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CERTIFICATE OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO:

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In recognition of his achievement and participation in The 1st International Conference on Advances in
Electronics, Control and Computer Technologies
October 25th - 26th, 2023, Mascara, Algeria

Paper Title

**Integration and modeling thermal effect in Preisach model associated with the student
distribution function using the finite element method**

Co-authors: MOURAD NAIDJI, ABDELAZIZ LADJIMI



Samir GHOUALI
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Integration and modeling thermal effect in Preisach model using the finite element method

M. DAFRI 1,2,*, M. NAIDJI 1, AND A. LADJIMI 2

1. Electrical Engineering Department, Faculty of Engineering, Badji Mokhtar University, BP 12 Sidi Amar, Annaba 23000, Algeria
2. Laboratoire de Génie Electrique (LGEG), Université 8 Mai 1945 Guelma, BP. 401, 24000 Guelma, Algeria

dafri.mourad@gmail.com

ABSTRACT

This work is to model the hysteretic behavior of magnetic materials and to integrate Preisach model associated with the Student distribution function using the finite element method in 2D into the Matlab software. Simulations performed using the computational code allowed us to investigate the effect of the hysteresis phenomenon on the magnetic quantity and the change in losses as a function of temperature.

KEY WORDS

Hysteresis; Student distribution function; Preisach model; Finite element; Temperature

I. INTRODUCTION

The properties of magnetic materials are exploited in many technical applications such as, aerospace, medical devices, data storage, Telecommunications Systems and in power electronics devices, The magnetic behavior of these devices can be affected by handling them at various temperatures, therefore a temperature-dependent hysteresis model is needed to more accurately model of hysteresis for these materials. The objective of this work is to integrate the cycle obtained from the Preisach model associated with the Student distribution function which has already been validated with real experimental results in the two-dimensional finite element method. Simulations performed using the computational code allowed us to investigate the effect of the hysteresis phenomenon on the magnetic quantity and the change in losses as a function of temperature. As an application, we studied the classical model of an induction device and verified the reliability of the model and the solutions.

II. PREISACH MODEL COMBINED WITH THE STUDENT DISTRIBUTION FUNCTION

One of the most extensively used models for describing hysteresis loops in magnetic matter is certainly that proposed by Preisach in the mid-1930s [1]. This is a purely intuitive approximation found on observations of magnetization mechanisms.

The Preisach model describes the magnetic state of matter. A given point in time can be represented by many elementary relays with only two possible states. ($M = +1$ or $M = -1$) and is identified by an asymmetric rectangular hysteresis loop with many fundamental. It can be represented by a relay. As shown in Figure 1, each hysteresis loop has a different switching field α and β with $\beta \leq \alpha$, and an irreversible transformation from low state to high state and vice versa.

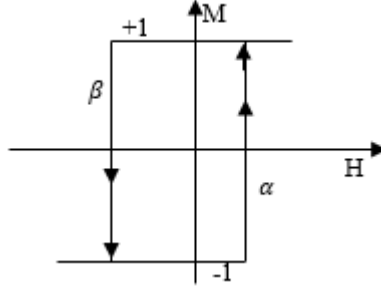


Fig. 1. Elementary rectangular hysteresis loop

Computation of the total magnetization of a material requires the statistical distribution $\rho(\alpha, \beta)$ of the elementary loops (or operators) depending on α and β .

The magnetization of a material $M(t)$ obtained from the application of a magnetic field $H(t)$ at time t is described by the form given by Preisach:

$$M(t) = \iint \rho(\alpha, \beta) \varphi_{\alpha\beta}[H(t)] d\alpha d\beta \quad (1)$$

$\varphi_{\alpha\beta}[H(t)]$ is the basic hysteresis (relay switch operator).

For this work, we chose the Student's function proposed in [2]. This choice is motivated by the fact that changes in the two parameters a and b of the Student's function cause changes in saturation magnetization, remanence, coercivity, and the area of the hysteresis loop. On the other hand, the effect of temperature on the shape of the magnetic hysteresis loop is similar to that of the two parameters a and b , and this observation allows us to define the parameters a and b as a function of temperature. The Student's function is given by:

$$\rho(\alpha, \beta) = ka\sqrt{a} \left(a + \left(\frac{\alpha}{H_c} - b \right)^2 \right)^{-\frac{3}{2}} \left(a + \left(\frac{\beta}{H_c} + b \right)^2 \right)^{-\frac{3}{2}} \quad (2)$$

Where H_c is the coercive field, k is the normalization factor, $a \in \mathbb{R}_+^*$, $b \in \left[\frac{H_c}{H_s}, \frac{H_s}{H_c} \right]$ and H_s is the saturation field.

III. EXPERIMENTAL VALIDATION

The test bench in our lab is Multiple items and devices. It includes a magnetic core to support the primary and secondary windings, a power system, temperature probes, and an electric furnace (heating chamber) to heat the ferromagnetic core to various temperatures. The power system allows a sine wave to be applied to the primary winding. Furthermore, the excitation $H(t)$ and induction $B(t)$ are determined from the AMPERE and FARADAY laws, respectively. These variables are recorded using a digital oscilloscope. The data are then exported to a computer (PC) for processing (Figure 2).

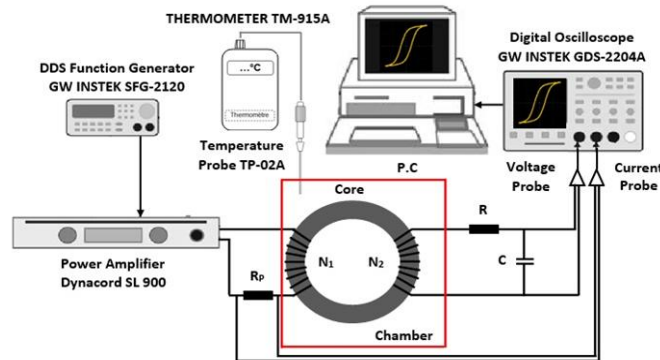


Fig. 2. Schematic test bench [3]

The simulation results of hysteresis loops are compared with the real one in order to experimentally validate the suggested model for non-oriented grains FeSi sheets, there is good agreement between the measured and hysteresis loops derived by the Preisach model coupled with Student distribution function. Figure 3.

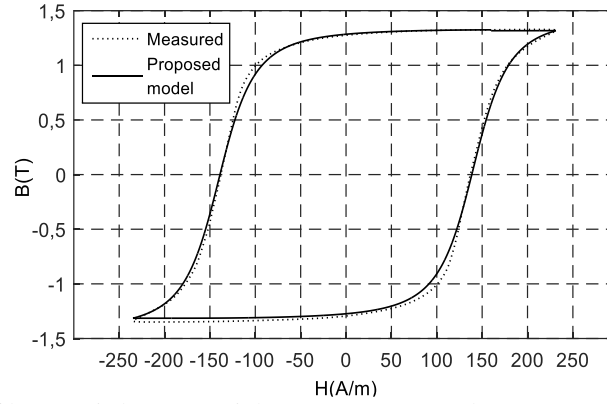


Fig. 3. Comparison of hysteresis loops (FeSi, $k=4.8841$, $a=0.095$, $b=1.035$, $H_c=135.5$, $T=27^\circ\text{C}$)

IV. FINITE ELEMENTS AND HYSTERESES

Maxwell equations can be used to describe electromagnetic problems [4]. Generally speaking, we have:
Faraday's law:

$$\text{curl}(E) = -\frac{\partial B}{\partial T} \quad (3)$$

The Ampere's law:

$$\text{curl}(H) = j \quad (4)$$

The Flux conservation law:

$$\text{div}B = 0 \quad (5)$$

We must connect these equations to the formula governing the behavior of magnetic material, where E is the electric field, B magnetic induction, H the magnetic field and J the current density of excitement we must associate these equations the law of behavior of magnetic materials:

$$B = \mu_0 H + \mu_0 M \quad (6)$$

M stands for magnetic magnetization and μ_0 represents the vacuum's magnetic permeability. Following certain adjustments to the vector potential A , the electromagnetic equation is expressed as follows:

$$\sigma \frac{\partial A}{\partial t} + \text{curl}\left(\frac{1}{\mu_0} \text{curl}(A)\right) = J_s + \text{curl}M \quad (7)$$

Where σ is electrical conductivity.

The creation of an algebraic metrics system is required for the solution of this equation using the finite element method in 2D.

$$[R_j][A_j] = [S_j][F_j] \quad (8)$$

R_{ij} Metrics rigidity

S_j The excitation due to the current

A_j vector potential

F_j The excitation due to magnetization

A. METHODS FOR RESOLUTION

A method of the kind point fixed [5-10] is employed to solve the nonlinear issue. By integrating the hysteresis model, it entails repeatedly solving the issue until the answer converges. The selection of a field-relieving factor poses the most challenge to this calculation. Figure 4 depicts the simulations algorithm in use.

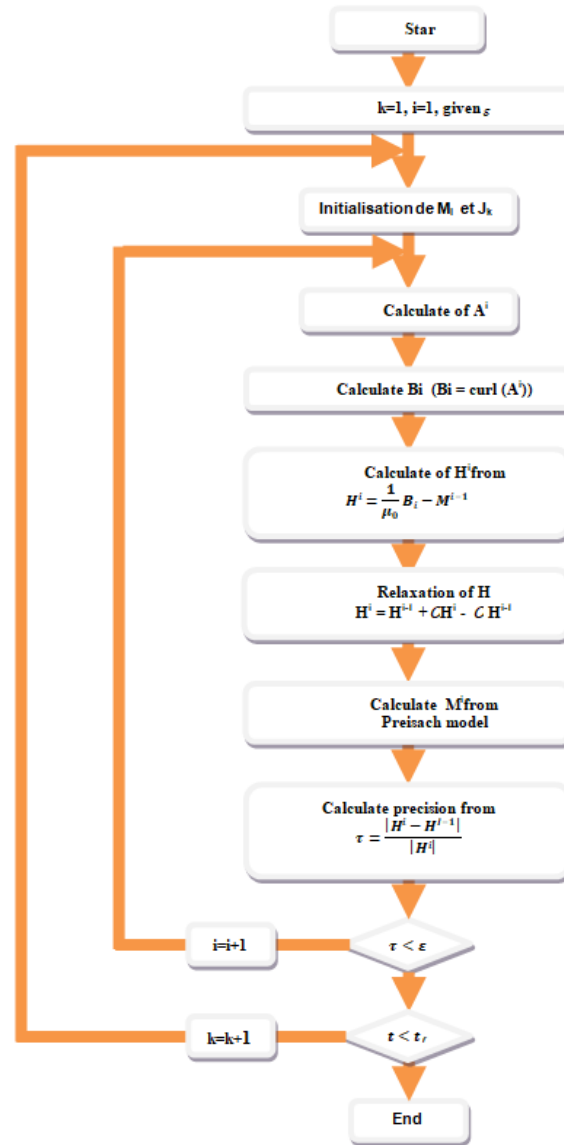


Fig. 4. Iterative algorithm to integrate hysteresis model into the finite element method

V. EXPERIMENTAL VALIDATION

Figure 5 shows the investigated device that we have selected as an application. It is a cylindrical ferromagnetic device. The geometrical and physical characteristics of this device are shown in table 1. The armature hysteresis cycle is shown in figure 6.

Table 1. Geometric and physical characteristics of armature and inductor

Geometric characteristics		physical characteristics	
Cylindrical ferromagnetic length	$L=40.10^{-2}m$	Electrical conductivity armature	$\sigma=10^6\Omega/m$
Coil inductor length	$L=50.10^{-2}m$	Magnetic permeability inductor	$\mu=4\pi.10^{-7} H/m$
cylindrical ferromagnetic diameter	$\varphi=8.10^{-2}m$	Current density of excitement	$J=0.3 \cdot 10^6 A/m^2$

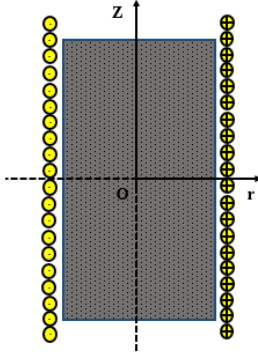


Fig.5. Studied device

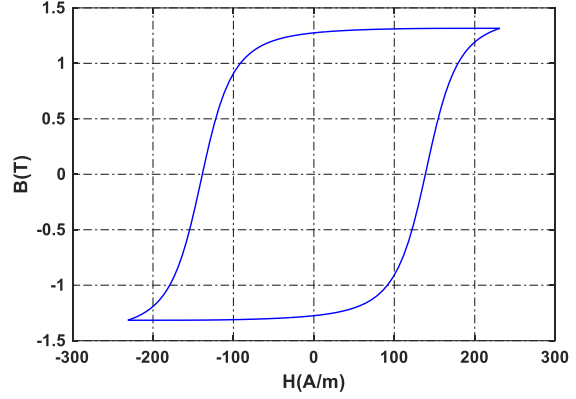


Fig.6. Hysteresis loops of armature

A. GÉOMETRIC STRUCTURE

Since the issue is axisymmetric, we can only take into account a quarter of the system in Figure 7. Knowing that for reasons of simplicity, the excitation coil is represented by a single conductor having the same shape as the load. Figure 8 below presents finite elements mesh of resolution study which comprises Inductor, Armature and Air.

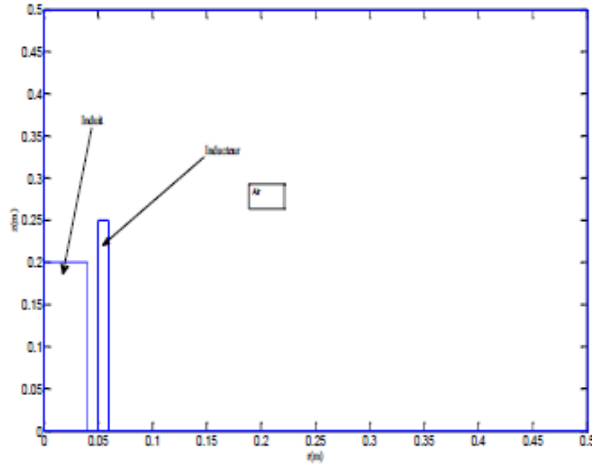


Fig.7. Test problem

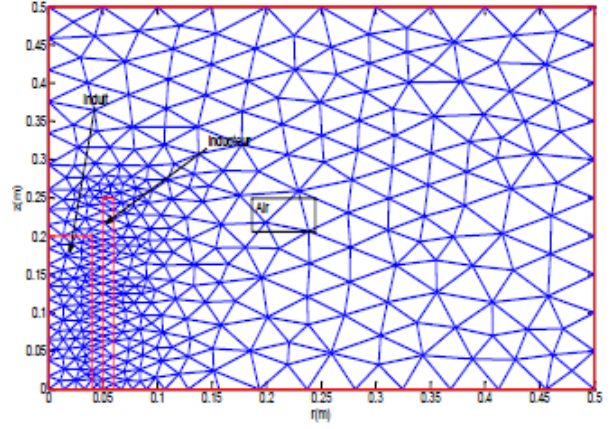


Fig.8. Finite elements mesh

B. STUDY OF MAGNETIC-THERMAL PROBLEM

In this section, we will study the impact of temperature on the magnetic phenomenon and in particular the evolution of losses (by hysteresis and eddy currents) in an electromagnetic induction device. we consider that only the hysteresis phenomenon evolves according to the temperature.

With $T_c=350$ °C, $a_0=0.1425$, $a_1=1.5237$, $a_2=197.8698$, $b_0=1.0335$, $b_1=0.0387$, $b_2=10^{-8}$, $b_3=5.1183 \cdot 10^{-5}$.

The thermal problem is solved only in the domain limited to the ferromagnetic load with the following boundary conditions figure 9.

$$\frac{\partial T}{\partial n} = 0 \text{ on } \Gamma \text{ and } -\lambda \frac{\partial T}{\partial n} = h(T - T_a) + \varepsilon \sigma (T^4 - T_a^4) \text{ on } \Gamma' \text{ [7].}$$

In this study, we consider that only the hysteresis phenomenon evolves according to the temperature. We are only interested in temperatures below of Curie temperature.

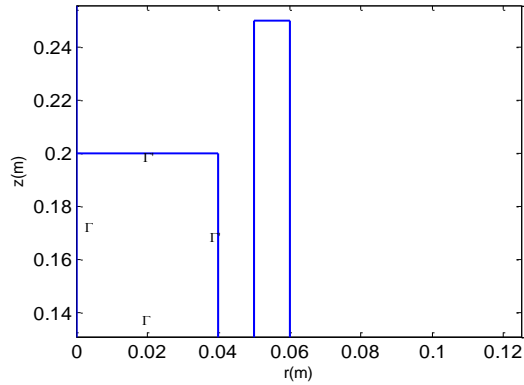


Fig.9. Thermal boundary conditions

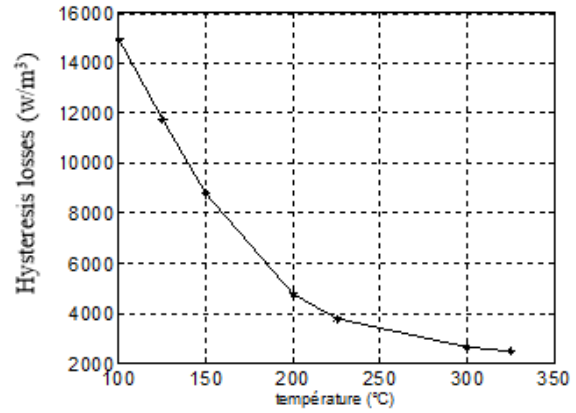


Fig.10. Evolution of hysteresis losses as a function of temperature

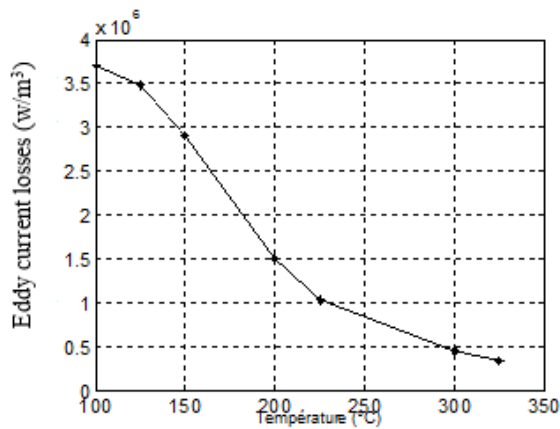


Fig.11. Evolution of eddy current losses as a function of temperature

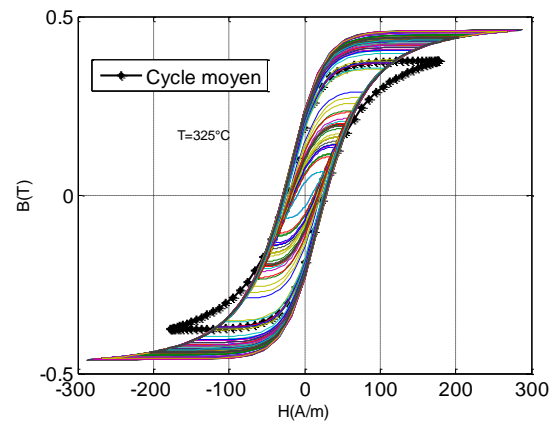


Fig.12. Hysteresis cycles and mean cycle temperature $T=325\text{ }^{\circ}\text{C}$

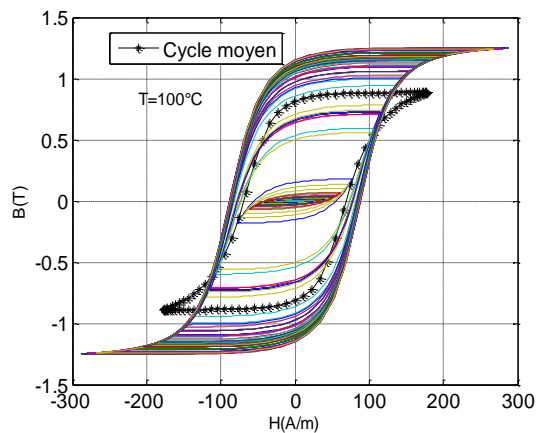


Fig.13. Hysteresis cycles and mean cycle at temperature $T=100\text{ }^{\circ}\text{C}$

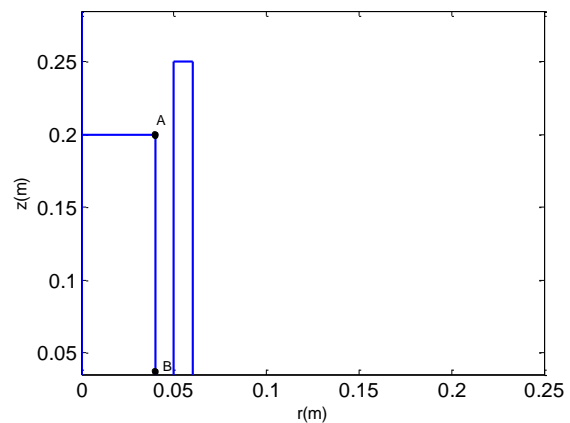


Fig.14. Right segment [AB]

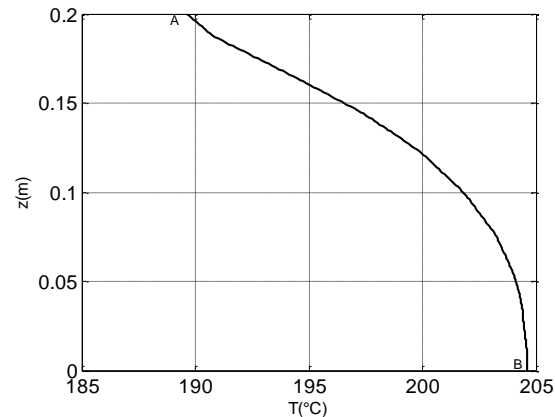


Fig.15. Material Wall Temperature

The results given in figure 10 represent the hysteresis losses as a function of temperature, we can see that hysteresis losses decrease with the increase in temperature.

The results given in figure 11 show the impact of hysteresis losses on eddy current losses.

Figures 12 and 13, it can be seen that saturation magnetization, coercive field and remanent magnetization decrease when temperature increases.

The results given in figures 12 and 13 show a good integration of the hysteresis model in finite element calculation program.

The results given in figure 15 represent difference temperature between the hottest point (B) on wall of the ferromagnetic sample and coldest point (A) at its end.

VI. CONCLUSION

In this study, We provided the static Preisach model with the Student distribution function. We have suggested a program running in the Matlab environment, allowing the resolution of the nonlinear Preisach magnetodynamic issue by incorporating the Preisach model into a field-based finite element method 2D. This work has brought to light the variation of the hysteresis cycle of the device according to temperature and its effect on losses by hysteresis and eddy currents. The study also allowed us to conclude that losses decrease with increasing temperature. We also found that in addition to losses by hysteresis, losses by eddy current are modulated significantly.

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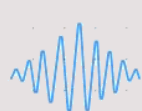
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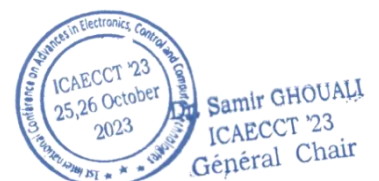
08:30 - 17:00	CONFERENCE REGISTRATION AND CUSTOMER RELATIONS	
08:30 - 09:00	WELCOMING ATTENDEES	
09:00 - 09:20	NATIONAL ANTHEM النشيد الوطني	
	RECITATION OF VERSES FROM THE HOLY QURAN تلاوة آيات من القرآن الكريم	
09:20 - 10:00	OPENING CEREMONY	
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10:20 - 10:40	P L E N A R Y	Prof. Mohamed Benaoumeur Senouci University of Southern Denmark
		(PRESENTIAL) BRINGING THE POWER OF AI TO THE INTERNET OF THINGS
10:40 - 11:00		Prof. Miloud Rezkallah Senior Researcher / Project Manager CR2IE Energy Intelligence Research and Innovation Center Associate Professor; School of Higher Technology (ETS), Canada
		(PRESENTIAL) CHALLENGES AND IMPLEMENTATION OF DECENTRALIZED SMART ENERGY SYSTEMS FOR REMOTE SITES IN CANADA
11:00 - 11:20		Prof. Mustapha HATTI Research Director - UDES/EPST-CDER
		(PRESENTIAL) SMART CITIES: CONCEPTS AND CONDITIONS OF SUCCESS
11:20 - 11:40		Dr. Michael Onyema EDEH Head of Department, Mathematics and Computer Science at Coal City University, Nigeria
		(VIRTUAL) Cybersecurity implication of Mobile Banking
11:40 - 12:00		Prof. Kamil Hussein EMAD Doctor of Engineering, Professor of Mechanical Engineering at Al-Furat Al-Awsat Technical University - Iraq
		(VIRTUAL)
12:00 - 14:00		



FACE TO FACE CONFERENCE ORAL SESSION (Physical)

ROOM A: Control Systems, Robotics and Automation

Session Chairmen	Prof. Miloud REZKALLAH Senior Researcher/Project Manager at CR2IE Energy Intelligence Research and Innovation Center Associate Professor; School of Higher Technology (ETS), Canada Dr. Djamel Eddine CHAOUCH Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Ahmed LARBAOUI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
14:00- 14:15	55	Modeling a Hybrid Compensation System Using Robust GPC Control with a Recurrent Neural Network to Compensate for Powers in a Transmission Line	
		Participant	Abdelkrim BOUANANE Dr. Moulay Taher University Saida
		Co-authors	NERZIOU MADANI, RAOUTI DRISS, YAHIAOUI MERZOUG
14:15- 14:30	71	Study the Influence of Emotions on Language Identification from Speech	
		Participant	Houari HORKOUS Ecole National Polytechnique
		Co-authors	
14:30- 14:45	72	Passivity based control of a two-link flexible manipulator	
		Participant	Adel BELHERAZEM University of sciences and technologies of Oran
		Co-authors	Zakaria BELLAHCENE, Abdelmalek LAIDANI
14:45- 15:00	73	Robust Adaptive Control of Remotely Operated Underwater Vehicle (ROV) for Dam Inspection	
		Participant	Zakaria BELLAHCENE University of sciences and technology of Oran
		Co-authors	ADEL BELHERAZEM, Abdelmalek LAIDANI, Mohammed BOUHAMIDA
15:00- 15:15	75	Photovoltaic Generator Analysis based on Maximum Power Point Tracking with DC/DC Converter for Motor Pump Applications	
		Participant	Fatima MOULAY University of Technology Djilali Liabes of Sidi bel abbes
		Co-authors	HABBATI ASSIA, OUKLI MIMOUNA
15:15- 16:15	Poster session 1 & coffee break		
16:15- 16:30	302	Telemetries forecasting: A preventive approach for satellite operations, diagnostic and monitoring	
		Participant	Ali KADDOURI Algerian Space Agency
		Co-authors	Saiah Bekkar, Djelloul Saiah
16:30- 16:45	78	Energy Management System Enhancement for Electric Vehicle Application	
		Participant	Ibrahim Farouk BOUGUENNA University Mustapha Stambouli of Mascara
		Co-authors	Abdelghani ZABEL, Ahmed TAHOUR, Mohammed Benmadani DEBBAT, Mohamed AMRI



ROOM B: Electronics and its Applications			
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	ID		
14:00- 14:15	50	Optimization of Technological Parameters Process of Mechanically Stacked Si/Ge Solar Cell for High Performance	
		Participant	Kheira AMEUR University Djillali Liabes of Sidi Bel Abbes
		Co-authors	Nadia BENSEDDIK, Halima MAZARI, Kheira OUARI, Zineb BENAMARA
14:15- 14:30	156	Effective MPPT Technique for Wind Energy Conversion System	
		Participant	Mohamed KAOUANE Faculty of technology - UMBB
		Co-authors	Akkila BOUKHELIFA
14:30- 14:45	166	Small Size, Big Impact: CubeSat Imaging with COTS Hardware	
		Participant	Mohammed amine ZAFRANE University of Science and Technologies of Oran
		Co-authors	AHMED RAMZI HOUALEF, AHMED TAHIR
14:45- 15:00	51	Forest Firefighting Using Drone and Artificial Intelligence	
		Participant	Ibrahim Farouk BOUGUENNA University Mustapha Stambouli of Mascara
		Co-authors	Zolikha DAHNOUN
15:00- 15:15	161	Closed Loop Cuk Converter Modeling for Photovoltaic Conversion System	
		Participant	Mohamed Kaouane Faculty of technology - UMBB
		Co-authors	Akkila BOUKHELIFA
15:15- 16:15	Poster session 1 & coffee break		
16:15- 16:30	123	Spontaneous Electric Polarization and Photovoltaic Properties of Stephanite for Thin-Film Solar Celle: A First-Principles Investigation	
		Participant	Naouel CHELIL University Mustapha Stambouli of Mascara
		Co-authors	Mohammed SAHNOUN
16:30- 16:45	177	Study and development of a pseudo-random number generator on FPGA	
		Participant	Omar Medjadj University Mustapha Stambouli of Mascara
		Co-authors	Benaoumeur IBARI, Mourad HEBALI, Rezali BAGHDADI, Mohammed EL-Amine BEYOUR, Hocine Abdelhak AZZEDDINE
16:45- 17:00	196	Study the Electrical Characteristics of a Schottky Diode Based Au/n-type InN/InP at Different Frequencies	
		Participant	Abdelkader BAGHDAD BEY University Mustapha Stambouli of Mascara
		Co-authors	A. TALBI, M. A. BENAMARA, Z. BENAMARA, F. DUCROQUET

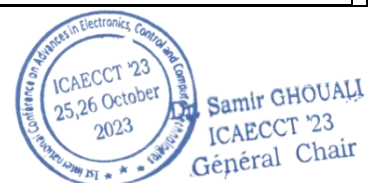
ROOM C: Telecommunications and its Applications

Session Chairmen	Prof. Mohamed Benaoumeur Senouci University of Southern Denmark Dr. Mohamed Larbi TAYEBI TAYEBI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mokhtar BESSEGHIER Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mouweffeq BOUREGAA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Fouad KHERBOUCHE Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
14:00- 14:15	14	Electromagnetic Optimization of Bandpass Cross-Coupled Filter for mobile Communications	
		Participant	Lamia SENASLI Laboratory of Electronics, Advanced Signal Processing and Microwave
		Co-authors	MEHDI DAMOU, NOUR EL HOUDA SARA SENASLI, CHETIOUI MOHAMMED GOUNI SLIMANE, ABDELHAKIM BOUDKHIL
14:15- 14:30	256	Preamble Design for Channel Estimation in FBMC/OQAM systems	
		Participant	Ahmed Bouzidi DJEBBAR Djillali Liabes University, Sidi-Bel-Abbes
		Co-authors	DAHMANE REBOUH, MOKHTAR BESSEGHIER
14:30- 14:45	19	Design of a Filter Based on Direct Coupled Resonators Using the Coupling Matrix Technique	
		Participant	Mehdi DAMOU Laboratory of Electronics, Advanced Signal Processing and Microwave
		Co-authors	GOUNI SLIMANE, BOURAS MAROUA, CHETIOUI MOHAMMED, BOUDLHIL ANDELHAKIM, NOURI KELTOUMA
14:45- 15:00	108	Optimization of Pedestrian Mobility Management in 5G NR Network based on Spectrum Sensing and NLMS Algorithm	
		Participant	Zineb ZIANI USTO-MB University, Oran
		Co-authors	MOHAMMED HICHAM HACHEMI, MILOUD BENCHEHIMA, IKRAM SARI MOHAMMED, FARAH SABRI, BOUABDELLA RAHMANI
15:00- 15:15	143	Miniaturization of a Low-Cost Dual Band Antenna for C Band Applications	
		Participant	Abdellatif BERKAT Abou Bakr Belkaid University-Tlemcen
		Co-authors	Zeyneb BERKAT, Mohamed LATRACH

15:15- 16:15		Poster session 1 & coffee break	
16:15- 16:30	169	Design and Analysis Frequency Reconfigurable Multiband Patch Antenna for 5G Networks and Beyond	
		Participant	REFSI Ismahane USTO-MB University, Oran
		Co-authors	MILOUD BENCHEHIMA, MOHAMMED HICHAM HACHEMI, BOUABDELLA RAHMANI
16:45- 17:00	167	Enhanced Mobility Management on Vehicular Communication System in 5G New Radio Wireless Networks	
		Participant	Bahmed BABA OU SMAIL USTO-MB University, Oran
		Co-authors	MOHAMMED HICHAM HACHEMI, MILOUD BENCHEHIMA, MOHAMMED EL-KHALLIL BELHADJ, MEHDI ABDELHAK AND BOUABDELLA RAHMANI

ROOM D: Biomedical Engineering			
Session Chairmen	Dr. Khadidja GOUZI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Nabila HAMLIL Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Abdelkader HORCH Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. MOHAMMED SEGHIR GUELLIL Faculty SEGC, University Mustapha Stambouli of Mascara, Algeria		
	ID		
14:00- 14:15	151	Multimodal MRI-Based Alzheimer's disease Classification Using CNN	
		Participant	HOURIA Latifa University of Blida 1
		Co-authors	LATIFA HOURIA, ASMAE MAMA ZAIR, ASSIA BOUZOUAD CHERFA, YAZID CHERFA, NOUREDDINE BELKHAMSA
14:15- 14:30	33	LSTM for epileptic disease recognition	
		Participant	Ghezala CHEKHMANE University of Abou Bekr Belkaid Tlemcen
		Co-authors	RADHWANE BENALI
14:30- 14:45	65	Secure and Accurate Identity Verification through Retinal Biometrics: A Novel Approach with Isodata and Entropic Thresholding Techniques	
		Participant	Aicha MOKHTARI University of Abou Bekr Belkaid Tlemcen
		Co-authors	HADJ SLIMANE ZINE EDDINE

14:45- 15:00	24	Blood Product Prediction using Supervised Machine Learning	Participant	Amel YKHLEF National Polytechnic School of Oran
			Co-authors	LABRI NADJLA SELMA, BRAHAMI MENAOUER
15:00- 15:15	150	Advancing MRI-Based Tumor Detection and Classification in Brain Images: A Comprehensive Framework Utilizing Image Processing and Machine Learning with MATLAB GUI Integration	Participant	Abdallah OUMSALEM Hassiba Ben Bouali University of Chlef, Algeria
			Co-authors	Yamina BOUREZIG
15:15- 16:15	Poster session 1 & coffee break			
16:15- 16:30	136	Medical Image Registration Using Local Feature Points & Genetic Search	Participant	Fatiha MESKINE Djillali Liabes University of Sidi-Bel-Abbes
			Co-authors	Oussama MEZOUAR
16:30- 16:45	193	Machine Learning for Optimizing Diabetes Prediction: A Comparative Analysis	Participant	Mohamed AMMARA University Mustapha Stambouli of Mascara
			Co-authors	Mokhtar BESSEGHIER
16:45- 17:00	142	Study and simulation of biosensors based AlGaIn/GaN MOS-HEMTs for specific detection of biomolecules	Participant	Abdellah BOUGUENNA University of Sciences & Technology of Oran (USTO-MB)
			Co-authors	DRISS BOUGUENNA, AMINE BOUDGHENE STAMBOULI
17:00- 17:15	38	New hybrid FCM-ABC algorithm for Brain MRI segmentation	Participant	Boumediene Ghaouti GHAZI University Mustapha Stambouli of Mascara
			Co-authors	BOUDJELAL MEFTAH



CONFERENCE POSTER SESSION 1

Session Chairman		Dr. Mokhtar BESSEGHIER Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Menouer BENNAOUM Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Radia MADJIDI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria
ID		
84	Design of a New Direct Vector Control Using Synergetic Theory for Five-Phase Induction Motor	
	Participant	Fayçal MEHEDI Hassiba Benbouali University, Chlef
	Co-authors	ISMAIL BOUYAKOUB, LEMYA DJAFER, NEZLI LAZHARI, DJAMEL BOUDANA
112	A competitive dual axis solar tracker system	
	Participant	Ghalem Kamel Ghanem Higher School of Energetic and Electrical Engineering, Oran
	Co-authors	BELAIDI IKHLAS, ANTAR KAWTHER, BENOUAR ALI, AHMED BACHA MOHAMED REDA
117	Optimal choice of weightings functions for synthesis a robust H_{∞} controller based on Loop -Shaping using Genetics Algorithms	
	Participant	Djamel eddine GHOURAF National Polytechnic School- Oran
	Co-authors	NACERI ABDELLATIF
126	Design of a robust nonlinear surface sliding mode controller for a quadrotor helicopter	
	Participant	Naima BOUHABZA Université Blida1
	Co-authors	KARA KAMEL
158	Algerian Database Under Development for Automatic Emotion Recognition	
	Participant	Zineddine S. KAHHOUL University of Mohamed Khider Biskra
	Co-authors	SELMA BOUTIBA, HABIBA DAHMANI, NADJIBA TERKI, MOHAMED L. TIAR, ABIR BETKA, ZAYED FERHAT, RIYAD BARKA
178	Real time control of a flight simulator	
	Participant	Sadek NEKROUF University Mustapha Stambouli of Mascara
	Co-authors	SOUFYANE CHEKROUN, KHATIR TABTI
175	Application of fuzzy logic to the control of an industrial 3D Crane	
	Participant	Fatima AFFANE University Mustapha Stambouli of Mascara
	Co-authors	M.ZAREB, A. KHEDIM, M. ALQUDAMI
183	Sliding Mode Controller with a Neuro-Fuzzy Optimized Network (STFIS) for Robotic Manipulator Trajectory Tracking	
	Participant	Djamel Eddine CHAOUCH University Mustapha Stambouli of Mascara
	Co-authors	AHMED LARBAOUI, HOCINE ABDELHAK AZZEDINE



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184	Application Of Direct and Indirect Adaptive Controller Neural Network Based on Rbf Nn for Temperature Control of Electric Resistance	
	Participant	Benyekhlef KADA University Mustapha Stambouli of Mascara
	Co-authors	DJAMEL EDDINE CHAOUCH, ABDELKADER ELKEBIR
250	Applied the different Direct Torque control on the IM	
	Participant	Moulay Idriss CHERGUI University Mustapha Stambouli of Mascara
	Co-authors	ABDELHAQ LAOUFI, SOUFYANE CHEKROUN
301	Real-time implementation of single-phase inverter for photovoltaic system based on DC/DC and DC/AC stages	
	Participant	Abdelkader EL KEBIR University Mustapha Stambouli of Mascara
	Co-authors	HAFIDA BELHADJ
400	Design of a Fly back converter using TL494 control circuit for a photovoltaic system	
	Participant	HAFIDA BELHADJ University Mustapha Stambouli of Mascara
	Co-authors	Abdelkader EL KEBIR
251	Morphology influence of the donor and acceptor molecules of the active layer on the response parameters of organic photovoltaic cells OPVCs	
	Participant	Mohamed Benamar SIAD University Mustapha Stambouli of Mascara
	Co-authors	Y. MOUCHAAL, A. KHELIL, J.C. BERNEDE
96	Image Transmission Through OFDM System	
	Participant	Fatiha MESKINE Djillali Liabes University, Sidi Bel Abbas
	Co-authors	Amina DJIR, Brahim DEHRI
190	Deforestation detection using NRCS features extracted from multi dates SAR images	
	Participant	Abdelkader Horch University Mustapha Stambouli of Mascara
	Co-authors	IMANE MAHFOUF, MOKHTAR BESSEGHIER, HOCINE ABDELHAK AZZEDDINE, ABDERAHMANE LOUNI
310	Detection of Sleep Apnea Using Machine Learning Algorithms Based on The ECG Signal	
	Participant	Leila RIZOUG University Mustapha Stambouli of Mascara
	Co-authors	ISMAHENE BAADJA, NORA BELHAJ, ABDELKADER HORCH, ABDERRAHMANE LOUNI
176	Application of Artificial Neural Network (ANN) to Predict the Electrical Properties of 4H-SiC Schottky Diodes	
	Participant	Mohammed El-Amine BEYOUR University Mustapha Stambouli of Mascara
	Co-authors	MOURAD HEBALI, BENOUMEUR IBARI, OMAR MEDJADJ, REZALI BAGHDADI, ABDELKADER MAACHOU, HOCINE ABDELHAK AZZEDDINE, MENAOUER BENNAOUM

186	Advances in Power Sources and Power Electronic Converters for Multi-Source Electric Vehicles	
	Participant	Khaled BOUHADEF University Mustapha Stambouli of Mascara
	Co-authors	DJAMEL EDDINE CHAOUCH, HOCINE ABDELHAK AZZEDINE
139	Dual-Band Planar Antenna Design with Complementary Metamaterial Resonators for 5G systems	
	Participant	Nour El Houda BOUKHLIF University Mustapha Stambouli of Mascara
	Co-authors	SAMIR GHOUALI, ABDELFTTAH MIRAoui
187	Exploring the Security Landscape Internet of Things	
	Participant	Hadjer BOUKHLIF University Mustapha Stambouli of Mascara
	Co-authors	MOUWEFREQ BOUREGAA, MOHAMMED MOULAY
194	Wireless Technology in Medical Applications: State of the Art, Challenges, and Opportunities	
	Participant	Abderrahmane BENHALIMA University Mustapha Stambouli of Mascara
	Co-authors	BENZERGA FELLAH, SAMIR GHOUALI
185	Revolutionizing Diabetic Retinopathy Detection: A Comprehensive Review of AI Approaches	
	Participant	Imane MAHFOUF University Mustapha Stambouli of Mascara
	Co-authors	ABDElkADER HORCH, BOUALEM MERABET
197	Optimizing Chromatic Dispersion in Fiber with Air-Silica Microstructured (FMAS) for Advanced Optical Telecommunications	
	Participant	Mohammed DEBBAL University Mustapha Stambouli of Mascara
	Co-authors	MOUWEFREQ BOUREGAA, MOHAMMED CHAMSE EDDINE OUADAH, HICHAM CHIKH-BLED
405	The role of formants and subglottal resonance frequencies for emphatic feature identification in Arabic speech	
	Participant	Abderrahmane LOUNI University Mustapha Stambouli of Mascara
	Co-authors	LEILA RIZOUG, ABDELHAK ZOUGGARET, BOUALEM MERABET, ABDERRAHIM BELMADANI
303	Photo-electrochemical and Physical Properties of the Spinel CuMn2O4 Prepared by Chemical Route: Application to Photodegradation of carminic acid dye	
	Participant	Hafidha BOUCHAABA University Mustapha Stambouli of Mascara
	Co-authors	SARRA GOUDJILI, ZOHRA FERGOUG
17	Control of six-phase two-motor drive machine serie-connected fed by five-level six-phase inverter	
	Participant	Taieb BESSAAD Hassiba Benbouali University Chlef
	Co-authors	ABDERRAHMEN BENBOUALI

VIRTUAL CONFERENCE SESSION

ROOM E: Control Systems, Robotics and Automation (VIRTUAL)

Session Chairmen	<div>Dr. Soufyane CHEKROUN Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria</div> <div>Dr. Omar DAHOU Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria</div> <div>Dr. Benyekhlief KADA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria</div> <div>Dr. Boumediene BENABDALLAH SEREIR Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria</div>						
	ID						
14:00- 14:15	11	<div>Detecting Bearing Faults by Processing Vibration Signals</div> <table><tr><td>Participant</td><td>Karim BOUAOUICHE Badji Mokhtar-Annaba University</td></tr><tr><td>Co-authors</td><td>YAMINA MENASRIA, DALILA KHALFA</td></tr></table>		Participant	Karim BOUAOUICHE Badji Mokhtar-Annaba University	Co-authors	YAMINA MENASRIA, DALILA KHALFA
Participant	Karim BOUAOUICHE Badji Mokhtar-Annaba University						
Co-authors	YAMINA MENASRIA, DALILA KHALFA						
14:15- 14:30	20	<div>Enhancing Performance and Robustness of Vector Control for Three-Phase Synchronous Reluctance Machine Using Second-Order Sliding Mode</div> <table><tr><td>Participant</td><td>Belkacem SELMA Hassiba Benbouali University of Chlef</td></tr><tr><td>Co-authors</td><td>ELHADJ BOUNADJA, BACHIR BELMADANI, BOUMEDIENE SELMA</td></tr></table>		Participant	Belkacem SELMA Hassiba Benbouali University of Chlef	Co-authors	ELHADJ BOUNADJA, BACHIR BELMADANI, BOUMEDIENE SELMA
Participant	Belkacem SELMA Hassiba Benbouali University of Chlef						
Co-authors	ELHADJ BOUNADJA, BACHIR BELMADANI, BOUMEDIENE SELMA						
14:30- 14:45	23	<div>Second Order Sliding Mode Control of a Hybrid Excitation Synchronous Generator-based Wind Turbine supplying a DC Load</div> <table><tr><td>Participant</td><td>Walid Mohammed KACEMI Hassiba Benbouali University of Chlef</td></tr><tr><td>Co-authors</td><td>ELHADJ BOUNADJA, ABDELKADIR BELHADJ DJILALI</td></tr></table>		Participant	Walid Mohammed KACEMI Hassiba Benbouali University of Chlef	Co-authors	ELHADJ BOUNADJA, ABDELKADIR BELHADJ DJILALI
Participant	Walid Mohammed KACEMI Hassiba Benbouali University of Chlef						
Co-authors	ELHADJ BOUNADJA, ABDELKADIR BELHADJ DJILALI						
14:45- 15:00	21	<div>Modeling and Control of Variable Structure Scheme for Grid-Connected Wind Power Production System with Parallel-Connected Synchronous Reluctance Generators</div> <table><tr><td>Participant</td><td>Belkacem SELMA Hassiba Benbouali University of Chlef</td></tr><tr><td>Co-authors</td><td>ELHADJ BOUNADJA, BACHIR BELMADANI, BOUMEDIENE SELMA</td></tr></table>		Participant	Belkacem SELMA Hassiba Benbouali University of Chlef	Co-authors	ELHADJ BOUNADJA, BACHIR BELMADANI, BOUMEDIENE SELMA
Participant	Belkacem SELMA Hassiba Benbouali University of Chlef						
Co-authors	ELHADJ BOUNADJA, BACHIR BELMADANI, BOUMEDIENE SELMA						
15:00- 15:15	59	<div>Modeling and control of a twin-rotor drone</div> <table><tr><td>Participant</td><td>Aissa MEKSI University of Sciences and Technology of Oran</td></tr><tr><td>Co-authors</td><td>Laid ABDELALI</td></tr></table>		Participant	Aissa MEKSI University of Sciences and Technology of Oran	Co-authors	Laid ABDELALI
Participant	Aissa MEKSI University of Sciences and Technology of Oran						
Co-authors	Laid ABDELALI						
15:15- 16:15	Poster session 1 & Coffee /Tea break						
16:15- 16:30	60	<div>Induction Machine Parameters Identification By Using Hybridation Between Genetic Algorithm And Hooke-Jeeves method</div> <table><tr><td>Participant</td><td>El-Ghalia BOUDISSA Saad Dahlab University of Blida1</td></tr><tr><td>Co-authors</td><td>F. HABBI, N. DIF, N.E.H. GABOUR, M. BOUNEKHLA</td></tr></table>		Participant	El-Ghalia BOUDISSA Saad Dahlab University of Blida1	Co-authors	F. HABBI, N. DIF, N.E.H. GABOUR, M. BOUNEKHLA
Participant	El-Ghalia BOUDISSA Saad Dahlab University of Blida1						
Co-authors	F. HABBI, N. DIF, N.E.H. GABOUR, M. BOUNEKHLA						

16:30- 16:45	68	Particle Swarm Optimization Algorithm-Based PID Controller for Output Voltage Regulation of Synchronous Generator	
		Participant	El-Ghalia BOUDISSA Saad Dahlab University of Blida1
		Co-authors	FATIHA HABBI, NOUR EL HOUDA GABOUR, MOHAMED BOUNEKHLA AND DIF NAAS
16:45- 17:00	253	Fuzzy Neuronal with Robust Control for Uncertain Nonlinear Systems	
		Participant	Fatima Zohra DAIKH University Mustapha Stambouli of Mascara
		Co-authors	MOHAMMED SEGHIR GUELLIL, MOHAMMED AMINE HAMADOUCHE
17:00- 17:15	8	Sliding Mode Control of a Five-Phase Series- Connected Two-Motor Drive	
		Participant	Omar ZOUAID polytechnic national school of Algiers
		Co-authors	LAZHARI NEZLI
17:15- 17:30	25	Simplified Control of PMSM Motors with Matrix Converter using SVM Strategy	
		Participant	Fayssal SAIDI Hassiba Benbouali University Chlef
		Co-authors	ELHADJ BOUNADJA, ABDELKADER DJAHBAR
17:30- 17:45	85	Speed Sliding Control of Squirrel Cage Motor combined NPC Five Level Inverter	
		Participant	Kheira MENDAZ University Ain Temouchent
		Co-authors	BENHADDA YAMINA, YOUNES KHADIDJA

ROOM F: Telecommunications and its Applications (VIRTUAL)

Session Chairmen	Dr. Abdelhak ZOUGGARET Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Benzerga FELLAH Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Abderrahmane LOUNI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Fatima Zohra BOUMEDIENE Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
14:00- 14:15	18	Millimeter-wave transmission at 90 GHz in a hybrid fiber/FSO communication system using MIMO-FSO channel performance	
		Participant	Samra DEROUCHE UABT University, Tlemcen
		Co-authors	SAMIR KAMECHE, HAROUN ERRACHID ADARDOUR
14:15- 14:30	16	Performance Analysis of Hybrid Multiple Access OCDMA/OFDM System Using Spectral Cyclic Shift Code	
		Participant	Mohamed RAHMANI TAHRI Mohamed University of Bechar
		Co-authors	ABDELHAMID CHERIFI, GHOUTIA NAIMA SABRI
14:30- 14:45	5	Performance in Power-Domain of NOMA for fifth-generation mobile networks (5G)	
		Participant	Yaakoub BERROUCHE Université Ferhat Abbas Sétif 1
		Co-authors	
14:45- 15:00	28	High Cardinality Optical Multiple Access CDMA Networks Adopting a Novel Incoherent Spectral/Temporal/Spatial Encoding Block	
		Participant	Mohamed RAHMANI TAHRI Mohamed University of Bechar
		Co-authors	ABDELHAMID CHERIFI, GHOUTIA NAIMA SABRI
15:00- 15:15	29	Performance Optimization and Comparative Analysis of Reliable Multicast Protocols (AMRHy and DyRAM) in Wireless Mesh Networks	
		Participant	Asma BENMOHAMMED Université Abdelhamid Mehri Constantine 2
		Co-authors	MERNIZ SALAH
15:15- 16:15	Poster session 1 & Coffee /Tea break		
16:15- 16:30	56	A hybrid medical images watermarking technique using DWT and DCT	
		Participant	Rania HAMAMI LASA laboratory, Badji Mokhtar Annaba university
		Co-authors	NARIMA ZERMI, LARBI BOUBCHIR, AMINE KHALDI
16:30- 16:45	141	Smart Solutions for Smartphone Repair: Connecting Users with Expert Technicians	
		Participant	Rajaa BENHADI University Mustapha Stambouli of Mascara
		Co-authors	SAMIR GHOUALI



Dr. Samir GHOUALI
ICAECCT '23
Général Chair

16:45- 17:00	124	Implementation of MF - TDMA OTDM-WDM mapping for the DVB-RCS2 system: Functional approach	Participant	Meryem Romaissa DJELLOULI university Djillali Liabes Sidi Bel Abbas
			Co-authors	SID AHMED CHOUAKRI, ABDELKRIM GHAZ
17:00- 17:15	180	Spectro-Temporal Features for Robust AMR-NB Transcoded Speech Recognition Using Deep Neural Networks	Participant	Lallouani OUCHAKOUR USTHB
			Co-authors	MOHAMED DEBYECHE
17:15- 17:30	77	An overview on DNA-based cryptography	Participant	Djihad DJAA Djillali Liabes University, Sidi Bel Abbas
			Co-authors	KHEIREDDINE MEKKAoui, SOFIANE BOUKLI-HACENE
17:30- 17:45	47	Modeling of Radar Sea Clutter Using the Mixture of Three Weibull Distributions	Participant	Sarah LEFAIDA University Des Frères Mentouri Constantine
			Co-authors	Faouzi SOLTANI, Amar MEZACHE

ROOM G: Telecommunications and its Applications (VIRTUAL)				
Session Chairmen	Prof. Larbi SEKHRI Industrial Computing and Networks Research Laboratory (LIIR), University of Oran Prof. Amina BENDAOU Djillali Liabes University of Sidi Bel-Abbes, Algeria Dr. Abdelfettah MIRAoui Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mokhtar BOUHALOUANE Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria			
	ID			
14:00- 14:15	34	Design and Performance Evaluation of X-Band Satellite Antenna with Frequency Reconfigurability Using Varactor Diode	Participant	Rahma Djaouda TALEB ABOU BEKR BELKAID University, Tlemcen
			Co-authors	MOHAMMED ZAKARYA BABA-AHMED, MOHAMMED AMIN RABAH, SIDAHMED BENABBOU, MERIEM IKRAM SOUFI
14:15- 14:30	39	A Log Periodic Dipole Antenna Array SIW Feeding For 5G Millimeter-Wave Applications	Participant	Hanane METAHRI ABOU BEKR BELKAID University, Tlemcen
			Co-authors	MEHADJI ABRI, MOHAMMED MOULAY, HANAA MOUSSAOUI, NABIL CHERIF

14:30- 14:45	43	Inovation of a Miniaturized Antenna Array Based On A High Frequency Substrate And Metamaterial Cells	Participant	Fayza BOUSALAH ABOU BEKR BELKAID University, Tlemcen
			Co-authors	HAYAT BENOSMAN, AMIN MOHAMMED RABAH, ZAKARIYA MOHAMMED BABA AHMED
14:45- 15:00	48	Efficiency of 40 Gbps OTDM-FSO optical system under weather conditions	Participant	Haroun Errachid ADARDOUR UHBC University, Chelf
			Co-authors	SINGH MEHTAB, IKRAM KHELOUF, C. ABDELHAKIM FELLAGUE
15:00- 15:15	49	Design of a Miniature Circularly Polarized Microstrip Antenna for GNSS Applications	Participant	Hayet BENOSMAN ABOU BEKR BELKAID University, Tlemcen
			Co-authors	FAYZA BOUSALAH, AMINE RABAH
15:15- 16:15	Poster session 1 & Coffee /Tea break			
16:15- 16:30	63	Numerical Dynamics Analysis of a Chaotic Third-Order Phase-Locked Loop	Participant	Mohammed BENDAOUD ABOU BEKR BELKAID University, Tlemcen
			Co-authors	SAMIR KAMECHE, ACHOUR OUSLIMANI
16:30- 16:45	115	Blind Speech Enhancement Based on Adaptive Filtering and Improved Bat Algorithm	Participant	Sofiane FISLI 8 Mai 1945- Guelma University
			Co-authors	MOHAMED DJENDI
16:45- 17:00	121	Study of a dual polarized RoF OFDM system with WDM-PON structure for mobile broadband networks	Participant	chebra abdenmour FELLAG ABOU BEKR BELKAID University, Tlemcen
			Co-authors	AHMED RIAD BORSALI, MEHDI ROUISSAT
17:00- 17:15	89	Design and Simulation of U-slotted Microstrip Patch Antenna for L, S, C and X Band	Participant	Riadh DEGACHI University of El-Oued
			Co-authors	GHENDIR SAID
17:15- 17:30	31	A Nano rectangular gold and graphene patch antenna for WBAN applications	Participant	Bouchra MOULFI University of Ain Temouchent
			Co-authors	SOUHEYLA FEROUANI, DJALAL ZIANI KERARTI AND FATIMA ZAHRA MOUSSA
17:30- 17:45	131	Design and Simulation of a Leaky Wave Antenna Based on Metamaterial Substrate Integrated Waveguide for Millimeter-wave Application	Participant	Chaabane SOUMALI University of Yahia Fares Medea
			Co-authors	MOUNIR BELATTAR



Samir GHOUALI
ICAECCT 23
Général Chair

26 October 2023

08:30 - 13:00

REGISTRATION

FACE TO FACE CONFERENCE ORAL SESSION (Physical)

ROOM A: Control Systems, Robotics and Automation

Session Chairmen	Dr. Soufyane CHEKROUN Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Benaoumeur IBARI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mohammed El Amine SENOUSSAOUI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Adel BENABBOUN Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
09:00- 09:15	114	Enhancing Industrial Process Control using multi-layer perceptron (MLP)	
		Participant	Leila BENAÏSSA KADDAR University Mustapha Stambouli of Mascara
		Co-authors	Mohamed El Mehdi ZAREB
09:15- 09:30	171	Velocity observer-based computed torque control for trajectory tracking of uncertain robotic manipulators	
		Participant	Rezali BAGHDADI University Mustapha Stambouli of Mascara
		Co-authors	BENAOUMEUR IBARI, MOURAD HEBALI, OMAR MEDJADJ, MOHAMMED EL-AMINE BEYOUR, AHMED FOITIH ZOUBIR
09:30- 09:45	179	Electric Vehicle Wheel-Slip control Based on Sliding Mode Controller	
		Participant	Tabti KHATIR University Mustapha Stambouli of Mascara
		Co-authors	MOSTEFAI LOTFI, CHEKROUN SOUFYANE, NEKROUF SADEK, LARBAOUI AHMED
09:45- 10:45	Poster session 2 & coffee break		
10:45- 11:00	109	Intelligent control strategy of induction motor through Fuzzy Logic Direct Torque Control	
		Participant	Ameur Fethi AIMER University Dr. Tahar Moulay of Saida, Algeria
		Co-authors	AHMED HAMIDA BOUDINAR, MOHAMED EL-AMINE KHODJA, AZEDDINE BENDIABDELLAH
11:00- 11:15	257	Full State Feedback Control for Underactuated Nonlinear Mechanical Systems	
		Participant	Anis FEDDAOUI Badji Mokhtar University
		Co-authors	M.A. DJEHAF, Y.I. DJILLANI KOBIBI, O. FEZAZI



Samir GHOULI
ICAECCT '23
Général Chair

11:15- 11:30	132	A comparative analysis of bioreactor system control with the high-order sliding controller and the classic sliding control	
		Participant	Mohamed MESSABIH University of Science and Technology of Oran, USTO
		Co-authors	BACHIR DAAOU, ABDERRAHMENE KACIMI, ABDERRAHMENE SNOUSSAOUI
11:30- 11:45	113	Identifying Spatial Risk of Road Accidents Based On Fuzzy Logic Approach	
		Participant	Miloud DRISS University Mustapha Stambouli of Mascara
		Co-authors	MOHAMED AMINE HAMADOUCHE, MUSTAPHA LALLAM, OUALID LARGUECHE, SOFIANE ADJLOUT

FACE TO FACE CONFERENCE ORAL SESSION (Physical)

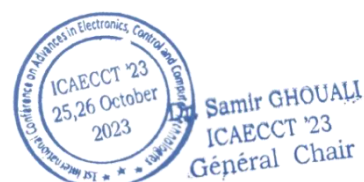
ROOM B: Telecommunications and its Applications			
Session Chairmen	Dr. Abdelfettah MIRAOU Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mohamed MOULAY Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mokhtar BESSEGHIER Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Belhassane AHMEDBLAHA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
09:00- 09:15	122	Turbulence Effect on RGB Image Transmission over IM/DD Communication-Oriented Free-Space Optical Systems	
		Participant	Amina DJIR Djillali Liabes University, Sidi-Bel-Abbes
		Co-authors	Fatiha MESKINE, Mohamed Larbi TAYEBI
09:15- 09:30	119	Deep learning for Microwave Modeling and Design	
		Participant	Nour El Houda Sara SENASLI University Dr. Tahar Moulay of Saida, Algeria
		Co-authors	MOHAMMED CHETIOUI, LAMIA SENASLI, MEHDI DAMOU
09:30- 10:30	Poster session 2 & coffee break		
10:30- 10:45	252	Compressive Spectrum Sensing for Cognitive Radio: Recovery and Detection	
		Participant	Hadj Abdelkader BENZATER Ecole militaire polytechnique, Alger
		Co-authors	DJAMEL TEGUIG, NACERREDINE LASSAMI
10:45- 11:00	95	Design and Performance Analysis of a High-Gain Coaxial Probe-Fed Fractal Antenna for Multiband Applications Using Sierpinski Triangle Geometry	
		Participant	ABDELBASSET AZZOUZ Dr. Moulay Taher University Saida
		Co-authors	RACHID BOUHMIDI, ABDELLATIF KHELIL
11:00- 11:15	67	Intelligent Recognition of Digital Modulation on Terahertz Channel	
		Participant	Asmâa OUESSAI University of Saida
		Co-authors	ABDELKADER TAMI, HACHEMI SOUMAYA, KOURAT IKRAM

FACE TO FACE CONFERENCE ORAL SESSION (Physical)

ROOM C: High Voltage Engineering and Applications

Session Chairmen	Prof. Youcef BENMIMOUN Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Fouad KHERBOUCHE Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Toufik Ahmed HOUARI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
09:30- 09:45	138	Analyzing Particles Trajectories in a Free-Fall Electrostatic Separator	
		Participant	Mohammed Fethi BEKKARA University Mustapha Stambouli of Mascara
		Co-authors	A. BOUARGOUB, A. CHELIH, D. AZZEDDINE, H.A. AZZEDDINE, Y. BENMIMOUN
09:45- 10:00	81	Experimental Study of Current Density and Electric Field at Various Temperatures in Electrostatic Precipitator	
		Participant	Hakim AIT SAID University of Relizane
		Co-authors	ABDELKRIM LAIFAOU, BOUZIANE MELIANI, MEZIANE KACI, NIHAD HEBBAR, MASSINISSA AISSOU, HAMOU NOURI
10:00- 10:15	64	Multi objective particle swarm optimization with Selective harmonic elimination technique for neutral point clamped multilevel inverters	
		Participant	Nour El Houda GABOUR University M'hamed Bougara Boumerdes
		Co-authors	EL GHALIA BOUDISSA, FATIHA HABBI, MOHAMED BOUNEKHLA

CLOSING CEREMONY



CONFERENCE POSTER SESSION 2

Session Chairmen		Dr. Abdelkader BESSAKRA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Isma HATRAF Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria	
ID			
35	Planar Micro-Inductor Design for Stand-Alone Photovoltaic DC-DC Converter		
	Participant	Mokhtaria DERKAOUI National Higher School of Telecommunications & ICT of Oran	
	Co-authors	YAMINA BENHADDA, AZZEDINE HAMID	
36	Monolithic Micro-Transformer Magneto-Thermal Behaviour for MEMS		
	Participant	Mokhtaria DERKAOUI National Higher School of Telecommunications & ICT of Oran	
	Co-authors	YAMINA BENHADDA, AZZEDINE HAMID	
42	Design and Realization of Power Divider Using Microstrip Stubs Line		
	Participant	Rahmouna EL BOUSLEMTI Ecole Nationale polytechnique d'oran, Maurice audin	
	Co-authors		
41	Real-Time Hardware and Software System for Assistance in Daily-life Mobility of Visually Impaired Individuals		
	Participant	Rahmouna EL BOUSLEMTI Ecole Nationale polytechnique d'oran, Maurice audin	
	Co-authors	N. BENTYAEB, W. KROUCHI	
46	Implementation of GA based selective harmonic elimination pulse width modulation for two level three phase inverters using DSPACE DS1104		
	Participant	Lemya DJAFER Hassiba Benbouali University of Chlef	
	Co-authors	Rachid TALEB, Fayçal MEHEDI, Aicha AISSA BOKHTACHE	
58	U-Net vs. TransUNet for Weed Segmentation: A Comparative Study		
	Participant	Mohamed El Amine BOUHADJER Djillali Liabes University Sidi Bel Abbas	
	Co-authors	SARAH MAZARI, MILOUD CHIKRELMEZOUAR	
66	Design of an All-Optical Half Adder Around 1.31 μm Based on Nonlinear 2DPhCRRs		
	Participant	Abdallah IKHLEF Abou Bakr Belkaid University of Tlemcen	
	Co-authors	HADJIRA BADAoui, MEHADJI ABRI	
173	Study of the MWT (Metal Wrap Through) heterojunction solar cell with numerical simulation		
	Participant	Nadjet BENADLA Abou Bakr Belkaid University of Tlemcen	
	Co-authors		

129	A Comprehensive Analysis of 433MHz Image Telemetry in Educational CubeSat Context	
	Participant	Mohammed amine ZAFRANE University of Science and Technologies of Oran
	Co-authors	MILOUD BECHEHIMA, AHMED RAMZI HOUALEF
133	Simulation of Harmonic Perturbation for AC Impedance Measurement in a SOFC Cathode	
	Participant	Ismail BENCHEBIBA University of Chlef
	Co-authors	MOHAMED MOSTEFAOUI, NEDJAR YAHIA MOUHAMED AMINE
26	Water Treatment Using a Kit Consisting of Two Identical Series Ozone Generators Powered by a Pv (Photovoltaic) System, Designed for Isolated Areas	
	Participant	Souhila BOUDJELLA university Mustapha Stambouli of Mascara
	Co-authors	M NADJIB BRAHAMI, FATIMA Z BOUDJELLA, SAID NEMMICH, AMAR TILMATINE, MOSTEFA BRAHAMI
70	Investigating the impact of the receiver in protecting two wind turbines with different settings from lightning	
	Participant	Younes ABDELBARI University of Tiaret
	Co-authors	MIMOUNI ABDENBI
116	Modeling and Optimization of an Industrial Roll-type Separator Using the Response Surface Methodology	
	Participant	Djillali AZZEDDINE university Mustapha Stambouli of Mascara
	Co-authors	MOHAMMED FETHI BEKKARA, YUCEF BENMIMOUN, HOCINE ABDELHAK AZZEDDINE
130	Analyzing Ozone Generation: An Experimental Study of Volume Dielectric Barrier Discharge Generators	
	Participant	Ibrahim NEDJAR university Mustapha Stambouli of Mascara
	Co-authors	A. BENABBOUN, A. MOUFFAK, S. NEMMICH
144	Two-dimensional simulation of dielectric barrier discharge in argon gas at atmospheric pressure	
	Participant	Nedjar Yahia Mohamed Amine Hassiba Ben bouali University of Chlef
	Co-authors	MOHAMED MOSTEFAOUI, ISMAIL BENCHEBIBA, DJILALI BENYOUCEF
147	Automatic Voltage Regulator of a Synchronous Generator by Using Fuzzy Logic	
	Participant	Yassine ADJISSI Saad Dahlab University, Blida
	Co-authors	BOUDISSA EL-GHALIA, BOUNEKHLA M'HAMED
153	Efficiency and Sustainability in Public Transit: The Sidi Bel Abbès Tramway Line Extension and Energy Recovery System	
	Participant	Houaria BELAHCENE university Mustapha Stambouli of Mascara
	Co-authors	O. DAHOU, A. MOUFFAK AND Y.I. DJILANI KOBIBI

192	Current Control for an Electrostatic Separator	
	Participant	Hocine Abdelhak AZZEDDINE university Mustapha Stambouli of Mascara
	Co-authors	MOHAMMED FATHI BEKKARA, DJILLALI AZZEDINE, YUCEF BENMIMOUN, ABDELKADER HORCH, MOURAD HEBALI, BENAOUMEUR IBARI, DJAMEL EDDINE CHAOUCH, AHMED ARBAOUI

ROOM D: Control Systems, Robotics and Automation (VIRTUAL)

Session Chairmen	Dr. Djamel Eddine CHAOUCH Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Adnane MOUFFAK Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Khatir TABTI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Djillali AZZEDDINE Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
09:00- 09:15	93	Neural Input Output Linearization Control of Induction Motor	
		Participant	kheira MENDAZ university Ain Temouchent
		Co-authors	YAMINA BENHADDA, NARIMENE KHADRAOUA
09:15- 09:30	146	Electronic Differential with Sliding Mode Backstepping Control for Vehicle Propulsion System	
		Participant	Ahmed LARBAOUI University Mustapha Stambouli of Mascara
		Co-authors	A.BENABBOUN, H. AZZEDINE, K. TABTI, A. ZOGGARET, D. CHAOUCH, Y.I. DJILANI KOBIBI, A. BERROUDJI, K. BOUHADEF
09:30- 09:45	99	Exploiting the Open-Source ROS Framework for Self-Governing Drone Flight Empowered by Artificial Intelligence	
		Participant	Marwa GAIDI University Mustapha Stambouli of Mascara
		Co-authors	SOUFYANE CHEKROUN, MOKHTAR ZERIKAT, MOHAMED EL MEHDI ZAREB
09:45- 10:45	Poster session 2 & coffee break		
10:45- 11:00	106	Signal Processing-based Fault Detection	
		Participant	Chaima TAMRABET Badji Mokhtar University, Annaba
		Co-authors	ELIAS HADJADJ AOUL, MOHAMED TAHAR DEKHMOCHE
11:00- 11:15	125	Integration and modeling thermal effect in Preisach model associated with the student distribution function using the finite element method	
		Participant	Mourad DAFRI Badji Mokhtar University, Annaba
		Co-authors	MOURAD NAIDJI, ABDELAZIZ LADJIMI

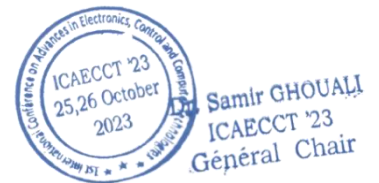
11:15- 11:30	135	Hybrid GA-ANN model for the prediction of EV Wheel speeds	Participant	Medjdoub KHESSAM Center univ Naama
			Co-authors	HAZZAB ABDEL DJEBAR, MOUNA HADJADJ, REZKALLAH MILOUD, AMBRISH CHANDRA
11:30- 11:45	168	Simulation and control of energy storage systems in the hybrid renewable energies DC-Microgrid: a comparative study	Participant	Oussama HAFSI Ahmed Draia University, Adrar
			Co-authors	MOHAMED AMINE SOUMEUR, MOHAMED AMINE HARTANI, ABDESELEM CHAKAR, AISSA BENHAMOU, OTHMANE ABDELKHALEK
11:45- 12:00	174	State Estimation for Nonlinear System Using Line Integral Lyapunov Function: A Polytopic Approach with Unmeasurable Premises	Participant	Khalida MIMOUNE university of Biskra
			Co-authors	KHALIDA MIMOUNE, MOHAMED YACINE HAMMOUDI, SOURI MOHAMED MIMOUNE
12:00- 12:15	202	Fractional Order Adaptive MRAC Controller Design	Participant	Souad ANTEUR University Mustapha Stambouli of Mascara
			Co-authors	BACHIR BOUIADJRA ROCHDI, MOHAMMED BENMADANI DEBBAT
12:15- 12:30	62	Ear recognition system based on multi-scale feature extraction technique	Participant	Lebed Toufik University of May 08, 1945 Guelma
			Co-authors	ABDELHAK BOUKHAROUBA

ROOM E: Electronics and its Applications (VIRTUAL)				
Session Chairmen	Prof. Abdelkader EL KEBIR Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mourad HEBALI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Menouer BENNAOUM Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Abdelkader BAGHDAD BEY Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria			
	ID			
09:00- 09:15	12	Optimal Power Flow Solution using QPSODM Algorithm	Participant	Mourad NAIDJI Badji Mokhtar University, Annaba
			Co-authors	MOURAD DAFRI, ABDELBASET LAIB
09:15- 09:30	13	A novel approach for wind farm layout optimization using QPSODM algorithm	Participant	Mourad NAIDJI Badji Mokhtar University, Annaba
			Co-authors	MOURAD DAFRI

09:30- 09:45	30	Thermal Analysis and Heat Sink Optimization for Power Transistor Cooling						
		<table><tr><td>Participant</td><td>Yamina BENHADDA</td></tr><tr><td></td><td>USTO, Oran</td></tr><tr><td>Co-authors</td><td>K. MENDAZ, M. DERKAOUI, H. KHARBOUCH</td></tr></table>	Participant	Yamina BENHADDA		USTO, Oran	Co-authors	K. MENDAZ, M. DERKAOUI, H. KHARBOUCH
Participant	Yamina BENHADDA							
	USTO, Oran							
Co-authors	K. MENDAZ, M. DERKAOUI, H. KHARBOUCH							
09:45- 10:45	Poster session 2 & coffee break							
10:45- 11:00	52	High Transmission Dielectric Grating at the Littrow Angle Using Antireflection Coating in the Visible Spectral Range						
		<table><tr><td>Participant</td><td>Mounira ZOUTAT</td></tr><tr><td></td><td>University of Sciences and Technology Houari Boumediene</td></tr><tr><td>Co-authors</td><td>BERBAR TARIK BOUZIAN</td></tr></table>	Participant	Mounira ZOUTAT		University of Sciences and Technology Houari Boumediene	Co-authors	BERBAR TARIK BOUZIAN
Participant	Mounira ZOUTAT							
	University of Sciences and Technology Houari Boumediene							
Co-authors	BERBAR TARIK BOUZIAN							
11:00- 11:15	137	Contribution to the Study of the Electrical Behavior of an 1T- 1C-DRAM Memory Cell in 250nm CMOS (3C-SiC) Technology						
		<table><tr><td>Participant</td><td>Jilali BERBARA</td></tr><tr><td></td><td>Tissemsilt University</td></tr><tr><td>Co-authors</td><td>MOURAD HEBALI, MOHAMMED EL-AMIN BEYOUR, MILOUD ABBOUN ABID, DJILALI CHALABI</td></tr></table>	Participant	Jilali BERBARA		Tissemsilt University	Co-authors	MOURAD HEBALI, MOHAMMED EL-AMIN BEYOUR, MILOUD ABBOUN ABID, DJILALI CHALABI
Participant	Jilali BERBARA							
	Tissemsilt University							
Co-authors	MOURAD HEBALI, MOHAMMED EL-AMIN BEYOUR, MILOUD ABBOUN ABID, DJILALI CHALABI							
11:15- 11:30	188	A New Design of Non-Causal Recursive Digital Filters with a backward-forward realization for both Standard and Non-standard Magnitude Specifications						
		<table><tr><td>Participant</td><td>Adnane MOUFFAK</td></tr><tr><td></td><td>University Mustapha Stambouli of Mascara</td></tr><tr><td>Co-authors</td><td>HAZZAB ABDEL DJEBAR, MOUNA HADJADJ, REZKALLAH MILOUD, AMBRISH CHANDRA</td></tr></table>	Participant	Adnane MOUFFAK		University Mustapha Stambouli of Mascara	Co-authors	HAZZAB ABDEL DJEBAR, MOUNA HADJADJ, REZKALLAH MILOUD, AMBRISH CHANDRA
Participant	Adnane MOUFFAK							
	University Mustapha Stambouli of Mascara							
Co-authors	HAZZAB ABDEL DJEBAR, MOUNA HADJADJ, REZKALLAH MILOUD, AMBRISH CHANDRA							
11:30- 11:45	200	Compact modeling of I-V characteristics in Al _x Ga _{1-x} N/GaN HEMTs						
		<table><tr><td>Participant</td><td>Nawel KERMAS</td></tr><tr><td></td><td>Tiaret university</td></tr><tr><td>Co-authors</td><td>Driss BOUGUENNA</td></tr></table>	Participant	Nawel KERMAS		Tiaret university	Co-authors	Driss BOUGUENNA
Participant	Nawel KERMAS							
	Tiaret university							
Co-authors	Driss BOUGUENNA							
11:45- 12:00	220	Device Performance of AlGa _N /AlN/GaN MIS HEMTs with La ₂ O ₃ high κ as Gate Dielectric Insulator Layer						
		<table><tr><td>Participant</td><td>Khaled HEBALI</td></tr><tr><td></td><td>University Mustapha Stambouli of Mascara</td></tr><tr><td>Co-authors</td><td>DRISS BOUGUENNA, ABBES BELOUFA</td></tr></table>	Participant	Khaled HEBALI		University Mustapha Stambouli of Mascara	Co-authors	DRISS BOUGUENNA, ABBES BELOUFA
Participant	Khaled HEBALI							
	University Mustapha Stambouli of Mascara							
Co-authors	DRISS BOUGUENNA, ABBES BELOUFA							
12:00- 12:15	3	Study of the Energy Levels in The Structure of The Laser Diode GAINP/ALGAINP						
		<table><tr><td>Participant</td><td>Abdelali LAID</td></tr><tr><td></td><td>Sidi Bel Abbes University</td></tr><tr><td>Co-authors</td><td>ABID HAMZA</td></tr></table>	Participant	Abdelali LAID		Sidi Bel Abbes University	Co-authors	ABID HAMZA
Participant	Abdelali LAID							
	Sidi Bel Abbes University							
Co-authors	ABID HAMZA							
12:15- 12:30	118	Modeling and numerical simulation of a of Eco-Friendly CH ₃ NH ₃ SnI ₃ -based Perovskite Solar Cell by the SCAPS1-D simulator						
		<table><tr><td>Participant</td><td>Selma RABHI</td></tr><tr><td></td><td>University of Medea</td></tr><tr><td>Co-authors</td><td>ABDLEHADI SLAMI, FATIMA ZAHRA SAIDOUNE, KARIMA DADDA</td></tr></table>	Participant	Selma RABHI		University of Medea	Co-authors	ABDLEHADI SLAMI, FATIMA ZAHRA SAIDOUNE, KARIMA DADDA
Participant	Selma RABHI							
	University of Medea							
Co-authors	ABDLEHADI SLAMI, FATIMA ZAHRA SAIDOUNE, KARIMA DADDA							
12:30- 12:45	402	PANI/ZnO for Optical Applications: Synthesis and Characterization						
		<table><tr><td>Participant</td><td>Faiza CHOULI</td></tr><tr><td></td><td>University Mustapha Stambouli of Mascara</td></tr><tr><td>Co-authors</td><td>ABDELGHANI BENYOUNCEF, SAMIA DAIKH, AMINA BEKHOUKH</td></tr></table>	Participant	Faiza CHOULI		University Mustapha Stambouli of Mascara	Co-authors	ABDELGHANI BENYOUNCEF, SAMIA DAIKH, AMINA BEKHOUKH
Participant	Faiza CHOULI							
	University Mustapha Stambouli of Mascara							
Co-authors	ABDELGHANI BENYOUNCEF, SAMIA DAIKH, AMINA BEKHOUKH							

ROOM F: Biomedical Engineering (VIRTUAL)			
Session Chairmen	Dr. Ibrahim Farouk BOUGUENNA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Khadidja GOUIZI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Ahmed BOUDAA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Abderrahmane LOUNI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
09:00- 09:15	57	ECG-Based Biometric System using TinyML: Implementation and Performance Evaluation on ESP32	
		Participant	Hatem ZEHIR Badji Mokhtar University, Annaba
		Co-authors	TOUFIK HAFS, SARA DAAS
09:15- 09:30	102	Gender, Age, and Anthropometric Influences on Rotatory Angles in Load Lifting	
		Participant	Ali Khan MOAZZAM Ziauddin University, Pakistan
		Co-authors	MYRA ASLAM QURESHI
09:30- 09:45	104	Deep Learning System for Automatic Skull Stripping of Human Brain MRI	
		Participant	Abdelhai LATI University of Kasdi Merbah Ouargla (UKMO)
		Co-authors	ZAKARIA MOKADEM, DJALILA BELEKBIR, DJIHENE NECIB AND RAYANE DJABOUREBBI
09:45- 10:45	Poster session 2 & coffee break		
10:45- 11:00	134	A new MRI Brain Tumor Detection and Segmentation approach based on a combination of Thresholding and Generalized Gaussian Mixture Model-EM algorithm	
		Participant	Khalil Ibrahim LAIREDJ University of Djillali Liabes, Sidi Belabes
		Co-authors	AMINA BAGDAOUI, SID AHMED BOUCENNA, ZOUAOUI CHAMA
11:00- 11:15	148	Cancerous Regions Extraction by Segmentation of Medical Images	
		Participant	Abdellatif BOUZID-DAHO University of TIZI OUZOU
		Co-authors	Patrick SIARRY
11:15- 11:30	152	Voice pathology detection along feature distribution and normal distribution Study case: Parkinson disease	
		Participant	Djamila MEGHRAOUI University of Science and Technology Houari Boumediene
		Co-authors	
11:30- 11:45	163	Efficient Statistical Approach for Combining Multimodal Images Using Wavelet Transform	
		Participant	Abdallah BENGUEDDOUDJ University of bordj bou arreridj
		Co-authors	MERWAN SAAD SAOUD, TAREK BENSIDHOUM

11:45- 12:00	170	Internet of Things based Approach for Detecting Diabetes using Deep Learning Models	Participant	Messaoud HAMEURLAINE Tissemsilt Univesrsity
			Co-authors	
12:00- 12:15	6	Facial kinship Verification using Siamese Neural Network	Participant	Abdelhakim CHERGUI Ouargla University
			Co-authors	NOUR EL HOUDA BOUAKAL, BRAHIM MELLAH, MESSAOUD HETTIRI, SALIM OUCHTATI
12:15- 12:30	40	Muscle movement detection	Participant	Fatima Ezahraa BARKAT Oran1 Ahmed Ben Bella University
			Co-authors	DJAMILA BOUBEKEUR, MOHAMMED EL AMINE CHERIET
12:30- 12:45	300	Development of GaN MOS-HEMTs transistors-based biosensors for the detection of a novel SARS-Cov-19 Virus	Participant	Faiza MOUFFOKI University Mustapha Stambouli of Mascara
			Co-authors	Driss BOUGUENNA
12:45- 13:00	157	Detection of Spasmodic Dysphonia Voice Pathology using Deep Learning	Participant	Nardjes MERZOUGUI University Badji Mokhtar Annaba
			Co-authors	MOHAMED CHERIF AMARA KORBA, FETHI AMARA



ROOM G: HIGH VOLTAGE ENGINEERING AND APPLICATIONS (VIRTUAL)			
Session Chairmen	Dr. Youcef Islam DJILANI KOBIBI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Moulay Idriss CHERGUI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Mohammed Fethi BEKKARA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Maamar YAHIAOUI Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Hocine BOUCHEKARA Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
09:15- 09:30	61	Utilizing Convex Optimization for State and Unknown Input Estimation in Polytopic Models	
		Participant	Khalida MIMOUNE University of Biskra
		Co-authors	MOHAMED YACINE HAMMOUDI, SOURI MOHAMED MIMOUNE
09:30- 09:45	83	Dual-Stage Grid Connected Boost-Modular Multilevel Converter with MPPT Fuzzy Logic Controller for Solar System	
		Participant	Imane ALIA Ziane Achour University, Djelfa
		Co-authors	IMAD MERZOUK
09:45- 10:45	Poster session 2 & coffee break		
10:45- 11:00	86	Application of Deep Learning and Markov Chains Approachs for ICS security in Smart Grids based zero trust model	
		Participant	Nousseiba GUERGOURI University of Constantine 2 Abdelhamid Mehri
		Co-authors	NABIL SAHLI, MOHAMED BENMOHAMMED, LYES KHOUKHI
11:00- 11:15	100	Fuzzy Logic and Neural Network Control of Unified Power Flow Controller Systems (UPFC)	
		Participant	Benyekhlef LAROUCI University Kasdi Merbah Ouargla
		Co-authors	AYAD AHMED NOUR ISLEM
11:15- 11:30	110	Enhancing the Potential of PEMFC EVs with Cutting-Edge FOPI Control based PDO Algorithm for a Three-Phase Interleaved Boost Converter	
		Participant	Salah OKBA University of Biskra
		Co-authors	RAMZI SAADI, MOHAMED YACINE HAMMOUDI, WAIL HAMDI AND ABIR BETKA
11:30- 11:45	155	Influence of the ADALINE extraction method with the fuzzy hysteresis band technique applied to the UPQC filter under DC bus fuzzy control	
		Participant	Noureddine KHENFAR Djillali Liabes University, Sidi Bel-Abbes
		Co-authors	ABEDLHAFID SEMMAH, SIHAM KHELIFA
11:45- 12:00	204	Analysis of Grid-tied Fuel Cell System with Synchronous Reference Frame Control	
		Participant	Yahia FOUGHALI University of Saida
		Co-authors	Mohamed MANKOUR, Mhamed SEKOUR



Samir GHOUALI
ICAECCT '23
Général Chair

12:00- 12:15	7	Finite Element Modelling of Electric Field Distribution in Point- Barrier-Plane Air Gaps under Positive Lightning Impulse Voltage: Based on Experimental Tests	
		Participant	Mohamed Abdelghani BENZIADA Ecole Nationale Polytechnique d'Alger
		Co-authors	AHMED BOUBAKEUR, ABDELOUAHAB MEKHALDI
ROOM H: E-poster Session (VIRTUAL)			
Session Chairmen	Dr. Hocine Abdelhak AZZEDDINE Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Benameur AFIF Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Attaouia BENTAHAR Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria Dr. Isma HATRAF Faculty of Sciences and Technology University Mustapha Stambouli of Mascara, Algeria		
	ID		
Topic 1: Control Systems, Robotics and Automation			
09:00- 09:10	69	Chaotic Blended Biogeography-Based Optimization for Parameter Estimation of Induction Machine	
		Participant	Naas DIF University of Djelfa
		Co-authors	EL-GHALIA BOUDISSA, FATIHA HABBI, MOHAMED BOUNEKHLA
09:10- 09:20	79	Enhancing the Power Quality of Grid-Connected Wind Systems through Multicell Converters	
		Participant	Karim BELALIA University of Relizane
		Co-authors	ABDELKADER MOSTEFA, SOFIANE MIHOUBI, HOUARI MERABET BOULOUIHA
09:20- 09:30	160	Backstepping Control of a Direct Driven PMSG wind Turbine	
		Participant	Hamid AOUDJEREGBA University Mustapha Stambouli of Mascara
		Co-authors	AHMED TAHOUR
09:30- 09:40	254	Employ the Adaptive Neuro-Fuzzy inference system ANFIS for Improve the Direct Torque Control	
		Participant	Abdelhaq LAOUFI University Mustapha Stambouli of Mascara
		Co-authors	MOULAY-IDRISS CHERGUI, SOUFYANE CHEKROUN
09:45- 10:45	Poster session 2 & coffee break		
Topic 2: Electronics and its Applications			
10:45- 10:55	27	Thermal Simulation in Intertwined Planar Micro-Transformer	
		Participant	Yamina BENHADDA USTO, Oran
		Co-authors	M. DERKAoui, K. MENDAZ, H. KHARBOUCH

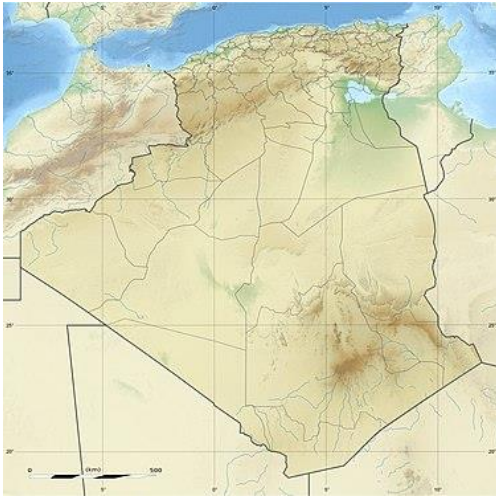
11:05- 11:15	35	Integrated Octagonal On-Chip Inductor in DC-DC Buck Converter for Photovoltaic Applications	Participant	Mokhtaria DERKAOU National Higher School of Telecommunications & ICT of Oran
			Co-authors	YAMINA BENHADDA, AZZEDINE HAMID
11:15- 11:25	36	Monolithic Micro-Transformer Magneto-Thermal Behaviour for MEMS	Participant	Mokhtaria DERKAOU National Higher School of Telecommunications & ICT of Oran
			Co-authors	YAMINA BENHADDA, AZZEDINE HAMID
11:25- 11:35	37	Using spectroscopic ellipsometry to extract the electrical properties of AZO thin films deposited by DC reactive sputtering in various temperature	Participant	Toufik DIB University of Jijel
			Co-authors	BOUBEKEUR BIROUK
Topic 3: Telecommunications and its Applications				
11:35- 11:45	92	Localization of Mobile Robots with Global Position System Sensor	Participant	Wahiba MENASRI University of Yahia Farès Médéa
			Co-authors	AMINA YAHIA, ABDELKADER MORSLI, MOHAMED LAMINE MOUHOUBI, AKIL BATTACHE, ABDEREZZAK GACEMI
11:45- 11:55	154	An Ultrathin Metamaterial Absorber for Conformal Applications at Ka Frequency Band	Participant	Ghada MEBARKI University of Tlemcen
			Co-authors	NAIMA BENMOSTEFA
11:55- 12:05	87	An IoT-based System to Control the Greenhouse's Microclimate	Participant	Noureddine SEDDIKI University of tahri Mohamed Bechar
			Co-authors	KAMAL ABDELMADJID MOKEDDEM
Topic 4: Biomedical Engineering				
12:05- 12:15	98	Application Crow Search Algorithm (CSA) with the Empirical Mode Decomposition (EMD) method on Phonocardiogram (PCG) signals for Efficient Noise Suppression	Participant	Mohamed ROUIS University of Djilali Bounaama-Khemis Miliana
			Co-authors	SALIM SBAA, AYOUB TAALLAH, BOUNIF AOUDA
12:25- 12:35	165	ANN for Medical Image Denoising	Participant	Nail ALAOU University ZIANE Achour de Djelfa
			Co-authors	SOFIAN KIRECH, RANIA IBTISSEM BENMLOUKA, SOUAD KSENNA, LAKHDAR BOUHAMLIA, ABDALLAH AZZOUZ
Topic 5: High Voltage Engineering and Applications				
12:35- 12:45	259	Multiphysics Simulation of Submicron Particle Behaviour Inside a Novel Multicylinder Electrostatic Precipitator (MCESP)	Participant	Fouad Kherbouche University Mustapha Stambouli of Mascara
			Co-authors	

The Venue

MASCARA, ALGERIA

ABOUT

Mascara (Arabic: معسكر, romanized: Mu'askar) is the capital city of Mascara Province. It has 150,000 inhabitants (2008 estimate). It was founded in the 10th century by the Banu Ifran, a Berber tribe and was the capital city of Emir Abd al-Qadir, a leader of the Algerian resistance to early French colonial rule. Mascara is an administrative, commercial and a market centre. Its trade is mostly centered on leather goods, grains, and olive oil, but it is especially famous for its good wine. It has good road and rail connections with other urban centres of Algeria. Relizane is 65 kilometres (40 miles) northeast, Sidi Bel Abbès 90 km (56 mi) southwest, Oran 105 km northwest and Saïda 80 km (50 mi) south.



EMIR ABDELKADER

Abdelkader ibn Muhieddine (6 September 1808 – 26 May 1883; Arabic: عبد القادر ابن محي الدين 'Abd al-Qādir ibn Muḥy al-dīn), known as the Emir Abdelkader or Abdelkader El Hassani El Djazairi, was an Algerian religious and military leader who led a struggle against the French colonial invasion of Algiers in the early 19th century. As an Islamic scholar and Sufi who unexpectedly found himself leading a military campaign, he built up a collection of Algerian tribesmen that for many years successfully held out against one of the most advanced armies in Europe.

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