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香港城市大學
City University of Hong Kong



IRASET'2023: <http://www.iraset.org/2023/>

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WELCOME MESSAGE

The organizing committee extends a warm welcome to all participants of the 3rd International Conference on Innovative Research in Applied Science, Engineering and Technology (IRASET'2023), which will take place on May 18-19, 2023, at ENSET in Mohammedia, Morocco. The IRASET'2023 conference is organized by ENSET of Mohammedia, Hassan II University of Casablanca, Morocco. The Conference is Technically Supported by the International IEEE Advancing Technology of Humanity and the IEEE Communications Society - IEEE ComSoc.

IRASET'2023 is a leading forum for showcasing outstanding research results and addressing new challenges in both theoretical and applied research areas. The conference brings together experts from diverse industrial and academic backgrounds, proficient in engineering, design, and research. This conference provides an exceptional opportunity for academic and industrial communities to exchange ideas, share innovative solutions, and discuss future research directions in various fields of applied science, engineering, and technology. We invite participants to engage in thought-provoking discussions and take advantage of networking opportunities to build lasting relationships with experts in their respective fields.

IRASET'2023 has received remarkable contributions from researchers across the globe, with submissions coming in from 33 countries. All tracks received 325 submissions, out of which 154 papers have been selected for oral presentation. This achievement is the result of the hard work and dedication of many people, and we would like to express our heartfelt gratitude to everyone involved.

First and foremost, we would like to thank all the authors for their interest in this conference and for submitting their work. We are also grateful to the Scientific committee members, who worked tirelessly to evaluate the submissions and select the best papers for presentation. Additionally, we extend our appreciation to the Publicity, Organizing, and all Committees members for their assistance in making this conference a success.

We are particularly grateful to our distinguished keynote speakers for agreeing to address the conference attendees. Their insights and contributions are essential to the success of this conference. We would also like to acknowledge and thank all our partners and sponsors for their generous support, which has made this conference possible.

Finally, we extend a warm welcome to Mohammedia, Morocco, and hope that you will enjoy the conference program. We are excited to bring together researchers, scientists, and industry professionals to share their knowledge, exchange ideas, and discuss the latest advancements in applied science, engineering, and technology.

Thank you all for your contributions and support, and we look forward to a successful and productive conference.

General Chairs

- Abdelhadi RAIHANI
- Khalifa MANSOURI
- Mohamed QBADOU

CONFERENCE SESSIONS

Session	Topics
S-I	Electronic, circuit, Antennas and Communication Systems, signal processing
S-II	Materials, Civil Engineering, Mechanical engineering, Digital modeling and simulation
S-III	Smart Grids, buildings, environment and energy systems
S-IV	Computer Science and Embedded Systems
S-V	Supply chain, Transportation, Logistic Engineering and industry 4.0
S-VI	Artificial Intelligence and Bioinformatic
S-VII	Electrical engineering, Robotics, Control systems and optimization

CONFERENCE SCHEDULE OVERVIEW

THURSDAY, MAY 18, 2023	
8:30 - 17:00	ON-SITE REGISTRATION
9:00 - 9H30	OPENING CEREMONY
9:30 - 10:30	PLENARY SESSION 1
10:30 - 11:00	COFFEE BREAK
11:00 - 12:30	WORKSHOP ON "GREEN ENERGY STORAGE TECHNOLOGIES"
	ORAL SESSIONS (7 SESSIONS IN PARALLEL)
12:30 - 14:30	LUNCH BREAK WITH EXHIBITIONS' VISIT
14:30 - 15:30	PLENARY SESSION 2
15:30 - 16:00	COFFEE BREAK
16:00 - 18:00	ORAL SESSIONS (7 SESSIONS IN PARALLEL)
20:00	GALA DINER
FRIDAY, MAY 19, 2023	
8:30 - 12:30	ON-SITE REGISTRATION
9:00 - 10:00	PLENARY SESSION 3
10:00 - 10:30	COFFEE BREAK
10:30 - 12:30	ORAL SESSIONS (7 SESSIONS IN PARALLEL)
12:30 - 14:30	LUNCH BREAK WITH EXHIBITIONS' VISIT
14:30 - 15:30	PLENARY SESSION 4
15:30 - 17:00	ORAL SESSIONS (6 SESSIONS IN PARALLEL)
17:00 - 18:00	CLOSING CEREMONY & COFFEE BREAK

KEYNOTES SPEAKERS

KN1:

THURSDAY, May
18th, 2023
9:30 - 10:30

Combinatorial optimization for preliminary design of machining systems: advanced methods and applications

Prof. Alexandre DOLGUI
IMT Atlantique, France

Session Chair: Prof. Ali SIADAT & Prof. Khakifa MANSOURI



KN2:

THURSDAY,
May 18th,
2023
14:30 - 15:30

Intelligent Systems – Some Challenging Issues from a Systems Engineering Perspective

Prof. XIE MIN
City University of Hong Kong

Session Chair: Prof. Armand BABOULI & Prof. Bachir BENHALA



KN3:

FRIDAY, May
19th, 2023
9:00 - 10:00

The Emergence of Cognitive Digital Twins

Prof. Dimitrios KYRITSIS
Institute of Mechanical Engineering of EPFL, Switzerland
Session Chair: Prof. Hakim KHATTAB and Prof. Mohamed QBADOU



KN4:

FRIDAY, May
19th, 2023
14:30 - 15:30

Periodic Scheduling in Automated Cars

Prof. Zdenek Hanzalek
Czech Technical University in Prague, Czech Republic
Session Chair: Prof. Abdessalam AIT MADI & Prof. Abdelhadi RAIHANI



SESSIONS PROGRAM

Session I		Electronic, circuit, Antennas and Communication Systems, signal processing	
-1-		Room : Amphi. 1	Session Chairs: Mr. A. AIT MADI & Mr. M. TABAA
THURSDAY, MAY 18th, 2023 11:00 - 12:30	Mixed integer nonlinear programming for optimal placement and size of capacitors in RDS <i>Chaymae Makri, Saïd Guedira, Imad El Harraki and Soumia El Hani</i>		
	Energy Efficient Clustering based on Static cluster to maximize lifetime in Wireless Sensor Networks <i>El Idrissi Nezha, Najid Abdellah and Iyad Lahsen-Cherif</i>		
	New spectral displacement post-processing approach for modeling ultrasonic guided waves <i>Ismaine Zitouni, Hassan Rhimini and Abdelkerim Chouaf</i>		
	Image Mining: Improving Image Retrieval Technique Using Variational Models and Relevance Feedback <i>Sabri Abdelouahed, Assia Ennoui and Aarab Abdellah</i>		
	Lossless Compression Technique For ECG Signals Using A-law Companding Algorithm <i>El Hanine Mustapha, Ouldzira Hicham, Boudaoud Abdelghani and Abdelmounim Elhassane</i>		
	MIMO-NOMA and MIMO-OMA: Outage Probability Analysis and BER comparative study <i>Abdelbari Falloun, Anass Deroussi and Abdessalam Ait Madi</i>		

Session II -1-		Materials, Civil Engineering, Mechanical engineering, Digital modeling and simulation	
THURSDAY, MAY 18th, 2023 11:00 - 12:30		Room : Amphi. 2	Session Chairs: Mr. S. NISSABOURI & Mr. A. LAKHDAR
		Static analysis of polymer nanocomposite beams reinforced with functionally graded single walled boron nitride nanotubes resting on elastic foundations. <i>Ouassim Mehdi Billah, Mustapha Fouaidi, Laidi Zahiri, Naoual Belouaggadia and Soufiane El Ouardi</i>	
		Orthogonal cutting of Ti-6Al-4V and the effect of constitutive Johnson-Cook model parameters under high speed. <i>Ismail Lakhal, Hamza Khatib and Ahmed Mouchtachi</i>	
		Thermomechanical study of a disc brake <i>Mohamed Maniana, Mohammed Chaqouri, Said Benkachcha and Abedelali Tajamouati</i>	
		Toward advanced driver assistance ACC and LPA based system and Model-in-the-Loop (MIL) simulations <i>Brahim Elboukili, Lhoucine Bahatti and Mohammed Hicham Zaggaf</i>	
		Comparison of turbulence approaches modelling the flow around the NACA 0012 profile <i>Soufiane Elouardi, Bouchaib Radi, Rabii El Maani and Laidi Zahiri</i>	
		Failure Behavior of notched carbon fiber reinforced Epoxy Laminates subjected to mechanical loading: Numerical approach <i>Meryem El Moufari, Othmane Bendaou, Khalifa Mansouri and Larbi El Bakkali</i>	

Session III		Smart Grids, buildings, environment and energy systems	
-1-		Room : Amphi. 3	Session Chairs: Mr. A. REBBANI & Mr. K. CHOUKRI
<p>THURSDAY, MAY 18th, 2023</p> <p>11:00 - 12:30</p>	<p>Coot Optimization Algorithm Based PI Controller for MPPT of Grid-Connected PV System <i>Ghazi A. Ghazi, Essam A. Al-Ammar, Hany M. Hasanien and Rania A. Turkey</i></p>		
	<p>Smart energy consumption control system while respecting the quality of the injection molded product <i>El Ghadoui Mohamed, Mouchtachi Ahmed and Majdoul Redouane</i></p>		
	<p>Application of Deep Learning based detector YOLOv5 for soiling recognition in Photovoltaic modules <i>Hajar Elkarch, Rachid Elgouri, Mohamed Benaly, Youssef Aherchou and Abdelkader Mezouari</i></p>		
	<p>More accurate wind power prediction based on intelligent error correction model <i>Bellat Abdelouahad, Mansouri Abderrahman, Tyass Ilham, Mansouri Khalifa and Raihani Abdelhadi</i></p>		
	<p>Numerical study of a new ecological material in moroccan climate : CFD approach <i>Mohammed Fellah, Salma Ouhaibi, Naoual Belouaggadia, Khalifa Mansouri and Laidi Zahiri</i></p>		
	<p>Moroccan industry through the lens of energy efficiency: Current findings and research gaps <i>Kawtar Ibn Batouta, Sarah Aouhassi and Khalifa Mansouri</i></p>		

Session IV		Computer Science and Embedded Systems	
-1-		Room : Amphi. 4	Session Chairs: Mr. K. EL GUEMMATE & Ms. S. AOULA
THURSDAY, MAY 18th, 2023 11:00 - 12:30	Integrating elevation and bathymetric data in GIS for a continuous 3D model of Ischia Island and surrounding seabed <i>Emanuele Alcaras, Davide Morale, Claudio Parente and Giuseppina Prezioso</i>		
	The use of NDVI to improve cereals agriculture: A review <i>Bouskour Sara, Lhoussain Bahatti and Mohamed Hicham Zaggaf</i>		
	Agricultural IoT technology: an overview of usages, technologies, and challenges. <i>Ayoub Babakhouya, Abdelwahab Naji, Abdelhalim Hnini and Abdelaziz Daaif</i>		
	Event-Driven Platform for Machine Vision Component Integration with Operation Center <i>Evgeniya Tsybulko, Konstantin Zhigunov, Aleksander Khelvas, Aleksandr Bugaev, Taras Afanasenko and Shamil Gadzhimirzaev</i>		
	Healthcare Embedded System for Predicting Parkinson's Disease Based on AI of Things <i>Shawki Saleh, Bouchaib Cherradi, Sara Laghmati, Oussama El Gannour, Soufiane Hamida and Omar Bouattane</i>		
	Predictive maintenance project implementation based on data driven & data mining <i>Znaidi Zineb, Ech-Chhibat Moulay El Houssine, Khiat Azeddine and Ait El Maalem Laila</i>		

Session VI		Artificial Intelligence and Bioinformatic	
-1-		Room : Amphi. 5	Session Chairs: Mr. My E. CHARAF & Ms. N. BENMOUSSA
THURSDAY, MAY 18th, 2023 11:00 AM - 12:30 PM	Accounting for Prediction Uncertainty from Machine Learning for Probabilistic Design <i>Xiaoping Du</i>		
	Improved Mapping of Paddy Rice Extent Using Deep Learning And Time Series Images <i>Asmae Dakir, Fatimazahra Barramou and Omar Bachir Alami</i>		
	Investigation into the Categorization of Crohn's Segments from Capsule Endoscopy Videos: Introducing A Thick Data Categorization Framework <i>Jinan Fiaidhi, Sabah Mohammed and Petros Zazos</i>		
	Data Balancing through Data Augmentation to Improve Transfer Learning Performance for Skin Disease Prediction <i>Soufiane Hamida, Oussama El Gannour, Yasser Lamalem, Bouchaib Cherradi and Mouaad Errami</i>		
	A Generic Approach for Improved Thyroid and Breast Cancer Classification in Ultrasound Images. <i>Mohamed Bal-Ghaoui, My Hachem El Yousfi Alaoui, Abdelilah Jilbab and Abdennacer Bourouhou</i>		
	Problem-Oriented Medical Records for Describing Care Cases using Multi-Tenants Chatbots <i>Sabah Mohammed, Jinan Fiaidhi and Darien Sawyer</i>		

Session VII		Electrical engineering, Robotics, Control systems and optimization	
-1-		Room : Salle Polyvalente	Session Chairs: Mr. L. BAHATTI & Mr. M. KISSAOUI
THURSDAY, MAY 18th, 2023 11:00 - 12:30	Nonlinear Control of Five-Phase PMSG Wind Turbine connected to Vienna Type Rectifier Using SVPWM <i>Adil Mansouri, Ilyass El Myasse, Abdelmounime El Magri, Rachid Lajouad and Fouad Giri</i>		
	Longitudinal Control of Electric Vehicle driven by an In-Wheel BLDC Motor including the Pacejka tire model <i>Ammari Ossama, El Majdoub Khalid, Giri Fouad and Baz Rachida</i>		
	ZVS QR boost converter with variable input voltage and load <i>Souhail Barakat, Abdelouahed Mesbahi, Badr N Hili and Karima Et-Torabi</i>		
	Improving LVRT for DFIG used in WPCS under voltage dip <i>Abdeslam Jabal Laafou, Abdessalam Ait Madi, Youssef Moumani and Adnane Addaim</i>		
	Combination of GIS and Fuzzy AHP with The VIKOR Method for The Optimal Strategies for Municipal Solid Waste Management: Case Study of The Province of Tiznit <i>Otman Ait Ihia, Driss Khomsi and Naoual Semlali Aouragh Hassani</i>		
	Gripping force optimization based on an ANFIS controller for an object manipulated by two 3-DOF cooperative manipulators <i>Abderrahim Bahani, El Houssine Ech-Chhibat, Hassan Samri and Hicham Ait Elattar</i>		

Session I -2-	Electronic, circuit, Antennas and Communication Systems, signal processing	
	Room : Amphi. 1	Session Chairs: Mr. O. JBARI & Mr. L. AMHAIMAR
THURSDAY, MAY 18th, 2023 16:00 - 18:00	Modeling Of A Functionally Graded Piezoelectric Energy Harvester Based on First Order Beam Theory <i>Imane Laasri, Kawtar Belfallah, Mohammad Jamal and Mustapha Fouaidi</i>	
	Conversion of Ultrasonic Waves with Symmetric Notches in Isotropic Plate <i>Salah Nissabouri</i>	
	Automatic coastline extraction from Landsat 9 satellite images and raster maps <i>Pier Paolo Amoroso, Francesco Giuseppe Figliomeni and Claudio Parente</i>	
	DFT investigation on the electronic and optical properties of Br-doped CH₃NH₃SnI₃ perovskite <i>Abdelmounaim Laassouli, Omar Bajjou, Youssef Lachtioui, Abdelhafid Najim, Lhouceine Moulaoui and Khalid Rahmani</i>	
	Analysis of the effects of introducing graphene on the design of a miniaturized Ultra-Wide Band antenna for THz applications <i>Oumaima El Hassani and Adil Saadi</i>	
	A Study on Coexistence between RLANs and Uplink Fixed Satellite Services in the 6 GHz in Kenya <i>Kennedy Ronoh, Leonard Mabele, Julius Butime and Vitaliz Oziannyi</i>	
	A Comprehensive Review on Monitoring Sensors for Cardiovascular Disease Prevention and Management <i>Nouhaila Akouz, Asmae El Ghazi, Mobarak Zourhri, Soufiane Hamida, Bouchaib Cherradi and Abdelhadi Raihani</i>	

Session II -2-	Materials, Civil Engineering, Mechanical engineering, Digital modeling and simulation	
	Room : Amphi. 2	Session Chairs: Mr. M. JAMMOUKH & Mr. A. HACHIM
THURSDAY, MAY 18th, 2023 16:00 - 18:00	Effects of parameters on the performance of high-temperature phase change materials in the latent heat storage system <i>Fatima Redoine, Naoual Belouaggadia and Khalifa Mansouri</i>	
	Comparative analysis of the thermomechanical properties of soft PVC used in the automotive industry and bio-composite: A sustainable alternative <i>Hamza Ennadafy, Jammoukh Mustapha and Dani Yassine</i>	
	Microstructural and mechanical behaviors of pure Nickel metallic glass investigated by molecular dynamics simulations <i>El Hafi Tarik, Assouli Soufiane, Bajjou Omar, Jabraoui Hicham, Kotri Abdelhadi, Mazroui M'Hammed and Lachtioui Youssef</i>	
	Smart wall incorporating a new composite based on sisal fiber and Phase Change Material <i>Oumaima Imghoure, Abdelkabar Zaite, Belouaggadia Naoual, Mohammed Ezzine and Rachid Lbibb</i>	
	Hermite-type PIM approach for buckling analysis of L-shaped FGM thin plates <i>Amina Hammou, Youssef Hilali, Said Mesmoudi, Radouane Boujmal and Oussama Bourihane</i>	
	Thermally-induced flow in an annulus of two concentric circular cylinders analysis using an incremental MeshFree approach <i>Boutayna Laasl, Youssef Hilali, Said Mesmoudi and Oussama Bourihane</i>	
	Effect of glycerol content on the thermal properties of a whey protein isolate biodegradable film for food packaging purposes <i>Lina Goudali, Nacer Akkouri, Latifa Elfarissi, Mustapha Jamoukh and Abdellah Zamma</i>	

Session III -2-	Smart Grids, buildings, environment and energy systems	
	Room : Amphi. 3	Session Chairs: Mr. M. EL KHALILI & Mr. H. ABOUBAIDA
THURSDAY, MAY 18th, 2023 16:00 - 18:00	Performance Investigation of Dual-Source Heat Pumps in Hot Steppe Climates <i>Hamza El Hafdaoui, Asmae Khaldoun, Ahmed Khallaayoun, Abdelmajid Jamil and Kamar Ouazzani</i>	
	Design and Economic Analysis of a Stand-alone microgrid system using Dandelion Optimizer - A rural case in Southwest Morocco <i>Anas Bouaouda and Yassine Sayouti</i>	
	Performance analysis of monocrystalline PV module under the effect of Moroccan arid climatic conditions <i>Mohamed Ahliouati, Rabie El Otmani and Khalid Kandoussi</i>	
	A comparative study of maximum power point tracking (MPPT) using P&O method and fuzzy logic method in solar PV array <i>Karima Et-Torabi, Abdelouahed Mesbahi, Mohamed Khafallah, Souhail Barakat, Ahmed Arif and Yahya Aljarhizi</i>	
	Evaluation of the efficiency of a cooling system composed of fixed aluminum fins and PCM material for unglazed and glazed PV panels <i>Abir Bria, Benyounes Raillani, Dounia Chaatouf, Mourad Salhi, Samir Amraqui and Ahmed Mezrhab</i>	
	Effect of integrating a packed bed with a solar air heater for drying applications <i>Dounia Chaatouf, Benyounes Raillani, Mourad Salhi, Abir Bria, Samir Amraqui and Ahmed Mezrhab</i>	
	Performance evaluation of an indirect solar dryer equipped with an auxiliary electrical resistance <i>Mourad Salhi, Dounia Chaatouf, Benyounes Raillani, Abir Bria, Samir Amraqui and Ahmed Mezrhab</i>	

Session IV -2-	Computer Science and Embedded Systems	
	Room : Amphi. 4	Session Chairs: Mr. A. DAAIF, Ms. S. AOUHASSI & Ms. S. AHRIZ
THURSDAY, MAY 18th, 2023 16:00 - 18:00	Ensuring security and data integrity in Multi Micro-Agent System Middleware with Blockchain Technology <i>Ayman Nait Cherif, Youssef Achir, Mohamed Youssfi, Mouhcine Elgarej and Omar Bouattane</i>	
	MDA approach for generating the PSM model for the NoSQL key-value database, application on Redis. <i>Srai Aziz and Guerouate Fatima</i>	
	Predicting stock price using LSTM and Social Media dataset <i>Mariame Tarsi, Samira Douzi and Abdelaziz Marzak</i>	
	Application for control and monitoring of grow beds using IoT <i>David-Nicolas Paez-Quinde, Sebastian Chipugsi, Miranda Mario and José Varela-Aldás</i>	
	Using graph embeddings to improve the performance of embedding based recommender Systems <i>Ahmed Hussein Ragab, Passant El-Kafrawy and Sahar Ali Fawzi</i>	
	A survey on various decoding algorithms for McEliece cryptosystem based on QC-MDPC codes <i>Abdellatif Kichna and Abderrazak Farchane</i>	
	A Comparative Study of Consensus Algorithms for Blockchain <i>Youssef Lamriji, Khalid El Makkaoui, Mohammed Kasri and Abderrahim Beni-Hssane</i>	

Session V -1-	Supply chain, Transportation, Logistic Engineering and industry 4.0	
	Room : Amphi. 5	Session Chairs: Ms. N. SEMLALI A. H., Mr. A. ZAMMA & H. MABCHOUR
THURSDAY, MAY 18th, 2023 16:00 - 18:00	Measuring and Identifying Appropriate Levels of Flexibility: A Novel Approach and Use Case in the Automotive Industry <i>Anthony Chehami, Zakariae Miqoi and Armand Baboli</i>	
	Smart supply chain in Industry 4.0: The Moroccan strategy to adopt digital transformation <i>Nabil Chbaik, Azeddine Khiat, Ayoub Bahnasse and Hassan Ouajji</i>	
	Design of an architecture for data acquisition based on OT/IT convergence in the context of Industry 4.0 <i>Kossai Fakir, Chouaib Ennawaoui and Mahmoud El Mouden</i>	
	Blockchain-Enabled Two-Echelon Supply Chains for perishable products using Just in Time inventory Management: A case study of the dairy industry <i>Kadim Lahcen Nadime, Rajaa Benabbou, Salma Mouatassim and Jamal Benhra</i>	
	The impact of covid-19 on the logistics/transportation sector in Morocco <i>Faissal Jelti, Rachid Saadani and Miloud Rahmoune</i>	
	Joint consideration of Production, Quality and Maintenance: A Bibliometric Analysis <i>Manal Ayad, Ali Siadat and Mohamed Hamlich</i>	
	Industrial Systems Fault's Diagnosis Approaches Adapted to the Context of the Smart Industry. <i>Omar Amri, Mohamed Fri, Mohammed Msaaf and Fouad Belmajdoub</i>	

Session VI -2-	Artificial Intelligence and Bioinformatic	
	Room : Amphi. Bleu	Session Chairs: Mr. A. AMMAR & Ms. S. SANDABAD
THURSDAY, MAY 18th, 2023 16:00 - 18:00	A comparative study of anti-spoofing detection based on deep learning <i>Sabri Abdelouahed, El Khoukhi Hasnae, Assia Ennoui and Aarab Abdellah</i>	
	A CAD System based on a Stacked Ensemble model and ML techniques for breast cancer prognosis <i>Sara Laghmati, Khadija Hicham, Soufiane Hamida, Karima Boutahar, Bouchaib Cherradi and Amal Tmiri</i>	
	Social Media's Toxic Comments Detection Using Artificial Intelligence Techniques <i>Rabia Rachidi, Mohamed Amine Ouassil, Mouaad Errami, Bouchaib Cherradi, Soufiane Hamida and Hassan Silkan</i>	
	Investigating the Performance of BERT for Sentiment Analysis on Moroccan News Comments <i>Mouaad Errami, Mohamed Amine Ouassil, Rabia Rachidi, Bouchaib Cherradi, Soufiane Hamida and Abdelhadi Raihani</i>	
	Efficient Medical Diagnosis Hybrid System based on RF-DNN Mixed Model for Skin Diseases Classification <i>Soufiane Hamida, Oussama El Gannour, Yasser Lamalem, Shawki Saleh, Driss Lamrani and B. Cherradi</i>	
	A Classification System of Career Guidance Questions Based on Natural Language Processing and Supervised Machine Learning Techniques <i>Mohamed Amine Ouassil, Mouaad Errami, Rabia Rachidi, Soufiane Hamida, Bouchaib Cherradi and Abdelhadi Raihani</i>	
	YOLO Algorithms Performance Comparison for Object Detection in Adverse Weather Conditions <i>Zineb Haimer, Khalid Mateur, Youssef Farhan and Abdessalam Ait Madi</i>	

Session VII		Electrical engineering, Robotics, Control systems and optimization	
-2-		Room : Salle Polyvalente	Session Chairs: Mr. A. EL MAGRI & Mr. My E. ECH-CHHIBAT
THURSDAY, MAY 18th, 2023 16:00 - 18:00	A study of genetic algorithm parameterization via a benchmark of test functions <i>Asmae El Beqal, Sanae El Hafidi and Bachir Benhala</i>		
	Electrical Power Transformer Modeling and Simulation for the Implementation of a Predictive Maintenance Approach <i>Hamza Ayar, Mohamed El Khaili and Hasna Nhaila</i>		
	Robust Nonlinear Control Design of MMC-HVDC Systems for Wind Power Plants Integration <i>Ilyass El Myasse, Adil Mansouri, Abdelmounime El Magri, Aziz Watil, Mohammed Kissaoui and Rachid Lajouad</i>		
	Vibration prediction of a wind turbine gearbox using Fast Fourier Transform algorithm and Bond Graph methodology <i>Naima Jouilel</i>		
	An advanced Photovoltaic/Thermal hybrid system with rapid heat evacuation technique <i>Ayoub Riad, Houssam Amiry, Samira Touhtouh, Fouad Belhora and Abdelowahed Hajjai</i>		
	A review of artificial intelligence-based MPPT techniques in wind energy systems <i>Driss Belkhiri, Mohamed Ajaamoum, Khalide Cherifi, Abdellah Elidrissi and Moulay Rachid El Moutawakil Alaoui</i>		
	A comparative Analysis of Two Multiobjective Metaheuristic Methods using Performance Metrics <i>Hamid Bouali, Bachir Benhala and Mohammed Guerbaoui</i>		

Session I -3-	Electronic, circuit, Antennas and Communication Systems, signal processing	
	Room : Amphi. 1	Session Chairs: Mr. H.E. CHAKIR & Mr. M. NAHID
FRIDAY, MAY 19th, 2023 10:30 - 12:30	Determination of chaos in different Jerk systems: dynamical study, circuit design <i>Ali Abou El Qassime, Lhoussein Bahatti and Hasna Nhaila</i>	
	Accurate Design of SIW Filter based on Artificial Bee Colony Optimization <i>Souad Akkader, Hamid Bouyghf and Abdennaceur Baghdad</i>	
	A Hybrid technique of Zadoff-chu and Simplified Selective Mapping for PAPR Reduction in GFDM System <i>Karima Ait Bouslam, Asma Khabba, Fatim-Zahra Bennioui, Jamal Amadid, Radouane Iqdour and Abdelouhab Zeroual</i>	
	System for monitoring the Specific Absorption Rate of mobile terminals in circulation in african countries <i>Waly Ndiaye, Idy Diop, Samba Ndiaye and Sidy Mohamed Farssi</i>	
	Improved Performance for wereless power rectifying system at 5.8 GHz <i>Ilham Salhane, Mounir Rifi, Hanae Terchoune and Soumaya Elmorabeti</i>	
	Optimal Sizing of CMOS LC Voltage Controlled Oscillator by means of Genetic Algorithm <i>Asmae El Beqal and Bachir Benhala</i>	
	Design of a Compact 2.4 GHz Rectangular Patch Antenna <i>Imad El Hajjami, Bachir Benhala and Mohammed Guerbaoui</i>	

Session II -3-	Materials, Civil Engineering, Mechanical engineering, Digital modeling and simulation	
	Room : Amphi. 2	Session Chairs: Mr. L. ZAHIRI & Ms. N. MOUHIB
FRIDAY, MAY 19 th , 2023 10:30 - 12:30	Predictive Maintenance Optimization of High-speed Train Bearing under Bayesian Framework <i>Ruoran Han, Li Yang and Yi Chen</i>	
	Maintenance optimization of multi-component systems subjected to \$\$\$-dependent competing risks and imperfect maintenance <i>Lin Zhang, Abdelhakim Khatab and Xiaohui Chen</i>	
	Study of linear dynamics of multilayer cylindrical composite springs <i>Fatima Boussaoui, Hassane Lahmam and Bouazza Braikat</i>	
	Strengthen Aircraft Real-Time Multiple Object Tracking with Optical Flow and Histogram of Oriented Gradient provided HSMA Implemented in Low-Cost energy VPU for UAV <i>Mohamed Benaly, Hajar El Karch, Youssef Ahrechou, Noura Jariri, Rachid El Gouri, Lamaari Hlou and Abdelkader Mezouari</i>	
	Critical buckling load of magnetostrictive sensors under compression <i>Kawtar Belfallah, Imane Laasri, Mustapha Fouaidi and Mohammad Jamal</i>	
	Design of Textile Substrates with Desired Air Permeability for E-textiles <i>Radostina Angelova and Daniela Sofronova</i>	
	A New Algorithm To Compute The Correlation Implied By A Confirmatory Factor Analysis Model <i>Seyid Abdellahi Ebnou Abdem, Zouhair El Hadri and M'Barek Iaousse</i>	

Session III -3-	Smart Grids, buildings, environment and energy systems	
	Room : Amphi. 3	Session Chairs: Ms. N. BELOUAGGADIA & Mr. M. H. ZAGGAF
FRIDAY, MAY 19th, 2023 10:30 - 12:30	Approach for evaluating power consumption based on a reduced sample <i>Nihad Badii, Mohamed El Khaili and Mohamed Rafik</i>	
	Ozone concentrations Predicting in Agadir city (Morocco) using the Multiple Linear Regression (Forward Regression Analysis) <i>Karima Iraoui, Rachid Moustabchir, Hicham Charifi, Meriem Ouattab and Ahmed Chirmata</i>	
	A mathematical study of a combination of night radiative cooling and solar heating system in the subtropical climate <i>Abdelkabar Zaite, Naoual Belouaggadia, Oumaima Imghoure, Cherifa Abid, Ahmed Kaiss and Achraf Wahid</i>	
	Modeling and simulating an energy storage system using a parallel topology approach with two converters for electric vehicles <i>Ahmed Arif, Abdelouahed Mesbahi, Karima Et-Torabi and Badr N'Hili</i>	
	Passive Control Modelization of a Fluid Flow Coupled with Convective Heat Transfer around a Heated Square Cylinder by using the LBM-MRT <i>Youssef Admi, Sara Elhassani, Jaouad Benhamou, Mohammed Amine Moussaoui and Ahmed Mezrhab</i>	
	Numerical Simulation of FAPbI3 perovskite based solar cells with graphene oxide as hole transport layer using SCAPS-1D <i>Lhouceine Moulaoui, Omar Bajjou, Abdelhafid Najim, Khalid Rahmani, Abdelmounaim Laassouli, Youssef Lachtioui, Archi Marouane and Bouzid Manaut</i>	
	Pinch method of a Moroccan milk pasteurization process <i>Najwa Jbira, Anass Lebnaiti and Sanaa Hayani Mounir</i>	

Session IV -3-	Computer Science and Embedded Systems	
	Room : Amphi. 4	Session Chairs: Ms. S. FARIS & Mr. B. RIYAMI
FRIDAY, MAI 19th, 2023 10:30 - 12:30	A ListNet-based Combination of Lexical and Semantic Features to Homogenize Folkosomies in Online Social Networks <i>Fahd Kalloubi and El Habib Nfaoui</i>	
	Deep reinforcement learning strategy for automated trading systems <i>Itri Bouzgarne, Mohamed Youssfi, Mohammed Qbadou, Omar Bouattane and Mohamed Touil</i>	
	Design of patient monitoring data node on the way of implementing Medical 4.0 <i>Selmani Abdelouahed, Bachir Benhala, Soufiane Abi, Imade El Hajjami, Guerbaoui Mohammed, Abdelati Ed-Dahhak and Abdeslam Lachhab</i>	
	Towards Secure Transactions with IoT: An Advanced Smart Payment Solution <i>Mohamed Ennafiri, Abdessalam Ait Madi and My El Hassan Charaf</i>	
	Evaluation of User Experience In Software Product Lines Derivation Process <i>Anissa Benlarabi, Amal Khtira and Bouchra El Asri</i>	
	Assistive Control System of Appliances through Gaze Point Eye Tracker with Integrated Graphical User Interface for Bedridden Person <i>Andrew Jefferson Candare, Chrizian Eg Ballenas and Glenn Magwili</i>	
	Analysis of Engineering Curriculums regarding Entrepreneurial Competencies <i>Ivana Ogrizek Biškupić, Brigitta Cafuta and Josip Lopatič</i>	
	A review of automatic road sign recognition systems <i>Younes Zaidani, Brahim El Habil and Ayoub Ellahyani</i>	

Session V		Supply chain, Transportation, Logistic Engineering and industry 4.0	
-2-		Room : Amphi. 5	Session Chairs: Mr. I. BENNIS & Mr. A. BELLAT
FRIDAY, MAY 19th, 2023 10:30 - 12:30	Higher Education Supply Chain: a descriptive paper on the suggested analogy <i>Hind Bouhassoun and Nicolas Cheimanoff</i>		
	An ex post facto study of global crisis impact on supply chain performance: case of the automotive sector <i>Abdellah Bais and Khalid Amechnoue</i>		
	Towards a Smart and Sustainable Industry : Cycle Time optimization <i>Youssef Raouf, Zoubida Benmamoun, Hanaa Hachimi, Mehdi Akikiz, Mehdi Haqqi and Ikhlef Jebbor</i>		
	Industrial Excellence in Morocco and LEAN tools: What relationship and what impact? <i>Ilyasse Kourriche and Moulayothman Aboutafail</i>		
	Enhancing the Transportation of Students with Disabilities on Campus <i>Walid Ibrahim and Hoda Amer</i>		
	RITM 23: A system to an IT risk management implementation <i>Hasnaa Berrada, Jaouad Boutahar and Souhaïl El Ghazi El Houssaïni</i>		
	Conceptualization and Configuration of a Generic SCM 4.0 Business Process Model Using BPMN Based on SCOR <i>Loubna Terrada, Mohamed El Khaili, Hassan Ouajji, Bensalem Elasri and Abdellah Zamma</i>		
	On the dynamic behavior of smart factories using Petri Nets in the context of Industry 4.0 <i>Abdelali Bouras, Samir Hamaci, Moulay El Houssine Ech-Chhibat, Hassan Samri and Rafik Absi</i>		

Session VI -3-	Artificial Intelligence and Bioinformatic	
	Room : Amphi. Bleu	Session Chairs: Mr. M. YOUSSEFI & Ms. B. BOUIHI
FRIDAY, MAY 19th, 2023 10:30 - 12:30	Deep Learning Technique for Classification of Breast Cancer using Ultrasound Images <i>Mobarak Zourhri, Soufiane Hamida, Nouhaila Akouz, Bouchaib Cherradi, Hasna Nhaila and Mohamed El Khaili</i>	
	Machine and Deep Learning application in Industry 4.0 <i>Hicham Taoufyq, Kamal Elguemmat and Khalifa Mansouri</i>	
	Accessible Arabic Reading for Students with Disabilities <i>Ouiame Azzaoui, Naoual Nassiri and Abdelhak Lakhouaja</i>	
	Toward a new adaptation method in e-learning based on learner's profile and motivation <i>Mustapha Riad, Soukaina Gouraguine, Mohammed Qbadou and Es-Saadia Elaoula</i>	
	A humanoid robot assistant for the classification of students according to their type of dysgraphia <i>Soukaina Gouraguine, Mustapha Riad, Mohamed Rafik, Mohammed Qbadou and Khalifa Mansouri</i>	
	Building Intelligent Chatbots: Tools, Technologies, and Approaches <i>Hamza El Alaoui, Zakaria El Aouene and Violetta Cavalli-Sforza</i>	
	Morocco's COVID-19 instance as a potential epidemiological scenario <i>El Mehdi Chouit, Mohamed Rachd, Mostafa Bellafkih and Brahim Raouyane</i>	

Session VII -3-	Electrical engineering, Robotics, Control systems and optimization	
	Room : Salle Polyvalente	Session Chairs: Mr. R. LAJOUAD & Mr. M. RAFIK
FRIDAY, Mai 19th, 2023 10:30 - 12:30	Comparative Study of PMSM Control Using Reinforcement Learning and PID Control. <i>Adil Najem, Ahmed Moutabir and Mohamed Rafik</i>	
	Implementaion and analysis of Adaptive Neuro-Fuzzy Inference System based Bruchless DC motor <i>Rachida Baz, Khalid El Majdoub, Fouad Giri and Ossama Ammari</i>	
	Integral Sliding Mode Control And Digital Controller Design Using State Space Methods For A Hybrid Stepper Motor: Comparative Study <i>Yassine Derouech and Abdelouahed Mesbahi</i>	
	Optimization of the Swarm of Robots Routing for the Sorting Center <i>Taras Afanasenko, Aleksandr Gilya-Zetinov, Aleksandr Khelvas, Ulyana Kluchnikova, Ruslan Pashkov, Eugeniya Tsybulko, Ruslan Zaripov and Albert Danilov</i>	
	A New Three-Phase, Five-Level Inverter with Output Voltage Boost using a novel sinusoidal Pulse Width Modulation <i>Badr N'Hili, Abdelouahed Mesbahi, Ayoub Nouaiti, Mohammed Khafallah, Souhail Barakat and Ahmed Arif</i>	
	Three different relative degrees sliding mode control for robust DTC control of induction motor drives <i>Siham Mencou, Majid Ben Yakhlef and El Bachir Tazi</i>	
	Passive fault tolerant control for discrete-time switched systems with multiplicative actuator faults <i>Kenza Telbissi</i>	

Session I		Electronic, circuit, Antennas and Communication Systems, signal processing	
-4-		Room : Amphi. 1	Session Chairs: Mr. B. BENHALA & Ms. H. NHAILA
FRIDAY, MAY 19th, 2023 15:30 - 16:30	Effects of lithium intercalation on the electronic and optical properties of graphene: Density Functional Theory (DFT) computing <i>Abdelhafid Najim, Omar Bajjou, Lhouceine Moulaoui, Abdelmounaim Laassouli, Marouane Archi, Anass Bakour, Youssef Lachtioui and Khalid Rahmani</i>		
	Increasing electro-optical properties of perovskite FAPbI3 under the effect of doping by Sn <i>Mohamed Karouchi, Youssef Lachtioui, Omar Bajjou, Lhouceine Moulaoui and Khalid Rahmani</i>		
	Electronic and optical properties of different concentrations of Ga doped ZnO: CASTEP study <i>Marouane Archi, Omar Bajjou, Lhouceine Moulaoui, Abdelhafid Najim, Khalid Rahmani and Benachir El Haddadi</i>		
Session I		Electronic, circuit, Antennas and Communication Systems, signal processing	
-5-		Room : Amphi. 2	Session Chairs: Mr. Y. NADIR & Mr. BOUYGHF
FRIDAY, MAY 19th, 2023 15:30 - 16:30	Arabic speech commands recognition with LSTM & GRU models using Cuda Toolkit implementation <i>Omayma Mahmoudi and Mouncef Filali Bouami</i>		
	Emotion and Movement Analysis Study from Asian and European Facial Expressions <i>Zeynep Erbasi, Ajla Kulagic, Samet Ozmen and Berk Kayi</i>		
	Analysis of the effects of composite materials on the rocket nosecone on VSWR value of 900MHz antenna frequency <i>Kurdianto, Mirza Zulfikar Rahmat, Galang Ilman Islami, Rustamaji, Muh. Fakhri, Kandi Rahardiyanti, Oka Sudiana, Effendi Dodi Arisandi, Herry Purnomo and Mahfud Ibadi</i>		

Session II -4-	Materials, Civil Engineering, Mechanical engineering, Digital modeling and simulation	
	Room : Amphi. 3	Session Chairs: Mr. S. ELOUARDI & Mr. H. SAMRI
FRIDAY, MAI 19th, 2023 15:30 - 16:30	Investigation of corrosion behaviour of ZrN-based CVD coatings on Ti-29Nb-13Ta-4.6Zr alloy in Hank's solution <i>Leila Ait Ali, Naim Aslan, Hakan Yilmazer, Mitsuo Niinomi, Anil Sen and Burak Dikici</i>	
	Triple-Band Modified V-Shape With A U-Shape Ring Resonator Metamaterial Absorber For C- And X-Band Sensing Applications <i>Ali Almutairi, Ahasanul Hoque and Mohammad Tariqul Islam</i>	
	Monte Carlo dosimetric characterization of the VariSource VS2000 HDR 192Ir brachytherapy source <i>Abderrahim El Yazzaoui, Amina Kharchaf and Abdelaali Rahmouni</i>	
Session II -5-	Materials, Civil Engineering, Mechanical engineering, Digital modeling and simulation	
	Room : Amphi. 4	Session Chairs: Mr. E. ACHOUYAB & Mr. Z. MIGHOUAR
FRIDAY, MAI 19th, 2023 15:30 - 16:30	A Forecast of Pumped Fuel Prices in Morocco using ARIMA Model <i>Abdelaalim Mabrouki, Hamza El Hafdaoui and Ahmed Khallaayoun</i>	
	Reliability study of welding robots <i>Laila Ait El Maalem, My El Houssine Ech-Chhibat, Zineb Znaidi and Abderrahim Bahani</i>	
	The low-frequency complete band gap in a 1D phononic crystal <i>Ramdan Braik, Hicham Jakjoud, Abdelfattah Elmadani and Younes Achaoui</i>	

Session VI		Artificial Intelligence and Bioinformatic	
-4-		Room : Amphi. 5	Session Chairs: Mr. Z. EN-NOUAIMANI & Mr. A. KHIAT
FRIDAY, MAI 19 th , 2023 15:30 - 16:30	Primary Prediction of Heart Disease using Machine Learning Algorithms and SMOTE <i>Mohammed Amine Bouqentar, Oumaima Terrada, Driss Lamrani, Asmae Ouhmida, Bouchaib Cherradi and Abdelhadi Raihani</i>		
	Deep learning for Cerebral Hemorrhage Detection and Classification in Head CT Scans Using CNN <i>Mohamed Amine Mahjoubi, Soufiane Hamida, Loic Emo Siani, Bouchaib Cherradi, Ahmed El Abbassi and Abdelhadi Raihani</i>		
	Assessing the Performance of Deep Learning Models for Colon Polyp Classification using Computed Tomography Scans <i>Khadija Hicham, Sara Laghmati, Soufiane Hamida, Asmae El Ghazi, Tmiri Amal and Bouchaib Cherradi</i>		
Session VI		Artificial Intelligence and Bioinformatic	
-5-		Room : Amphi. Bleu	Session Chairs: Ms. O. ABRA, Ms. A. DAGHOURI & Mr. A. BOUSSELHAME
FRIDAY, MAI 19 th , 2023 15:30 - 16:30	Comparison Results of Hybrid CNN-Machine Learning Algorithms Architectures for Monkeypox Images Classification <i>Abd Allah Aouragh and Mohamed Bahaj</i>		
	New deep learning-based model for Automatic Multimorbidity Pattern Prognosis <i>Faouzi Marzouki and Omar Bouattane</i>		
	Prediction and Classification of Learning Styles using Machine Learning Approach <i>Mohammed Jebbari, Bouchaib Cherradi, Wassima Moutaouakil, Oussama El Gannour, Soufiane Hamida and Abdelhadi Raihani</i>		