

ICSC'2024

November 3-5, 2024, Batna, Algeria

# ICSC

12<sup>th</sup> International Conference on  
Systems and Control

## *Certificate of Attendance*

This Certificate is awarded to: Mr. Hamouda, Nouredine

For having attended the 12<sup>th</sup> International Conference on Systems and Controls (ICSC'2024) that has been  
held between 3 – 5 November, 2024, in Batna, Algeria and presented his communication entitled:

**“Enhanced the PQ of NI-Grid Connected to PV systems using a SAPF Controlled by the Predictive  
Controller”**

Authors: Hamouda, Nouredine; Zorig, Assam; Haddad, Mohammed; Babes, Badreddine; Lekouaghet, Badis; Uwe, Rädell.



**Program Chairman**

Pr. DRID Said



IEEE Xplore<sup>®</sup>  
Digital Library



# IEEE 12<sup>th</sup> International Conference on Systems and Control

03-05 November 2024, Batna, Algeria



## Organizers

- Higher National School of Renewable Energy, Environment and Sustainable Development of Batna

## Organizing Committee

### General Chairs:

- Mokhneche Leila, Algeria

### Program Chairs :

- Said Drid, Algeria
- Ahmed El Hajjaji, France
- Driss Mehdi, France.

### Invited Sessions Chairs:

- Mohamed Amir Abdi, Algeria.
- Hussam Khasawneh, Jordan.
- Verónica Díaz Moreno, Uruguay

### Publication Chairs:

- Abdellah Kouzou, Algeria
- Abdel Aitouche, France
- Mohamed Chaabane, Tunisia.

### Tutorial and Workshop Chairs:

- Larbi Chrifi-Alaoui, France.
- Thomas Elmar Schuppe, Germany.
- Sertac Bayhan, Turkey.
- Mohammed Ouriagli, Morocco.

### Publicity Chairs:

- Hamad Bin Khalifa, Qatar
- Ahmed Hafaifa, Algeria.
- Osama Ayadi, Jordan
- Fouad Khaldi, Algeria

### Best Papers Award Chairs

- Faycal Meddour, Algeria
- Jarosław Guziński, Poland
- Fernando Tadeo, Spain

### Registration and Finance Chairs:

- Larbi Guezouli, Algeria
- Hicham Becherif, Algeria
- Mariem Ghamgui, Tunisia

### Local Arrangements Chairs:

- Mohamed Said Nait Said
- Lyamine Guezouli
- Kamel Fedaoui.
- Samir Bouslimani
- Souhil Kouda
- Saadeddine Hamizi
- Chebbaki Lasaad
- Toufik Bendib
- Ali Beziane
- Yassine Bentahar
- Mohamed Dhia-eddine Drid,

The Twelfth edition of the International Conference on Systems and Control will be held on 2024, in the Higher National School of Renewable Energy, Environment and Sustainable Development of Batna (Ageria). The first edition was initiated by the late Prof. E.-K. Boukas and was held in 2007 in Marrakesh. Of all the ICSC conferences held, two were held in Algeria (Algiers in 2013 and Batna in 2017). **In addition to the classic ICSC topics, this edition will be dedicated to the contribution of automatic control and artificial intelligence to the development of renewable energies for an efficient energy transition and sustainable development.**

This event will provide the opportunity for worldwide researchers and practitioners to share together the latest developments and new trends in systems and control. Both theoretical and applied papers are welcomed for submission to this event. Keynote speeches are to be conducted by well-known experts in systems and control.

### Topics of interest include but not limited:

#### Automatic control

Bond Graphs, Linear and nonlinear systems  
Modeling of complex systems,  
Robust control and Hinf control,  
Hybrid dynamical systems,  
Variable structure Systems,  
Discrete event systems  
Stochastic control,  
Observer, Estimation and identification  
Intelligent and AI based control,  
Multivariable control,  
Time-delay systems  
Industrial control Robotics  
**Manufacturing systems,**  
Control algorithms implementation,  
Control applications  
Control Education  
Optimal control and Optimization  
Real time systems  
**Mechatronics**  
Fault Diagnosis

#### Renewable Energies and Power Systems

Guidance and control theory  
Motion control  
Networks optimization  
Electrical Machines and Drives  
Power systems  
Modeling and simulation  
Fault Tolerant control  
Data Communications  
Embedded Systems  
Process control and instrumentation  
**Control of telecommunications systems**  
Transportation Systems  
Image and video compression algorithms  
**Computer science**  
Fuzzy and neural systems  
Deep learning  
Machine Learning and Data Mining  
Big Data  
Energy management  
Smart home and smart cities.

**Paper submission:** Papers must be submitted electronically via the Web upload system only. The guidelines are given at the ICSC'24 Web site: <https://icsc.conference.univ-poitiers.fr/>. The language of the conference is English

**Full papers** should be submitted in standard IEEE double-column format for conferences. The first page of the paper, centred on the top below the top margin, should include the paper title, the authors' names and their affiliations, an abstract, and keywords. Six pages are allowed for each paper. Submitted papers will undergo a peer review process, coordinated by the Program Chairs and the IPC. The authors are invited to submit the full version of their manuscripts online through the online paper submission, <https://controls.papercept.net/conferences/scripts/start.pl>.

The Authors are informed that only the presented papers will be published in **IEEE Xplore**

The extended version of the best papers will be considered for possible publication in indexed journals.

### Important Dates: (Tentative)

Submission site opening: February 1<sup>st</sup>, 2024

Submission deadline of draft papers: July 30, 2024

Invited session Proposal: May 30, 2024

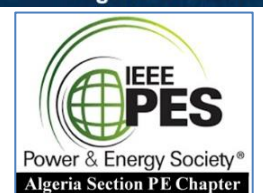
Notification of acceptance/rejection: September 1<sup>st</sup>, 2024

Final version due: September 15, 2024

Congress opening: November 03, 2024



IEEE Xplore®  
Digital Library



Plenary Session - **09:00-09:30 Plenary Session I By Smail BACHIR** - SuPA - Profile Plenary Papers - Not passed  
Sunday, November 3, 2024, 09:00-09:30, Room 1

Chair: Aitouche, Abdel (11335), CRISTAL/JUNIA

Co-chair: MEKHACHE, LEILA (146028), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	N	Title	Authors	Type	No Show
		09:00-10:00		<a href="#">Advanced on using digital predistortion in radio station for new generations of wireless systems</a>	<b>Smail BACHIR</b> XLIM Laboratory UMR CNRS 7252 University of Poitiers, IUT Angoulême, France		

The wireless telecommunications industry is currently experiencing the deployment of numerous standards, making it possible to meet the growing requirements of users in terms of quality of service, high data-rate and security of transmissions as well as density of connection relays. The introduction of these new standards represents the addition of a new hardware layers whose environmental impact adds to that of previous generations. In this context, reducing the energy required for radio communication is a necessity, especially in base stations, which account for 73% of mobile network consumption. In this context, new waveforms based on multicarrier modulation become widely popular and used intensively in recent radio communication architectures. Their properties in term of dynamic spectrum adjustment make OFDM (Orthogonal Frequency-Division Multiplexing) and derivatives modulation a promising technology for recent and future radio systems. However, these signals are sensitive to the power amplifier nonlinearities because of their high fluctuations. Digital Pre-Distortion (DPD) is now widely used to linearize RF amplifiers, which consumes the major part of the base station power, and attempts to resolve the linearity/efficiency tradeoff in LTE/5G signals. In literature, many DPD schemes have been developed and implemented in recent communication standard. The result is significant reduction of energy consumption in base station. In this presentation, I will present recent academic and industrial results and challenges for the field of linearization using Digital Pre-Distortion in wideband applications. I focused the presentation on new evolution of linearization methods based on parameter estimation in off-line and on-line architectures. Implementation and recent industrial project are also presented with different scenarios like aeronautical application, WiFi signals and LTE/5G applications.

Invited Session - **09:30-10:00, Local** - SuTA - Profile Invited Sessions - Not passed

Sunday, November 3, 2024, 09:30-10:00, Room 1

Chair: MEKHNACHE, LEILA (146028), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair:

#	Pos	Subslot	Number	Title	Authors	Type	No Show
---	-----	---------	--------	-------	---------	------	---------

No submissions found

[Interactive Session - Autonomous System - SuAA](#) - Profile Contributed Papers - Not passed

Sunday, November 3, 2024, 10:30-12:30, Room 1

Chair: Salim, Ghoggali (144988), the Higher National School of Renewable Energy, Environment, and Sustainable Development (HNS-RE2SD), Algeria

Co-chair: Nait Said, Nasreddine (145350), University of Batna 2, Algeria

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	6	Advancing Pedestrian Attribute Classification: A Multi-Head Deep Learning Paradigm	Bekbolat, Amanali (Nazarbayev University) 145937; Tanveer, Muhammad Hassan (Kennesaw State University) 145938; Kurokawa, Syuhei (Kyushu University) 145939; Ali, Md. Hazrat (Nazarbayev University) 79682	On-line	
2	2	10:50-11:10	75	A Model Predictive Control Strategy for Overtaking in Autonomous Vehicles	Redwan, Alhosainy (Assuit university) 145000; Morsi, Abdelrahman (Electrical Department, Faculty of Engineering, Assuit University) 64954; Hassan, Mohamed (Assuit university) 145081; Abbas, Hossam (Kiel University) 22280	On-line	
3	3	11:10-11:30	83	Output Feedback Prescribed Performance Control for Euler-Lagrange Systems with Application to a Robotic Manipulator	Trakas, Panagiotis S. (University of Patras) 117565; Vlachos, Christos (Department of Electrical and Computer Engineering, University of) 125930; Bechlioulis, Charalampos (University of Patras) 20127	On-line	
4	4	11:30-11:50	87	Target Tracking with an Unmanned Aerial Vehicle Using Visual Servoing	Idrissa Alhousseini, Djafara (Université Abdou Moumouni) 145237; Mossi Idrissa, Moctar (Université Abdou Moumouni) 145241; Daouda, Abdourahimoun (Université Abdou Moumouni) 145243	On-line	
5	5	11:50-12:10	92	Robust Quadrotor Control: An Adaptive Synergetic Approach with Parallel Feedforward Compensation	Khalil, Mokhtari (University Abbes Laghrour of Khenchela) 145267; El Hadri, Abdelhafid (Université de Versailles) 40603; ABDELAZIZ, Mourad (University of SETIF) 38901; Achour, Saadi (University Amar Telidji of Laghouat) 145268	On-line	
6	6	12:10-12:30	107	Modeling, Simulation and Control of Irrigation Canal Networks	Georgakis, Panagiotis (Department of Electrical and Computer Engineering, University of) 145330; Bechlioulis, Charalampos (University of Patras) 20127	On-line	

**Regular Session - Renewable Energy I - SuAB** - Profile Contributed Papers - Not passed

Sunday, November 3, 2024, 10:30-12:30, Room 2

Chair: Azoui, Boubekeur (62469), University of Batna

Co-chair: khaldi, Fouad (144819), LEREESI Laboratory, HNS-RE2SD, Batna, Algeria

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	67	Enhanced Finite Control Set MPC for Parallel NPC Inverters in Standalone Microgrids with Diverse Load Conditions	Grairia, Mohamed Islam (Department of Electrical Engineering, Souk Ahras University, Alg) 145124; Toufouti, Riad (Souk Ahras University, Algeria) 145125; Bousbia, Larbi (Department of Electrical Engineering, Laboratory of Electrical a) 145051; Ahmed, Hafiz (Coventry University) 51186; CAMARA, Mamadou Bailo (University of Le Havre) 86069	Face-To-Face	
2	2	10:50-11:10	27	Extremum Seeking Control of a Photovoltaic Reverse Osmosis Desalination System under Uniform Irradiance Conditions	Boukahil, Fatima Zohra (Science and Technology, University of Biskra, Biskra, Algeria) 144182; betka, achour (University of Biskra) 62459; ABDEDDAIM, Sabrina (University of Biskra, Algeria) 77163	Face-To-Face	
3	3	11:10-11:30	118	Comparative Analysis of Hardware Resource Utilization for MPPT Techniques: P&O, Incremental Conductance, and ANN Using Processor-In-The-Loop Testing on STM32F407	RIMOUCHE, Wail (Laboratory of Instrumentation, Faculty of Electrical Engenniring) 145347; TALHA, ABDELAZIZ (Laboratoire d'Instrumentation, F.E.I,USTHB, BP 32 Elaliaalger) 32769; Boumaaraf, Houria (Faculty of Electrical Engenniring, University of Sciences and Te) 145349	Face-To-Face	
4	4	11:30-11:50	19	Optimized Technique of Fractional Order- Integral Sliding Mode for Hybrid Renewable energy Sources Integrated to Micro-grid System	boutaghane, karima (university of constantine 1) 144074; Bennechib, Nedjoua (university of constantine 1) 144075; Benbouhenni, Habib (Nisantasi University) 144076; Chebouki, Ilhem (university of constantine 1) 144077	Face-To-Face	
5	5	11:50-12:10	103	Fixed-time Adaptive Control of a DFIG-based Wind Turbine	BOUDJEMIA, Seife-ddine (University of Jije) 145235; Bounar, Naamane (university of Jijel) 145300; Boulkroune, Abdesslem (LAJ, University of Jijel) 20599; Labdai, Sami (national polytechnic school of algeria) 111453; CHRIFI-ALAOUI, Larbi (Université de Picardie Jules Verne) 23518	Face-To-Face	
6	6	12:10-12:30	74	Novel Analytical Approach for PEM Electrolyzer Modelling and Analysis of Parameters Impact on Cell Performance	Boutaghane, Ayoub (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria.) 145173; Aksas, Mounir (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria.) 145176; Lebaal, Nadhir (ICB UMR 6303 CNRS, Belfort-Montbéliard University of Technology,) 145178; GUERBAZI, Mohamed El Amine (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 145170	Face-To-Face	

**Regular Session - [Control applications I - SuAC](#) - Profile Contributed Papers - Not passed**

Sunday, November 3, 2024, 10:30-12:30, Room 3

Chair: betka, achour (62459), University of Biskra

Co-chair: nait said, Mohamed Said (145342), High National School of Renewables Energies, Environment and Sustainable Development, Batna

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	57	Detection and Suppression of Epileptiform Seizures Via Model-Free Control and Derivatives in a Noisy Environment	Join, Cédric (Nancy university) 18224; Jovellar, D. Blair (University of Tuebingen) 145905; Delaleau, Emmanuel (Ecole nationale d'ingénieurs de Brest (Brest, France)) 18509; Fliess, Michel (Ecole polytechnique) 13063	Face-To-Face	
2	2	10:50-11:10	36	Closed-Loop Color Control of Multichannel LED Lighting System Using a Multilayer Perceptron Network	GOUDJIL, Abdelhak (IPSA - Institute of Polytechnic Science and Aeronautics) 66587; Pigeon, Eric (LAC) 38107; Pouliquen, Mathieu (University of Caen) 15830; Ménard, Tomas (Ensicaen) 38170; SMAIL, Mostafa (Institut Polytechnique des Sciences Avancées - Laboratoire de Gé) 144886	On-line	
3	3	11:10-11:30	89	Observer Based Controller for a Foldable Quadrotor	MEHAL, Zakaria (Complex Systems Control and Simulators Laboratory, Ecole Militai) 145190; Rehia, Sidali (Complex Systems Control and Simulators Laboratory, Ecole Militai) 145195; BOUZID, YASSER (Ecole Militaire Polytechnique) 66699; Guiatni, Mohamed (Ecole Militaire Polytechnique) 56487	Face-To-Face	
4	4	11:30-11:50	106	Nonlinear Sensorless Control of Doubly Fed Induction Machines in Electric Vehicles	ROUBACHE, Toufik (Laboratory of Electromagnetic Induction and Propulsion Systems, ) 48593	On-line	
5	5	11:50-12:10	60	Efficient Indoor RSSI Analysis for IoT-Based Weather Stations Using LoRa Protocol in Agricultural Applications	Chara, kheireddine (LAAAS, Department of Electronics University of Batna 2) 145084; SRAIRI, Fawzi (LAAAS, Department of Electronics University of Batna 2) 145082; Ghedjati, Samir (LAAAS, Department of Electronics University of Batna2) 145085; Radjah, Fayçal (LEPCI, Department of of Electronics University of Setif 1) 145086	Face-To-Face	
6	6	12:10-12:30	109	Robust Stability Analysis of Interval Observer for Linear Continuous-Time Systems: An $\mathcal{L}_1$ -Gain Characterization	Nguyen, Dang Khai (Conservatoire National des Arts et Métiers) 145332; Dinh, Thach Ngoc (Conservatoire National des Arts et Métiers) 50146; Marouani, Ghassen (Research Laboratory of Automatic Signal and Image Processing, Na) 62243; Wang, Zhenhua (Harbin Institute of Technology) 70832; Raissi, Tarek (Conservatoire National des Arts et Métiers) 15929	Face-To-Face	

**Regular Session - Renewable Energy and Power systems II** - SuAD - Profile Contributed Papers - Not passed

Sunday, November 3, 2024, 10:30-12:30, Room 4

Chair: Naimi, Djemai (145800), University of Biskra

Co-chair: Aksas, Mounir (145176), LEREESI Laboratory, HNS-RE2SD, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	93	Numerical Analysis of AgInSe <sub>2</sub> Solar Cells Using an Optimized ETL	Younsi, Ziyad (HNS RE2SD) 145255; Meddour, Faycal (HNS RE2SD) 145257; bencherif, hichem (Higher National school of Renewable Energy, Environment and Sust) 145159; Mohammed cherif, okba (University M'hamed BOUGARA of Boumerdes (UMBB),Research Laborato) 145236; Sasikumar, P (Saveetha School of Engineering) 145258; Mokrani, Sabrina (Batna 2 university) 145259; Aouni, Qoteyba (Batna 2 university) 145264; Belferdi, Souad (HNS RE2SD) 145263	Face-To-Face	
2	2	10:50-11:10	113	Enhanced the PQ of NI-Grid Connected to PV systems using a SAPF Controlled by the Predictive Controller	Hamouda, Nouredine (Research Center in Industrial Technologies (CRTI)) 145191; Zorig, Assam (University Med Boudiaf of M'Sila) 145334; Haddad, Mohammed (Research Center in Industrial Technologies (CRTI)) 145189; Babes, Badreddine (Research Center in Industrial Technologies (CRTI)) 145192; Lekouaghet, Badis (Research Center in Industrial Technologies (CRTI)) 145193; Uwe, Rädcl (Technische Universität Ilmenau) 145336	On-line	
3	3	11:10-11:30	94	Numerical Study of All 2D Materials Perovskite Solar Cell Using Scaps 1D Simulation	Belferdi, Souad (HNS RE2SD) 145263; abdi, Mohamed Amir (HNS RE2SD) 145269; bencherif, hichem (Higher National school of Renewable Energy, Environment and Sust) 145159; Mohammed cherif, okba (University M'hamed BOUGARA of Boumerdes (UMBB),Research Laborato) 145236; Sasikumar, P (Saveetha School of Engineering) 145258; Mokrani, Sabrina (Batna 2 university) 145259; Aouni, Qoteyba (Batna 2 university) 145264; Younsi, Ziyad (HNS RE2SD) 145255	Face-To-Face	
4	4	11:30-11:50	119	Control of a 400 kW Grid-Connected PV Array with and without MPPT Algorithm	Ouai Atallah, Atallah (Laghouat University) 145313; MOKRANI, Lakhdar (LACoSERE Laboratory) 75726; Machmoum, Mohamed (Univ Nantes) 43088	On-line	
5	5	11:50-12:10	100	Adaptive Control of a Buck Converter in Continuous Conduction Mode Using Sliding Mode Techniques	BOUDRA, Toufik (University of Mohamed El-Bachir El-Ibrahimi) 145301; BENHENICHE, Abdelhak (University of Mohamed El-Bachir El-Ibrahimi) 145302; ZEBIRI, Fouad (University of Mohamed El-Bachir El-Ibrahimi) 145303; BOUCHAMA, Ziad (University of Mohamed El-Bachir El-Ibrahimi) 145305	Face-To-Face	

[Interactive Session - Linear and nonlinear systems - SuCA](#) - Profile Contributed Papers - Not passed

Sunday, November 3, 2024, 14:30-16:30, Room 1

Chair: Abdelmalek, Nidhal (146024), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair: Charrouf, Omar (146023), University of Biskra

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	14:30-14:50	23	Design and Simulation of PI-Improve Funnel Controller	haouili, wissam (Université Mouloud Mammeri de Tizi Ouzou) 144139; Ardjal, Aghiles (Ummto) 144161; Bettayeb, Maamar (University of Sharjah) 11800	On-line	
2	2	14:50-15:10	35	Data-Driven Based Decoupled Control Scheme for Interacting Quadruple Tank Process	Abdel Aal, Osama (University of California, Merced) 144858; Al-Hemeimat, Raghad (University of Jordan) 144860	On-line	
3	3	15:10-15:30	51	The Euler-Lagrange Equation and Optimal Control: Preliminary Results	Join, Cédric (Nancy university) 18224; Delaleau, Emmanuel (Ecole nationale d'ingénieurs de Brest (Brest, France)) 18509; Fliess, Michel (Ecole polytechnique) 13063	On-line	
4	4	15:30-15:50	72	Optimized $H^\infty$ Control for 2-DoF Helicopter Using Adaptive PSO and LMI	lahoual, yassine (QUERE Laboratory. Faculty of Technology) 145155; Doudou, Sofiane (QUERE Laboratory. Faculty of Technology) 145156; Dounia, Saifia (LAJ, Faculty of science and Technology, University of Jijel. P) 103778	On-line	
5	5	15:50-16:10	105	Monitoring of Manufacturing Systems: Applying Deep Learning Algorithms to Improve Gas Turbine Performance and Sustainability	Madjour, Hassina (Batna 2 university) 145329; ZERMANE, Hanane (University Batna 2) 48247	On-line	
6	6	16:10-16:30	120	Stress Matrix-Based Formation Control of Multi-Agent Systems with Discrete-Time Communication	Onuoha, Okechi (The University of Manchester) 98104; Ubochi, Brendan Chijioke (Federal University of Technology Akure) 145945; Kurawa, Suleiman (Rolls - Royce Plc) 98760; TANG, ZEZH (UNIVERSITY OF SHEFFIELD) 133352; WU, Changshun (Université Grenoble Alpes) 83789; Dong, Yi (University of Southampton) 135735	On-line	

**Regular Session - Renewable Energy II - SuCB** - Profile Contributed Papers - Not passed

Sunday, November 3, 2024, 14:30-16:30, Room 2

Chair: CHINE, Adel (145174), LEREESI Laboratory, HNS-RE2SD, Batna, Algeria

Co-chair: Hamizi, Saad-eddine (68767), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	14:30-14:50	32	Numerical Investigation of Compression Ratio Impact on Performance, Combustion, and Emissions Behavior of a Hydrogen-Powered Internal Combustion Engine	Ghodbane, Hassina (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 144815; khaldi, Fouad (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 144819; Bahloul, Deraadji (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 144824	Face-To-Face	
2	2	14:50-15:10	38	Design and Control of an Energy Storage System for Hybrid Renewable Energy Systems	Triki, Yacine (M'Hamed Bougara University of Boumerdès) 144071; Bechouche, Ali (Université Mouloud Mammeri de Tizi Ouzou) 144921; Seddiki, Hamid (Université Mouloud Mammeri de Tizi Ouzou) 144925; Ould Abdeslam, Djaffar (University of Haute Alsace) 144927	Face-To-Face	
3	3	15:10-15:30	91	Double Pulse Test Bench Design Methodology for Power Electronics Applications	Mohammed cherif, okba (University M'hamed BOUGARA of Boumerdes (UMBB), Research Laborato) 145236; NADJI, Bouchra (Université de Boumerdes; faculté des hydrocarbures et de la chim) 48103; tadjer, sid ahmed (Université de Boumerdes; faculté des hydrocarbures et de la chim) 48108; bencherif, hichem (Higher National school of Renewable Energy, Environment and Sust) 145159	Face-To-Face	
4	4	15:30-15:50	97	Real Time Implementation Smart Home to Improve the Energy Efficiency of a Smart Home	Chabane, Lazhar (University of Geulma, Algeria) 145276; CHRIFI-ALAOUI, Larbi (Université de Picardie Jules Verne) 23518; Drid, Mohamed Dhia Eddine (usthb) 144437; Mechnane, Farouk (University of batna 2) 125101; DRID, Said (Higher National School of Renewable Energy, Environment and Sust) 50068	Face-To-Face	
5	5	15:50-16:10	101	Implementation of Global Control and Energy Management in a Hybrid AC-DC Microgrid for Residential Areas	Drid, Mohamed Dhia Eddine (usthb) 144437; hamdani, samir (usthb) 144424; Nait Seghir, Amirouche (USTHB) 49205; CHRIFI-ALAOUI, Larbi (Université de Picardie Jules Verne) 23518; DRID, Said (Higher National School of Renewable Energy, Environment and Sust) 50068	Face-To-Face	

**Interactive Session - Control applications II - SuCC - Profile Contributed Papers - Not passed**

Sunday, November 3, 2024, 14:30-16:30, Room 3

Chair: bencherif, hichem (145159), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair: Chaabane, Mohamed (19979), National Engineering school of Sfax, Tunisia

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	14:30-14:50	28	Optimized Super Twisting Sliding Mode Controller for Robot Manipulators	Saoudi, Khadidja (Djelfa University) 144533; Guesmi, Kamel (University of Reims Champagne Ardenne) 33333; Bdirina, Khansa (Djelfa University) 144532	On-line	
2	2	14:50-15:10	55	Nonlinear Integral Backstepping Control of Machine Side Converter PMSG Wind Turbine Conversion System During Grid Faults	SAIDI, Youcef (Electro-Technical Engineering Lab (LGE), Faculty of Technology, ) 145028; Brahim, BRAHMI (Institute of Mining and Technology New Mexico, USA) 143714; Abdelkader, MEZOUAR (université Dr. Moulay Tahar - SAIDA-) 143713; Meddah, ATALLAH (université Dr. Moulay Tahar - SAIDA-) 143711; Mohammed amin, BENMAHDJOUR (université Dr. Moulay Tahar - SAIDA-) 143716	On-line	
3	3	15:10-15:30	111	Robust Combined FOMRAC/PD Adaptive Control Design for Veloce Parallel Robot Using DE Optimization and a Fractional-Order Integrator	Ladaci, Samir (National Polytechnic School of Constantine) 37574; Bouchra, Khoumeri (Ecole Nationale Polytechnique) 145333	On-line	
4	4	15:30-15:50	45	Broadband and High-Gain SIW-Fed Cavity-Backed Patch Antenna for the 60 GHz Spectrum	Boubaker, kerboub (Laboratoire d'Hyperfréquences et de Semi Conducteurs, Département) 144991; Siham, Ben Kouda (Laboratoire d'Analyse des Signaux et Systèmes, Département d'Ele) 144992; Djamel, Khezzar (Mohamed Boudiaf University, M'sila, Algeria) 144990; Salim, Ghoggali (the Higher National School of Renewable Energy, Environment, and) 144988	On-line	
5	5	15:50-16:10	104	Eddy Currents and Magnetic Field Calculation in a Conductive Rod of Finite and Infinite Length Wrapped by a Cylindrical Coil	Sari, Moussa (USTHB) 144654; Ouazir, Youcef (USTHB) 144653	On-line	
6	6	16:10-16:30	90	Robust Control Using Adaptive Fuzzy Terminal Sliding Mode for Mobile Robot	benaziza, walid (university of batna2) 145252; Slimane, Nouredine (University of Batna 2) 76292; Mallem, Ali (University of Batna 2) 76291; bendib, Hafed-eddine (university of biskra) 145254	On-line	

Plenary Session - **09:00-09:30, Plenary Session II By Prof Javier Alda** - MoPA - Profile Plenary Papers - Not passed  
Monday, November 4, 2024, 09:00-09:30, Room 1

Chair: KHARRAT, Maher (63358), LabSAT, National School of Electronics and Telecommunications of Sfax

Co-chair: Guezouli, Larbi (145575), Higher National School of Renewable Energies, Environment & Sustainable Development - Batna

#	Pos	Subslot	N	Title	Authors	Type	No Show
		09:00-09:30		<a href="#">LIGHT MANAGEMENT AND CONTROL USING RESONANT OPTICS</a>	<b>Prof Javier Alda</b> University Complutense of Madrid Department Optics Departament. Faculty of Optics and Optometry Address C/ Arcos de Jalón, 118. 28037 Madrid,		

The interaction of light using subwavelength structures can be explained with an adaptation of the principles of classical electromagnetism to the optical range. This involves the presence of plasmonic resonances that strongly varies the optical response of the structures. When applied to optical devices, these capabilities generate a new field that we name as resonant optics. Even when combined with appropriate transducers, a new kind of light detectors are developed as optical antennas. These new elements are able to modify the properties of the reflected, or transmitted light, providing a new way to manage optical fields. Then, resonant optics can modify the amplitude distribution, the spectral content, the state of polarization, and even the phase of the incoming wavefront. Moreover, by carefully tailoring the subwavelength structures, it is possible to strongly focus the optical irradiance within a few hundreds of nanometers, generating nanojets. From the point of view of photovoltaic energy, these nanostructures can be designed to mitigate the degradation of solar cells, or to redistribute light towards the active layers.

Plenary Session - **09:30-10:00, Plenary session III by Prof. Rochdi Merzouki** - MoTA - Profile Plenary Papers - Not passed  
Monday, November 4, 2024, 09:30-10:00, Room 1

Chair: bencherif, hichem (145159), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair:

#	Pos	Subslot	N	Title	Authors	Type	No Show
		09:30-10:00		<a href="#">Enhancing Resilience in Large-Scale System of Systems: Modeling and Supervision Challenges</a>	<b>Rochdi Merzouki</b> CRISTAL UMR CNRS 9189, Bulding ESPRIT Rue Paul Langevin, 59655, Villeneuve d'Ascq, France,		

In an era marked by increasing complexity and vulnerability, the resilience of large-scale systems, particularly system-of-systems engineering (SoSe), is crucial for maintaining operational stability during major disruptions. This talk delves into the intricacies of modeling and supervising such expansive and interconnected systems, highlighting the unique challenges faced and the innovative strategies developed to address them. The presentation will provide an overview of the fundamental issues related to the resilience of SoS, including the difficulties in managing and coordinating multiple component systems with diverse functions and interactions. Key challenges such as state space explosion, high-dimensionality, and the need for real-time adaptability will be discussed. Using the SAFARI project as a case study, the talk will illustrate practical applications of advanced modeling techniques and supervision strategies designed to enhance port infrastructure resilience against extreme weather events and other critical disruptions. BeProact's approach to integrating digital platform and predictive analytics to supervise the water quality of large river infrastructure. The talk will also explore future directions and potential advancements in the field, emphasizing the importance of interdisciplinary collaboration and ongoing research to tackle emerging challenges in large-scale system resilience.

[Interactive Session - Estimations and identification - MoAA](#) - Profile Contributed Papers - Not passed

Monday, November 4, 2024, 10:30-12:30, Room 1

Chair: Benoudjit, DJAMEL (62470), University of CONSTANTINE

Co-chair: Athmani, Samir (145674), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	18	State of Charge Estimation of Lithium-Ion Batteries Based on Fractional-Order Modulating Functions	LIU, Da-Yan (INSA Centre Val de Loire, Campus de Bourges) 20886; Chen, Wen (Wayne State University) 30294; Boutat, Driss (INSA Centre Val de Loire) 11941	On-line	
2	2	10:50-11:10	114	Identification of Multi-Sinusoidal Signal Models : Application to Non-Intrusive Industrial Load Monitoring	Rivier, Antonin (Université de Poitiers) 145338; Chamroo, Afzal (University of Poitiers) 50843; Cauet, Sebastien (University of Poitiers) 17986	On-line	
3	3	11:10-11:30	49	Equivalent Circuit Parameters Identification of High-Power Synchronous Generators Via SSFR Tests	Leguebedj, Farid (Ecole Nationale Polytechnique, 10 Rue des frères OUDEK, El-Harra) 145009; Tegar, Madjid (Ecole Nationale Polytechnique, 10 Rue des frères OUDEK, El-Harra) 145916; Benmahamed, Youcef (Ecole Nationale Polytechnique, 10 Rue des frères OUDEK, El-Harra) 145923	On-line	
4	4	11:30-11:50	62	A Set-Membership Identification Algorithm for Time-Series Modeling Using ARMA Process	EL MAIZI, HASNA (Laboratoire d'Ingenierie des Systemes - UR 7478 Normandie Univ, ) 135115; Pouliquen, Mathieu (University of Caen) 15830; SAFI, SAID (Sultan Moulay Slimane University) 104500; FRIKEL, Miloud (Normandie Univ, UNICAEN, ENSICAEN) 32867	On-line	
5	5	11:50-12:10	99	Recurrence Plot and Quantification of Glottal Signal for Pathological Voice Analysis	DAHMANI, mohammed (University Of Science and Technology Houari Boumedien) 145198; bettayeb, nadjia (Université Kasdi Merbah Ouargla, Algeria) 145233	On-line	
6	6	12:10-12:30	17	Fault Detection and Estimation of Battery Strings without Voltage Measurements to Individual Battery Cells Using a Fractional-Order Learning Observer	Chen, Wen (Wayne State University) 30294; LIU, Da-Yan (INSA Centre Val de Loire, Campus de Bourges) 20886; Boutat, Driss (INSA Centre Val de Loire) 11941	On-line	

**Regular Session - Renewable Energy III - MoAB** - Profile Contributed Papers - Not passed

Monday, November 4, 2024, 10:30-12:30, Room 2

Chair: Zerek, Amer (133215), Aziwa University

Co-chair: chebaki, elasaad (76986), University of BATNA-2, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	65	Green Hydrogen Facilities Based on Carbon Pricing Consideration of Introduction Possibility	Takayama, Daiki (Tokyo City University) 145122; Amau, Toru (Tokyo City University) 145275; Maeda, Takao (NIHON KENSETSU KOGYO CO.,LTD.) 145145; Miyake, Satoshi (NIHON KENSETSU KOGYO CO.,LTD.) 145143; Kawakami, Itaru (NIHON KENSETSU KOGYO CO.,LTD.) 145138	On-line	
2	2	10:50-11:10	95	Performance Analysis of a Novel PbS Quantum Dot Solar Cell with FASnI3 Perovskite Interfacial Layer	Aouni, Qoteyba (Batna 2 university) 145264; Kouda, Souhil (LEREESI, HNS-RE2SD, Batna, Algeria) 145272; bencherif, hichem (Higher National school of Renewable Energy, Environment and Sust) 145159; Mohammed cherif, okba (University M'hamed BOUGARA of Boumerdes (UMBB),Research Laborato) 145236; Sasikumar, P (Saveetha School of Engineering) 145258; Younsi, Ziyad (HNS RE2SD) 145255; Mokrani, Sabrina (Batna 2 university) 145259; Belferdi, Souad (HNS RE2SD) 145263	Face-To-Face	
3	3	11:10-11:30	76	Artificial Intelligent-Based Parameter Tuning of an Active Disturbance Rejection Controller for Electrode Wire Feeding Mechanism	Haddad, Mohammed (Research Center in Industrial Technologies (CRTI)) 145189; Hamouda, Nouredine (Research Center in Industrial Technologies (CRTI)) 145191; Babes, Badreddine (Research Center in Industrial Technologies (CRTI)) 145192; Lekouaghet, Badis (Research Center in Industrial Technologies (CRTI)) 145193	On-line	
4	4	11:30-11:50	81	Green Energy Integration: Modeling Photovoltaic, Hydrogen, and Battery Systems for Cost and Carbon Emission Reduction in Micro-Grids	Khan, Aqib (UMR 9189, CRISTAL, Université de Lille) 145211; Bressel, Mathieu (Junia High Engineering School of Lille (Junia-HEI-Lille)) 145216; Abbes, Dhaker (Univ. Lille, Arts et Metiers Institute of Technology, Centrale L) 135337; Davigny, Arnaud (Junia High Engineering School of Lille (Junia-HEI-Lille)) 145217; Ould Bouamama, Belkacem (Polytech Lille) 19424	On-line	
5	5	11:50-12:10	96	Numerical Analysis and Optimal Design of 2D Dion–Jacobson Perovskite Solar Cells	Mokrani, Sabrina (Batna 2 university) 145259; Kouda, Souhil (LEREESI, HNS-RE2SD, Batna, Algeria) 145272; Bendib, Toufik (Higher National school of Renewable Energy, Environment and Sust) 145614; bencherif, hichem (Higher National school of Renewable Energy, Environment and Sust) 145159; Aouni, Qoteyba (Batna 2 university) 145264; Mohammed cherif, okba (University M'hamed BOUGARA of Boumerdes (UMBB),Research Laborato) 145236; Sasikumar, P (Saveetha School of Engineering) 145258; Belferdi, Souad (HNS RE2SD) 145263; Younsi, Ziyad (HNS RE2SD) 145255	Face-To-Face	

**Regular Session - Modeling and simulation - MoAC** - Profile Contributed Papers - Not passed

Monday, November 4, 2024, 10:30-12:30, Room 3

Chair: Ladaci, Samir (37574), Ecole Nationale Polytechnique

Co-chair: Saadi, Yahia (146026), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	108	Hybrid Timed Petri Net Framework for Switched Dynamical System modelling	Hamdi, Fatiha (Universite of Batna2 Algeria) 20754; ZEROUAL, Abdelhafid (University of Skikda, Algeria) 145128	On-line	
2	2	10:50-11:10	4	Optimal Design and Tuning of Fractional Order Fuzzy PID Power System Stabilizer for SMIB Power System Using African Vulture Optimization Algorithm	HATTABI, Intissar (Blida 1 University, Faculty of Technology, Electrical and control) 143119; KHELDOUN, Aissa (Signals and Systems Laboratory LSS, Institute of Electrical and ) 101555; BRADAI, Rafik (LATSI, Blida 1 University, Faculty of Technology, Electronics D) 143145; khettab, soufian (Blida 1 University, Faculty of Technology, Electrical and control) 143148	On-line	
3	3	11:10-11:30	12	Distributed Output Bounded Bilinear Tracking Control of a Parabolic Trough Solar Collector	Mechhoud, Sarah (University 20 August 1955) 37861; Belkhatir, Zehor (University of Southampton) 51293	Face-To-Face	
4	4	11:30-11:50	53	Investigating Quantum Artificial Neural Networks for Singularity Avoidance in Robotic Manipulators	Fazilat, Mehdi (University) 145017; zioui, nadjat (Ecole Nationale Supérieure de Technologie) 47781	On-line	
5	5	11:50-12:10	9	Improved TSR Based MPPT Control Using Advanced Higher Order Sliding Mode Approach for Wind Turbine	Kadri, Rania (sidi bel abbes university) 143708; Mohamed, ABID (DJILLALI LIABES UNIVERSITY OF SIDI BEL ABBES) 143731; Azzeddine, Yasser Nadhir (IRECOM Laboratory Sidi Bel Abbes Algeria) 143728	On-line	
6	6	12:10-12:30	33	Towards Resilience: Transforming Conventional Control Systems	Faizan, Mohd (Universite de Lille UMR 9189, CRISTAL) 144853; Boukerdja, Mahdi (CRISTAL UMR CNRS 9189, Université de Lille, Villeneuve d'Ascq, F) 111475; Gehin, Anne-Lise (CRISTAL UMR CNRS 9189, Université de Lille, Villeneuve d'Ascq, F) 111479; Ould Bouamama, Belkacem (Polytech Lille) 19424	Face-To-Face	

**Regular Session - Optimization - MoAD** - Profile Contributed Papers - Not passed

Monday, November 4, 2024, 10:30-12:30, Room 4

Chair: Hadj, A. (145797), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair: Hamizi, Saad-eddine (68767), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	47	Optimization of Coupled ARX-Laguerre Multimodel Parameters Using Genetic Algorithm	Benamor, Hajer (Laboratory of Automatic Signal and Image Processing (LARATSI), ) 144933; Yousfi, Marwa (Laboratory of Automatic Signal and Image Processing (LARATSI), ) 144934; CHRIFI-ALAOUI, Larbi (Université de Picardie Jules Verne) 23518; Garna, Tarek (ISSAT Sousse) 37913	On-line	
2	2	10:50-11:10	80	Development and Optimization of Eddy Currents in Conductive Particles within the Magnetic Drum Separator Using Response Surface Modeling (RSM)	BETTACHE, abderrahmane (Djillali Liabes University of Sidi Bel Abbès) 145202; BENDIMERAD, Salah-Eddine (Djillali Liabes University of Sidi Bel Abbès) 145207; KRIKA, Wafa (Djillali Liabes University of Sidi Bel Abbès) 145208; AYAD, Abdelghani (Djillali Liabes University of Sidi Bel Abbès) 145209; AYAD, Ahmed Nour El Islam (Kasdi Merbah University of Ouargla) 145210; KHELLAF, Kadda (Djillali Liabes University of Sidi Bel Abbès) 145212	On-line	
3	3	11:10-11:30	88	A PSO-Based Global Path Planning Approach for Mobile Robots	Boutalbi, Oussama (intelligent system laboratory, Setif-1- University, Setif, Alger) 76613; SEGHIR, Fateh (Intelligent Systems Laboratory , Ferhat Abbas University –Setif ) 144928; BOUTALBI, ASMA (Informatic's Departement, Ferhat Abbas Setif-1- University) 145024; GUERRA, LATIFA (Informatic's Departement, Ferhat Abbas Setif-1- University) 145025	Face-To-Face	
4	4	11:30-11:50	115	Soft Computing Using an HPSOGWO Variant for Functions Optimization and PMSM Drive Control	Bazi, Smail (Industrial Security Department, Hygiene and Security Institute, ) 145339; benzid, redha (batna2 university) 76467; NAIT SAID, MOHAMED SAID (UNIVERSITY OF BATNA 2) 78692	Face-To-Face	
5	5	11:50-12:10	121	Enhancing Graph-SLAM 2D Maps Accuracy and Data Efficiency Via Loop Closure through PGO and Map-Based Navigation	Chettih, Istighfar (Laboratory of Telecommunications, Signals and Systems, Universit) 145354; Chouireb, Fatima (Amar Thélidji of Laghouat, Algeria , Department of Electronic, L) 76564; Achour, Saadi (University Amar Telidji of Laghouat) 145268; Khalil, Mokhtari (University Abbès Laghrour of Khenchela) 145267	On-line	
6	6	12:10-12:30	124	Modulation of Threshold Voltage and Factors That Influence It in NMOS Transistors	chebabhi, Younes (university of Batna 2) 145652; Dendouga, Abdelghani (university of batna 2) 145650; Kouda, Souhil (LEREESI, HNS-RE2SD, Batna, Algeria) 145272	Face-To-Face	

Plenary Session - **09:30-10:00, Plenary session IV by Prof.Mohammad Monfared** - TuTA - Profile Plenary Papers - Not passed  
Tuesday, November 5, 2024, 09:30-10:00, Room 1

Chair: Chaabane, Mohamed (19979), National Engineering school of Sfax, Tunisia

Co-chair: Hadeif, Mahmoud (146025), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	N	Title	Authors	Type	No Show
		09:30-10:00		<a href="#">EFFECTIVE MODELING APPROACHES FOR COMPLEX PHOTONIC DESIGNS USING FEM</a>	Hamdy Mohamed Elshorbagy, Mahmoud  Location Facultad de Óptica y Optometría, Universidad Complutense de Madrid, Spain,		

The simulation of optical devices composed of multilayer structures with varying scales presents unique challenges that necessitate specialized handling and methodological rigor. This workshop will address critical considerations essential for accurate simulation and design of such devices, emphasizing the importance of material suitability, the applicability of fabrication techniques, and the compatibility of all components within the device architecture. These factors collectively influence the efficacy of the simulation and the performance of the final optical device. A primary focus will be placed on the selection of materials that exhibit optical properties closely aligned with the intended operational spectral range and dimensional constraints. The precision with which these properties are characterized directly impacts the reliability of the simulation outcomes. Participants will learn how to define the target structure meticulously, ensuring that all materials and geometries are correctly identified and utilized within the simulation framework. Once the structural parameters are established, we will explore optimization techniques using merit functions designed to enhance the desired optical response of both the multilayer structure and the overall device. This aspect of the workshop will provide insights into the iterative process of design refinement, demonstrating how specific metrics can guide improvements in light transmission efficiency, wavelength selectivity, and overall performance. Several illustrative case studies will be presented, showcasing the application of these principles in the realm of nanophotonics. Examples will include multilayer coatings for enhanced light management, photonic crystal structures with tailored optical responses, and waveguide systems that leverage material properties for optimized signal transmission. Through these examples, attendees will gain a comprehensive understanding of the interconnected nature of material selection, structural design, and optical performance in multilayer devices. Ultimately, this workshop aims to equip participants with the knowledge and tools necessary to navigate the complexities of simulating multilayer optical devices, fostering advancements in the field of nanophotonics and enhancing the capabilities of future optical technologies.

**Regular Session - Renewable Energy and Power systems I** - TuAA - Profile Contributed Papers - Not passed

Tuesday, November 5, 2024, 10:30-12:30, Room 1

Chair: Azoui, Boubekeur (62469), University of Batna

Co-chair: Bendjerad, Adel (146030), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	29	Control of DFIG Power Dedicated for Wind Turbine	Mehdi, Amine (University of Ghardaia) 144536; GUERBOUZ, abdesselam (Djelfa University , LAADI laboratory ,) 144166	Face-To-Face	
2	2	10:50-11:10	37	Fractional Exponential Reaching Law Sliding Mode Control for a Robot Manipulator Tracking Application	stih, sana (ENP : National Polytechnic Institution) 47952; Aouaichia, Abdelhadi (University of Blida 1) 144905; Mohamad Gad, Omar (Electrical engineering department, university of Sharjah) 144906; Raouf, Fareh (university of sharjah) 96719; Khadraoui, Sofiane (University of Sharjah) 81612; Bettayeb, Maamar (University of Sharjah, King Abdulaziz University,) 126811	Face-To-Face	
3	3	11:10-11:30	54	Fractional-Order PI Control of a TITO System Using Particle Swarm Optimization Algorithm	Bettou, Khalfa (Signal Processing Laboratory, Department of Electronics, Universi) 38956; Bekkouche, Hanene (Laboratoire de Traitement du Signal, Département d'Electronique,) 48453; ASSABAA, Mohamed (Laboratoire de Traitement de Signal, Département Electronique, U) 48900	Face-To-Face	
4	4	11:30-11:50	58	Enhanced Energy Efficiency in Visual Sensor Networks through ROI-Based Compression Techniques in Wildlife Surveillance	HADJI, Oussama (LASTIC Laboratory, Dept. Computer Science, University of Batna 2) 145031; MAIMOUR, Moufida (Université de Lorraine, CNRS, CRAN, F-54000 Nancy, France) 145032; KADRI, Ouahab (LASTIC Laboratory, Dept. Computer Science, University of Batna 2) 145033; BENYAHIA, Abderrezak (LASTIC Laboratory, Dept. Computer Science, University of Batna 2) 145034; Rondeau, Eric (CRAN-CNRS UMR 7039) 16107	Face-To-Face	
5	5	11:50-12:10	79	3D Computational Analysis of Single Channel HT PEMFCs: Enhancing Efficiency and Durability	GUERBAZI, Mohamed El Amine (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 145170; CHINE, Adel (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 145174; khaldi, Fouad (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria) 144819; Boutaghane, Ayoub (LEREESI Laboratory, HNS-RE2SD, Batna, Algeria.) 145173; Mohammedi, Abdallah (Ecole Nationale Polytechnique de Constantine, BP 75, Nouvelle vi) 145177; Zereg, Alaeddine (LPEA, University of Batna 1, Batna, Algeria.) 145180	Face-To-Face	
6	6	12:10-12:30	82	Fast Approach to Predict the Airgap Magnetic Field of a Permanent Magnet Vernier Machine	TOUIMI, Khalil (Military Polytechnic School) 145199; OULDHAMRANE, Hichem (Military Polytechnic School) 145203; STATRA, Yazid (Military Polytechnic School) 145204; Benbouzid, Mohamed El Hachemi (University of Brest, Brest, France. EA 4325 - Laboratoire Brest) 76774	Face-To-Face	

[Interactive Session - Fuzzy and neural systems - TuAB](#) - Profile Contributed Papers - Not passed

Tuesday, November 5, 2024, 10:30-12:30, Room 2

Chair: Boubiche, Djellal (146029), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair: betka, achour (62459), University of Biskra

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	11	Traffic Signal Control for Large-Scale Scenario: A Deep Reinforcement Learning-Based Cooperative Approach	Haddad, Tarek Amine (University of batna 2) 143765	On-line	
2	2	10:50-11:10	26	Real-Time FPGA Implementation of FFT Architecture Utilizing a Single Butterfly Calculator: Application on Rotor Bars Fault Detection in Induction Motor	hamouda, salim (usthb) 144436; hamdani, samir (usthb) 144424; khelfi, hamid (usthb) 144430; Boudjit, Kamel (usthb) 144434; Drid, Mohamed Dhia Eddine (usthb) 144437; Kassa Baghdouche, Kamel (usthb) 144432	On-line	
3	3	11:10-11:30	34	Advanced Intrusion Detection Systems Leveraging Knowledge Graph-Based Techniques	DAOUD, Mohamed Amine (University of Tiaret) 144850; Mostefaoui, Sid ahmed mokhtar (Universty of Tiaret) 144854; MEGHAZI, HADJ MADANI (University of Tiaret) 144851; Labbadi, Ourida (University of Tiaret) 144855; zenina, chaimaa (University of Tiaret) 144856; Bouguessa, Abdelkader (Ibn khaldoun university) 144852	On-line	
4	4	11:30-11:50	77	Intelligent Physicochemical Analysis Laboratory for Coagulant Dosing in a Potable Water Treatment	MEGUETTA, Zine Eddine (Lille university) 38233; Mohamed Ilyas, Rahal (university of Tlemcen -Algeria-) 49351; CHAABNA, Ameer (University Of Science And Technology Houari Boumediene USTHB AI) 117025; BABOURI, Abdesselam (LGEG laboratory , Department of Electrical and Automatic Enginee) 145169; CHOUABIA, Halim (Laboratoire des Télécommunications-LT, Département d'Electroniqu) 145165	On-line	
5	5	11:50-12:10	112	Iterative Learning Control of a Discrete System with Input Backlash Using the Measurable Output	Emelianova, Julia (Arzamas Polytechnic Institute of R.E. Alekseev Nizhny Novgorod S) 82496	On-line	

**Regular Session - Fault detection and Diagnostics - TuAC - Profile Contributed Papers - Not passed**

Tuesday, November 5, 2024, 10:30-12:30, Room 3

Chair: KHARRAT, Maher (63358), LabSAT, National School of Electronics and Telecommunications of Sfax

Co-chair: nait said, Mohamed Said (145342), High National School of Renewables Energies, Environment and Sustainable Development, Batna

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	42	Mobile Robot Path Planning Based on A-Star Algorithm and Artificial Potential Field Method for Autonomous Navigation	Louda, Souhaib (Ferhat Abbas University of Setif 1) 144919; NORA, KARKAR (UNIVERSITY FERHAT ABBAS SETIF1) 144946; SEGHIR, Fateh (Intelligent Systems Laboratory , Ferhat Abbas University –Setif ) 144928; Refoufi, Salim (Ferhat Abbas University of Setif 1) 144923	Face-To-Face	
2	2	10:50-11:10	48	A Comparative Study Between Classic and Intelligent MPPT Techniques for a Photovoltaic System	Mechnane, Farouk (University of batna 2) 125101; DRID, Said (Higher National School of Renewable Energy, Environment and Sust) 50068; Drid, Mohamed Dhia Eddine (usthb) 144437; CHRIFI ALAOUI, Larbi (UPJV - IUT de l'Aisne) 12361	Face-To-Face	
3	3	11:10-11:30	66	A Short Review on Industrial Prognostic Hybrid Approaches: Concepts, Techniques and Applications	Bouzenita, Mohammed (Laboratory of Automation and Manufacturing Engineering (LAP) Uni) 145119; Mouss, Leila-Hayet (Laboratory of Automation and Manufacturing Engineering (LAP) Uni) 145120; Melgani, Farid (Laboratory of Signal Processing and Recognition University of Tr) 145121; bentrchia, toufik (University of Batna) 68529	On-line	
4	4	11:30-11:50	98	Fault Tolerant Control of Networked Control System under Actuator Failures	Rouamel, Mohamed (National Higher School of Technology and Engineering) 145281; Djarir, Abdelmalik (Hassiba ben bouali chlef) 145320; TAHRAOUI, SOUAAD (Department of Electronic, Hassiba Benbouali University, Chlef Al) 145328; bourahala, Fayçal (LAS Laboratory, Skikda University) 145912	Face-To-Face	
5	5	11:50-12:10	102	Disturbance Observer-Based Fast Finite-Time Adaptive Fuzzy Control for Uncertain Nonlinear Systems	BOUSBIA, HOUSSEM (University of Jijel) 145238; Boulkroune, Abdesslem (LAJ, University of Jijel) 20599; Bounar, Naamane (university of Jijel) 145300; Labdai, Sami (national polytechnic school of algeria) 111453; CHRIFI-ALAOUI, Larbi (Université de Picardie Jules Verne) 23518	Face-To-Face	
6	6	12:10-12:30	123	Study of the Influence of Temperature and Geometric Modifications of an NMOS in CMOS Inverters	chebabhi, Younes (university of Batna 2) 145652; Dendouga, Abdelghani (university of batna 2) 145650; Kouda, Souhil (LEREESI, HNS-RE2SD, Batna, Algeria) 145272	Face-To-Face	

**Interactive Session - Renewable Energy IV - TuAD** - Profile Contributed Papers - Not passed

Tuesday, November 5, 2024, 10:30-12:30, Room 4

Chair: Benyoucef, Ahmed (146031), Higher National school of Renewable Energy, Environment and Sustainable Development, Batna, Algeria.

Co-chair: BOUSLIMANI, Samir (78183), university of Batna 2

#	Pos	Subslot	Number	Title	Authors	Type	No Show
1	1	10:30-10:50	7	Nonlinear Integral Backstepping Control of DFIGs-Based Wind Farm under Unbalanced Electrical Grid Voltage	Meddah, ATALLAH (université Dr. Moulay Tahar - SAIDA-) 143711; Abdelkader, MEZOUAR (université Dr. Moulay Tahar - SAIDA-) 143713; Brahim, BRAHMI (Institute of Mining and Technology New Mexico, USA) 143714; SALHI, Issam (UTBM, FEMTO-ST) 124955; Mohammed amin, BENMAHDJOUR (université Dr. Moulay Tahar - SAIDA-) 143716; Youcef, SAIDI (université Dr. Moulay Tahar - SAIDA-) 143717	On-line	
2	2	10:50-11:10	59	Non-Intrusive Load Monitoring Using High-Frequency Measurements and Machine Learning	dinar, farid (Université de Toulon) 124922; Harhoura, Anis (Université de Toulon) 145010; Paris, sebastien (université Paul Cézane) 19134; Busvelle, Eric (Université de Toulon) 23299; Chayla, Romain (Indewatt) 124923	On-line	
3	3	11:10-11:30	64	Enhanced Energy Management Algorithm of Hybrid PV-Fuel Cell-Battery System for Isolated DC Load Applications	Otman, Gahgouhi (University of Laghouat) 145109; gahgouhi, soufiane (University of Laghouat) 145118; HADJAISSE, Aboubakeur (University of Laghouat) 145108; Bendjedia, Bachir (UATL) 49458; AMEUR, Khaled (University of Laghouat) 145116; RABHI, ABDELHAMID (MIS) 18907	On-line	
4	4	11:30-11:50	86	Enhanced Perturb and Observe MPPT Algorithm Using Ultra-Local Model Control for Improved Photovoltaic System Efficiency	Lakhdari, Abdelkader (Unité de Recherche Appliquée en Energies Renouvelables, U) 101950; Bouarroudj, Noureddine (Unité de Recherche Appliquée en Energies Renouvelables, URAER, C) 145247; BENLAHBIB, BOUALAM (URAER) 75320; Abdelkrim, Tameur (Applied Research Unit on Renewable Energies) 20335	On-line	
5	5	11:50-12:10	110	Predicting Future Power Generation and Diagnosing Failure Rate at a Solar Power Plant in India Using Machine Learning Algorithms	Rahmouni, djemaa (University of Batna 2, Laboratory of Automation and Manufacturin) 145225; Mohamed Djamel Mouss, Mouss (University of Batna 2, Laboratory of Automation and Manufacturin) 145227; Mouss, Leila-Hayet (Laboratory of Automation and Manufacturing Engineering (LAP) Uni) 145120; Benbouzid, Mohamed (University of Brest) 62182	On-line	
6	6	12:10-12:30	22	Fuzzy Super-Twisting Sliding Mode Applied to Dc-Bus Voltage Regulator	GUERBOUZ, abdesselam (Djelfa University , LAADI laboratory ,) 144166; merzouk, Imad (Djelfa University , LAADI laboratory ,) 144168; FIHAKHIR, Amine Mehdi (Ghardaia university) 144170; Hafaifa, Ahmed (Applied Automation and Industrial Diagnostic Laboratory, Unvers) 56693	On-line	