université M'Hamed Bougara Boumerdes, Algeria</i>
	ID 55: Study of thermal comfort: Numerical simulation in a closed cavity using the Lattice Boltzman method. <i>Nabil Himrane, Djamel-Eddine Ameziani and Lyes Nasseri, Université M'Hamed Bougara Boumerdes, Algeria</i>
	ID 87: Simulation and Hardware Implementation of Fuzzy Logic Controller for DC-DC Boost Converter <i>Djamel Ounnas, Guiza Dhaouadi, Dhaouadi Rabah, Soufi Youcef and Mahmoud Maamri, University of Tebessa, Algeria</i>
	ID 100: Miniaturized Multi-Band Antenna for Bluetooth/ WLAN and WiGig Applications <i>Elhachmi ksouri, Amel Boufroua, Meriem Harbadji, Université Frère Mentouri Constantine 1, Algeria</i>
	ID 126: Lithium-Ion Battery Modeling <i>Amen Allah Zayoud, Amine Lahyani and Tillmann Stüblert, Université de Carthage, Tunis, Tunisia</i>
	ID 133: FOC & DPC Controls Applied To Wind Energy Conversion System <i>Manale Bouderbala, Badre Bossoufi, Ahmed Lagrioui, Mohammed Taoussi and Hala Alami Aroussi, Université Sidi Mohamed Ben Abdellah, Morocco</i>
	ID 134: Power Flow Control in a Micro Grid based on Three Paralled Connected Inverters with LCL Filters <i>Mehdi Kahlaoui and Manef Bourogaoui, Université de Tunis El Manar, Tunisia</i>
14:30-16:00	Oral Session 3: Power Electronics <i>Chairs: Houda BEN ATTIA–SETHOM, Lahcen OUGHDIR</i>
OS 3	ID 27: Implementation of second order sliding mode disturbance observer for one link flexible manipulator using Dspace Ds1104 <i>Lahssan Ben Tarla, Mohamed Bakhti, Badr Bououlid Idrissi, University Moulay Ismail Meknes, Morocco</i>
	ID 78: Fault Diagnosis of Open-Circuit Faults in Parallel Multi-Cell Converter based on Sliding Mode Observer <i>Asma El Mekki and Kamel Ben Saad, Université de Tunis El Manar, Tunisia</i>
	ID 96: Direct power control of DSPMSG dedicated to standalone marine energy system <i>Elyazid Amirouche and Kaci Ghedamsi, Université de Bejaia, Algeria</i>
	ID 106: Comparison of basic droop control with linear and nonlinear internal control of boost converters feeding resistive load <i>Sonia Moussa, Manel Jebali Ben Ghorbal and Ilhem Slama-Belkhodja, Université de Tunis El Manar, Tunisia</i>
	ID 123: Design of BESS filter components <i>Nidhal mdini, Sondes Skander-Mustapha and Ilhem Slama-Belkhodja, Université de Tunis El Manar, Tunisia</i>
	ID 130: Model-based Predictive Current Control with Fixed Switching Frequency for Single Phase Active Front-End Rectifier <i>Ines Ben Ali, Mohamed Wissem Naouar and Eric Monmasson, Université de Tunis El Manar, Tunisia</i>



Thursday, November 28th, 2019

16:00-16:30	Coffee break.
16:30-17:30	Oral Session 4: Energy and Environment <i>Chairs: Leila CHAABANE, Djamel OUNNAS</i>
OS 4	ID 17: The impact of The Type Canyon Urban in The Solar Radiation Case Study of the City of Biskra, Algeria <i>Rami Qaoud, Djamel Alkama and Marouane Samir Guedouh,</i> <i>University of Biskra, Algeria</i>
	ID 23: The impact of The Type Canyon Urban in The Solar Radiation Case Study of the City of Biskra, Algeria <i>Rami Qaoud, Djamel Alkama and Marouane Samir Guedouh,</i> <i>University of Biskra, Algeria</i>
	ID 33: New biosourced concrete materials for energy efficiency in buildings and the regulatory approach to this objective <i>Basma M'lahfi, Driss Amegouz and Mostapha El Qandil,</i> <i>Université Sidi Mohamed Ben Abdellah, Morocco</i>
	ID 64: Modeling and experimental study of cascade solar still <i>Nidal Mouhsin, Mariam Bouzaid, Mourad Taha-Janan and Mohamed Oubrek,</i> <i>Université Mohamed V, Morocco</i>



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8:00-8:30	Registration
8:30-9:00	<p>KEYNOTE 2 <i>Chairs : Ilhem SLAMA-BELKHODJA, Mohamed BEN SLIMANE</i> AC and DC MICRO-GRIDS: the key enablers of the distributed generation paradigm <i>Aissa CHOUDER, Université Mohamed Boudiaf M'Sila, Algeria</i></p>
9:00-10:30	<p>Oral Session 5 : Control and Systems, <i>Chairs : Faouzi BOUANI, Abdelali IBRIZ</i></p>
OS 5	<p>ID 28 : Feedback Linearization based on Sliding Mode Controller for an Operating with Unity Power Factor of Induction Motor Fed by Matrix Converter <i>Abdelhakim Dendouga, Université Mohamed Khider Biskra, Algeria</i></p> <p>ID 49: Real-Time Emulation of Photovoltaic Energy Using Adaptive State Feedback Control <i>Mustapha Alaoui, Hattab Maker, Azeddine Mouhsen And Hicham Hihi, Université Sidi Mohamed Ben Abdellah, Morocco</i></p> <p>ID 65: Design of multiobserver for nonlinear systems represented by fuzzy T-S models with sensor faults <i>Hassen Hichri, Mounir Ayadi, Université de Tunis El Manar, Tunisia</i></p> <p>ID 95: New chaotic system with Snail-Shaped Attractor: Dynamical Analysis, Synchronization and Circuit Design <i>Khaled Benkouider, Toufik Bouden and E. Yalcin Mustak, Université de Jijel, Algeria</i></p> <p>ID 114: Bond Graph Modeling and Structural Analysis Controllability / Observability of a Photovoltaic Irrigation System <i>Siwar Bellahirich, Dhafer Mezghani, Abdelkader Mami, Université de Tunis El Manar, Tunisia</i></p> <p>ID 131: Predictive Maintenance in Industry 4.0 Using Machine Learning <i>Ibriz Abdelali and Mohammed Benslimane, Université Sidi Mohamed Ben Abdellah, Morocco</i></p>
10:30-11:00	Coffee break.
11:00-12:30	<p>Oral Session 6: Energy and Environment <i>Chairs : Sondes SKANDER-MUSTAPHA, Slami SAADI</i></p>
OS 6	<p>ID 14: Energy management for solar cell/fuel cell with supercapacitor hybrid power system <i>Ferahtia Seydali, Ali Djerioui, Zeghlache Samir and Azeddine Houari, Université de Msila, Algeria</i></p> <p>ID 72: MFO For Optimal Parameters Of Membership Function Of Fuzzy Logic Controller for nonlinear system <i>Ahmed Bennaoui, Aissa Ameer, Saadi Slami, Université Ziane Achour de Djelfa, Algeria</i></p> <p>ID 104: The effect of the ventilated facade on the thermal control and energy consumption of buildings <i>Mohamed Amine Khadraoui, Soumaya Besbas, Leila Sriti, Marouane Samir Guedouh and Charaf-Eddine Bensaci, University of Bejaia, Algeria</i></p> <p>ID 107: Desalination of seawater using waste heat from condenser of air conditioning <i>Sami Missaoui, Romdhane Ben Slama and Béchir Chaouachi, Université de Tunis, Tunisia</i></p> <p>ID 135 : Modeling PV installations under partial shading conditions <i>Afef Benni Ben Abdelghani and Houda Ben Attia Sethom , Université de Carthage , Tunisia</i></p> <p>ID 139: Global MPPT of Photovoltaic system Based on Scanning Method under partial shading condition <i>Abdelilah Chalh, Saad Motahhir, and Abdelaziz El Ghzizal, Université Sidi Mohamed Ben Abdellah, Morocco</i></p>



Friday, November 29th, 2019

12:30-13h30	Lunch
13:30-14:30	Poster Session 2, <i>Chairs : Najiba MRABET-BELLAAJ, Lahcen OUGHDIR</i>
PS 2	ID 5: Diagnosis of Defects by Principal Component Analysis a Gas Turbine <i>Fenghour Nadir, Hadjadj Lias and Bouakkaz Messaoud, Université Badji Mokhtar, Algeria</i>
	ID 7: Contribution to Diagnose the Static Eccentricity Faults in an Induction Machine Based on Finite Element Method <i>Abdellatif Seghiour, Maha Khanfara , Hamou Ait Abbas and Aissa Chouder, University Mohamed Boudiaf of M'sila, Algeria</i>
	ID 12: Automatic material microstructure characterization using optical microscopy image segmentation <i>Nabil Chetih, Naim Ramou; Yamina Boutiche, Research Center in Industrial Technologies (CRTI), Algeria</i>
	ID 26: Temperature Impact On Reliability of Power RF Devices under S-Band Pulsed-RF Test <i>M. A. Belaid, M. Tlig and A. Almusallam, University of Sousse, Tunisia</i>
	ID 84: Robust Direct Power Control Applied To Wind Power System <i>Hala Alami Aroussi, Elmostafa Ziani, Manale Bouderbala and Badre Bossoufi, Université Mohammed Premier, Morocco</i>
	ID 99: Direct Torque Control of Induction motor Fed by Quasi-Z-Source Power Inverter <i>Abdelhakim Derbane, Bekheïra Tabbache, Aimad Ahriche and Khaled Benkouider, University of Jijel, Algeria</i>
	ID 101: A Space Vector Modulation Strategy for 9-Switch Power Inverter Fed Two Induction Motor <i>Fayssal Belkhiri, Bekheïra Tabbache, Mohamed E.H. Benbouzid and Khaled benkouider, University of Jijel, Algeria</i>
ID 120: Experimental Detection of Variable Speed Fan Bearing Defects Using Stator Current Monitoring <i>Abdelkarim Bouras, Soumaya Bennedjai, Slimane Bouras and Rouabhia Chemes Eddine, Université Badji Mokhtar Annaba, Algeria</i>	
14:30 -15:45	Oral Session 7 : Energy and Environment <i>Chairs : Soukeina Amel CHERIF, Said ALEM</i>
OS 7	ID 18: Effect of vegetation on thermal comfort using passive system techniques in the Auressian courtyard houses <i>Kamal Youcef, Abdallah Farhi and Marouane Samir Guedouh Université Mohamed kheder Biskra, Algeria</i>
	ID 21: Computational fluid dynamics - Unified formulation - <i>Nacer E. El Kadri E., Abdelhakim Chillali, Université Sidi Mohamed Ben Abdellah, Morocco</i>
	ID 22: Turbulent flow around a downward march using the k-ε turbulence model. <i>Lamia Benahmed, Khaled Aliane and Zakaria Sari Hassoune, University Aboubekr Belkai, Algeria</i>
	ID 45: Helically Curved Pipes vs. Longitudinally C-Shaped: Pressure Drop Similarity of Internal Turbulent Flows <i>Yassine Demagh, Elwardi Bitam and Ilyes Bordja, Université Batna , Algeria</i>
	ID 46: Optimization of Persulfate/Iron(II)/UV-A Radiation Process for the Treatment of Landfill Leachate from Fez City (Morocco) <i>Imane El Mrabet, Hicham Zaitan and Mourad Benzina, Université Sidi Mohamed Ben Abdellah, Morocco</i>



Friday, November 29th, 2019

15:45-17:00	Oral Session 8 : Embedded Systems and Computational Intelligence <i>Chairs : Najiba MRABET-BELLAAJ, Mohamed BOUSSETTA</i>
OS 8	ID 54: Smart Appliance Scheduling in Smart Grids using ANN and GA <i>Safae Bourhnane, Mohamed Riduan Abid, Rachid Lghoul, Khalid Zine-Dine, Najib Elkamoun, Driss Benhaddou, Chouaib Doukkali University, Morocco</i>
	ID 94: Design and implementation of an intelligent IoT solution for energy monitoring of Photovoltaic stations <i>Youssef Cheddadi, Hafsa Cheddadi, Fatima Errahimi and Najja Es Sbai, Université Sidi Mohamed Ben Abdellah, Morocco</i>
	ID 105: Energy management in microgrids using multi-agent systems <i>Rami Qaoud, Djamel Alkama and Marouane Samir Guedouh</i>
	ID 122: Learner Model Design and Learner Profile Reuse in Computational Environments for Human Learning <i>Rami Qaoud, Djamel Alkama and Marouane Samir Guedouh</i>
	ID 132: Mamdani vs Sugeno Fuzzy logic controller for the decoupled Spherical Inverted Pendulum <i>Rami Qaoud, Djamel Alkama and Marouane Samir Guedouh</i>
17:00-17:30	Clôture