

International Conference on Sustainable Renewable
Energy Systems and Applications



December 4 - 5, 2019 at University Larbi Tebessi-Tebessa, Algeria

Program Booklet





ICSRESA

1st International Conference on Sustainable Renewable Energy Systems and Applications (ICSRESA'19)

Dec. 04 – Dec. 05, 2019

Faculty of Sciences and Technology

University Larbi Tebessi

Tebessa, Algeria



LABGET



International Conference on
Sustainable Renewable Energy Systems and Applications
Tebessa, Algeria, Dec. 04-05, 2019

Dear Participants

It is our honor and pleasure to welcome you to the 1st International Conference on Sustainable Renewable Energy Systems and Applications (ICSRESA'19).

The conference takes place at The Auditorium, University Larbi Tebessi, Tebessa, Algeria for two days starting from Dec. 04, 2019. The technical program involves one Invited Keynote, two poster sessions and nine oral sessions. This booklet is intended to guide you throughout the conference. You can find lots of useful information including contents of the technical sessions, presentation times and places. Members of the conference committee will also be at your disposal to help you. Being a part of this major event has been a memorable and rewarding experience for us. We hope all the participants will find the conference enjoyable and informative.

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Dr. Abdelghani DJEDDI

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Information for Session Chairs, Oral Presenters, and Poster Presents

Session Chairs:

Session chairs are listed by name on each session in the technical program. Please check to see if you are a session chair, and if so, please identify the session(s) you are scheduled to chair. If you have a conflict with another presentation or event you must please contact any organization committee member. It is important that session chairs maintain the schedule as indicated in the technical program to allow the participants to see the papers that they want to see at the time they want to see them. If you are a session chair, please do your best in the following areas:

1. Come to the room for your session early and if possible identify each of the speakers before the session begins.
2. Provide each speaker with 10 minutes of presentation time and 5 minutes to allow for questioning and transitioning to the next speaker.
3. Do not allow speakers to extend over their time slot, nor allow questions to extend into the next speaker's time. If there are additional questions, these can be handled during a break between sessions. Use your best judgment to balance the need to be fair to the presenter's time and to the participants' time.
4. In the case of paper for which no author or surrogate is available to present ("noshow"), please either use the time for an open discussion of previous paper or questions, or break for 10 minutes and then reconvene. Although significant effort has been made to reduce the number of no-shows, it is always possible that some will occur.

Oral Presenters:

You'll find your presentation time(s) in the technical program in this booklet. Please locate your times and places and ensure that you know where to go and when to be there. Please ensure that you show up early for your oral presentation and identify yourself to the session chair. Please also ensure that you are as prepared as possible to make your presentation when it is your time. Do not go over 10 minutes for your presentation, allowing for 5 minutes of questions and transitioning to the next speaker.

Follow the instructions of the session chair. In the event that a session chair does not show for a session, the last speaker should serve as session chair. In the event that this is not possible, please identify a volunteer in the audience to serve as session chair, or at a minimum identify someone for each speaker to ensure that each presentation stays within the allotted time.

Poster Presenters:

The poster sessions are scheduled in the Poster Hall. There are no other technical presentations scheduled during these times. Poster boards are already prepared, and you will be able to start assembling your poster presentations during the coffee breaks. Each poster board will have an ID number pinned to it. To find the number that corresponds to your poster, please go to the poster paper index in this book. This is also printed next to the paper entry in the main program.

Coffee and refreshment breaks:

Coffee and refresh will be available for the break each day at 11:00-11:30 and 15:00-15:30 at the poster Hall.

Soft copies of the Proceedings:

Each registrant receives a soft copy (CDROM) of the ICSRESA'19 edited proceedings with following ISBN: 978-1-7281-5355-1.

IF YOU HAVE A PROBLEM ...!

For any conference-related problem, please contact any organization committee member, the general chairs or the registration desk.

Plenary Talk 1



Smart grid - The future intelligent energy supply Challenges, Technologies and Opportunities

Prof. Dr. Youcef Soufi

Abstract:

The traditional electrical power grid has served well for the last hundred years. Recently, however, it has been subjected to government deregulation and has suffered from several technical, economic, and environmental issues. Modern society demands this system to be more reliable, scalable, and manageable while also being cost effective, secure, and interoperable and the electric power system of the future needs to address all these needs and concerns by using advanced technologies to create a smarter, more efficient and sustainable grid. Thus, the development and implementation of a smart grid for power supply is one of the pressing issues in modern energy economy and it is promoted by many governments as a way of handling energy independence, global warming and security of supply. The smart grid delivers electricity from producers to consumers using two-way digital technology, and allows control of appliances in the consumers' houses and of machines in factories to save energy, while reducing costs and increasing reliability and transparency through automated control, high power converters, modern communications infrastructure, sensing and metering technologies, and modern energy management techniques based on the optimization of demand, energy and network availability. This presentation addresses critical issues on smart grid Challenges, development and Opportunities where the main objective of this presentation is to provide a contemporary look at the current state of the art in smart grid as well as to provide a better understanding of the technologies, potential advantages and research challenges of the smart grid and provoke interest among the research community to further explore this promising research area.

About the author:

Youcef Soufi received the B.Eng. (1991) and Doctorate degrees from the University of Annaba, Algeria in Electrical Engineering. Since 2000 he has been with the Department of Electrical Engineering, Laboratory of Electrical Engineering at the University Larbi Tebessi, Tebessa, Algeria .He is currently a Professor in electrical engineering. His main and current major research interests include Renewable energy, electrical machines control, power electronics and drives. He has published and co-authored more than 80 technical papers in scientific journals and conference proceedings since 2000. He is the member of editorial board of 5 journals, and the member of technical program committee / international advisory board / international steering committee of many international conferences. His email address is: y_soufi@yahoo.fr

Plenary Talk 2

Robotic system controllers for kid's rehabilitation

Prof. Dr. Nabil Derbal

Abstract:

The rehabilitation of neurological pathologies has progressed considerably in recent years. Indeed, studies have shown that the brain has a certain amount of plasticity. Hence, it is able, in part, to adapt and remodel when certain zones of the brain have been destroyed or damaged by diseases.

Comparing to standard rehabilitation such as vojta, rood, Doman and Delcato, conductive education and Bobath therapies, new researches have proved the efficiency of robotic rehabilitation according to several advantages. This work deals with the problem of lower limb neuro-rehabilitation using robotic exoskeletons, especially, the rehabilitation of children affected by Cerebral Palsy.

There are 3 types of cerebral palsy which are diplegia where both arms or legs are affected, hemiplegia where one side of the body is damaged and quadriplegia which affects all four limbs.

Contrary to standard therapies, exoskeletons have the ability to interact with the human limbs and accurately at hip and knee joints. Moreover, there are three kinds of rehabilitation, passive, resistive and assistance as needed. Passive rehabilitation concerns kids who have totally lost the control of their limbs. Resistive rehabilitation is considered when kids can develop efforts and the exoskeleton's movements are in the opposite direction. Finally, the assistance is needed when a voluntary part of required efforts is developed and the use of exoskeletons allows completing gait movements.

In this work, we are interested in lower limbs rehabilitation especially for kids who have between 2 and 13 years old. For this purpose, several control laws have been implemented to leg joints (hip and knee) aiming to move lower limbs along a predefined gait cycle trajectory. First, we have implemented the adaptive feedback linearization with PID controllers, then, sliding mode control, high order sliding mode control and adaptive approaches. These control laws have been tested while tracking a gait cycle trajectory.

Workshop 1

Control and Applications of Multi-phase Induction Machines



Prof. Dr. Abdallah Kouzou

Abstract:

Multiphase induction machines are attracting an increasing attention due to their inherent advantages over three-phase machines, e.g. reduced per phase power rating, improved reliability and increased degrees of freedom. Compared with three-phase Induction machines, variable speed multiphase induction machine provide a higher power range by utilizing low-power switching devices, due to the higher number of inverter phase legs and higher torque density. These properties are in particular important for applications in which power supply voltage is limited, the torque oscillation amplitude is required to be decreased and the fault tolerant ability is required. Indeed, the fault-tolerance capability is one of the most attractive properties of multiphase machines for industrial applications. Especially, for drive systems with high reliability in non-stop operation conditions, which are known for high economical and safety repercussions caused by fault occurrence, e.g. in electrical vehicles, traction, ship propulsion, and other safety-critical applications such as electrical helicopters.

The workshop will deliver the base knowledge on multiphase induction motor drives. The mathematical model, exemplary motor constructions, drive control methods including speed sensorless control, multi-phase voltage inverter control and furthermore the operation in faulty states will be shown.

About the author:

Kouzou Abdallah (IEEE Senior member & IACSIT Senior member, IFAC, IAENG & IISRO member, IEEE-HKN Alumni Member) was born in Djelfa, Algeria in 1964. He is actually a full professor at Djelfa University. He is a collaborator researcher at Texas A&M University at Qatar. He was the president of the Scientific Council of the faculty of Sciences and Technology from 2014 to 2015 and the Dean of the same faculty from 2015 to 2017. He has participated in several research projects and has led several research projects. He is the founder of the Power Electronics and Power Quality research group at the Applied Automation and Industrial Diagnostic Laboratory, University of Djelfa in Algeria. He is the supervisor of many PhD Students in Algeria. He is a member of the Smart Grid Center at Qatar SGC-Q. He is a member of many editorial boards for several scientific journals and a member of the scientific and steering committees in several national and international conferences. He was the chair of several international conferences. He is the coordinator of the Algerian IEEE Power Electronics Chapter and the chair of the sub-committee on FACTS and HVDC under the international committee PETC/IEEE-IES. He was a plenary and an invited keynote speaker and session chair in several national and international conferences and experts in several national and international scientific activities and project evaluations. He was also a visiting professors at abroad Universities. He participated in many international PHD dissertation committees. He was the leader of several research project in Algeria. He has published more than 300 papers, his main research interests include Active Power Filtering techniques, Power Quality issues, Power Electronics Devices, Application of Power electronics in Renewable Energies, Materials for multi-layers coating in PV cells. Multi-phase machines, Sensorless control, Application of meta-heuristics optimization algorithms, Smart Grid and Smart Buildings, reliability and diagnostics in power electronics converters and in other industrial applications.



Fuzzy Logic Type 2

Prof. Dr. Kheireddine Chafaa

Abstract:

The principal problem encountered with fuzzy systems is that they can deliver nonsatisfactory performances in face of uncertainty and imprecision. There are many sources of uncertainty facing the FLSs, such as uncertainties in inputs (uncertainties in the antecedent membership function); uncertainties in outputs (uncertainties in the consequent membership functions) and linguistic uncertainties as the meaning of words that are used in the antecedents and consequents. Linguistic labels can be uncertain as words mean different things to different people. All of these uncertainties translate into uncertainties about fuzzy set membership functions. Type-1 FLCs have the common problem that they cannot fully handle the linguistic and numerical uncertainties with an unknown, uncertain and perturbed nonlinear dynamical system as they use precise type-1 fuzzy sets. The uncertainty of a given unknown system causes problems in determining the exact and precise antecedents and consequent membership functions during the FLC design, and this can cause degradation in the FLC performance. A type-2 fuzzy logic system is a system in which the antecedent or consequent membership functions are type-2 fuzzy sets. Type-2 fuzzy sets have grades of membership that are themselves fuzzy. Type-1 FLSs, whose membership functions are type-1 fuzzy sets, are unable to directly handle rule uncertainties. Type-2 FLSs are very useful in circumstances where it is difficult to determine an exact membership function for a fuzzy set; hence they are useful for incorporating rule uncertainties.

The workshop is about the general theory of fuzzy logic and it is divided to two parts : In part A, Type 1 fuzzy logic is introduced

with a simple example. In part B, the talk is about type-2 fuzzy logic.

Workshop Program:

Session 1 : Fuzzy Logic
Application Example
Introduction to type-2 fuzzy logic

Session 2: Type-2 fuzzy logic
Application Example

About the author:

Kheireddine Chafaa received the Ph.D. degree from Batna university, Algeria, in 2006. Currently, he is a Professor with the Faculty of Technology of Batna 2 University. He has participated in several research projects with *Batna 2 University, Algeria, Carlos III University, Madrid and IUT de Troyes, France*. He has authored more than 60 international communications and publications and 2 book chapters. He is a supervisor of 12 PhD thesis and more than 50 master students and engineers have been graduated under his supervision. He was the head of Electronics department in M'sila University from 2003 to 2008. He was the head of the scientific committee of Electronics department in M'sila University from 202 to 2003 and vice head of the of Electronics department in Batna 2 University from 2017 to 2019. He serves as a peer reviewer for Electronics Letters Journal, IET (Institute of Engineering and Technology), Transactions on fuzzy systems IEEE, Fuzzy sets and systems Elsevier, Transactions on Systems, Men and Cybernetics IEEE, International Journal of Systems Assurance Engineering and Management Springer, Electrical engineering Springer, Optimal control and applications. His research interests include modeling and identification of nonlinear systems, nonlinear adaptive control, soft computing, Fuzzy logic, machine learning, stochastic estimation theory and biomedical signal processing.

Conference Program

ICSRESA'2019-December 4 - 5, 2019 – Tebessa, Algeria

	Tuesday, December 03	Wednesday, December 04	Thursday, December 05	
08:00-08:30		Registration (Location: Poster Hall)	Registration (Location: Poster Hall)	
08:30-09:00		Opening Ceremony (Conference Room)	Oral Session 3 (Location: Auditorium, Rooms A,B)	
09:00-09:30			Workshop 1 (Location: Room C)	
09:30-10:00		Plenary talk 1 (Conference Room)	Poster session 2 (Location: Poster Hall)	
10:00-10:15		Plenary talk 2 (Conference Room)		
10:15-11:00		Coffee break	Coffee break	
11:00-11:30		Poster session 1 (Location: Poster Hall)	Closing Ceremony (Conference Room)	
11:30-12:30		Lunch	Lunch	
12:30-13:30		Registration	Oral Sessions 1 (Location: Auditorium, Rooms A,B) & Workshop 2 /Parte 1 (Location: Room C)	
13:30-15:00			Coffee break	
15:00-15:30	Oral Sessions 2 (Location: Auditorium, Rooms A,B) & Workshop 2 /Parte 2 (Location: Room C)			
15:30-17:00				

Welcoming

December 3, 2019

12h30 – 18h30

Welcoming of participants
Registration (At the University of Tebessa)

1st Day

December 4, 2019

08h30 – 09h00

Registration

09h00 – 09h30

Opening Ceremony \ ROOM A

09h30 – 10h15

Speaker:

Plenary talk 1

Pr. Youcef Soufi (ALG)

Pr. Abdallah Kouzou, Pr. Nabil Derbal, Pr. Amer Zerek

10h15 – 11h00

Speaker:

Plenary talk 2

Pr. Nabil Derbal (Tun)

Pr. M. S. Boucherit, Pr. Lazhar Rahmani, Pr. Djalel Dib



(11h00 – 11h30)

11h30 – 12h30 \ Poster Session 1 (Main Hall)

Chairs : Pr. S. Chenikher, Pr. D. Rekioua, Pr. T. Bahi, Pr. A. Lachouri, Pr. T. Bouden, Dr. L. Louazen

ID-03	MRAS-based Sensor less Speed Vector Control for Dual Star Induction Machine with Fuzzy Logic Controller
ID-12	Supervision of Hybrid Renewable Energy Systems
ID-17	Modelling graphene/n-Si Schottky junction solar cells by artificial neural networks
ID-21	Soft Computing Methods for Tracking the Global Maximum Power Point of Photovoltaic System Subjected to Partial Shaded Conditions
ID-24	Analysis of Solar Photovoltaic Array Interconnection Schemes Working Under Partial Shading Conditions
ID-41	Analysis of Statistical Features Based on Start-Up Current Envelope for Broken Rotor Bars Fault Detection in Squirrel Cage Induction Motor
ID-46	Maximization and management energy of a hybrid system (Wind/Photovoltaic) for Pumping system by using fuzzy logic
ID-47	Comparative study between the Sliding Mode Control and Proportional-Integral Control applied to a STATCOM
ID-51	Three-level Direct Torque Control Based on Vector Control Decoupling of Double Star Synchronous Machine
ID-61	Multilayer Perceptron Neural Networks Adaptive Control of Building HVAC Systems
ID-71	An enhancement of grid connected PV system performance based on ANFIS MPPT control and dual axis solar tracking
ID-72	New Photovoltaic Pumping System Configuration With Direct Torque Control
ID-74	Fractional Order and classical PI Controls Application to Wind Energy Conversion System
ID-79	Study and Analysis of Electrical Faults in PV panels and their impact on production
ID-81	Modeling and Characteristics Study of Photovoltaic Generator
ID-04	Advanced Fault-Tolerant Control of Multiphase Induction Motor Drives in EV
ID-89	Practical finite time adaptive robust control system application on quadrotor UAVs
ID-93	Surface potential behavior of corona charged polyimide films under controlled humidity conditions
ID-109	Possible efficiency boosting of tandem solar cell by using Single antireflection coating and BSF layer

ID-123	Investigation of properties thin films ZnO and SnO ₂ prepared with spray pyrolysis
ID-129	Performance Evaluation of The Blackout and Power Outages in Libyan Power Grid AlZawia Combined Cycle Power Plant Case Study
ID-133	MPPT Fuzzy Controller & Pitch Fuzzy Control of a Wind Turbine System Using DFIG
ID-153	Overall efficiency of PV/T system traversed by natural convection airflow in hot climate
ID-154	Maximum power point tracking optimized by genetic algorithms for photovoltaic systems
ID-159	Fault diagnosis of Tennessee Eastman process based on static PCA
ID-160	Detailed Study of Inverter Control for Three Phase Grid Connected Solar PV System
ID-161	Techno-economic Feasibility Study of Hybrid PV-Electrolyzer-Fuel Cell System: Parametric and Sensitivity Analysis
ID-166	Adaptive Command Filtered Backstepping Control and its Application to Permanent Magnet Synchronous Generator Based Wind Energy Conversion
ID-167	Experimental analysis and numerical modeling of the thermophysical behavior of date palm natural fibers designed for thermal insulation
ID-170	Position Control of an Induction Machine Using the Fuzzy Passivity Mode
ID-50	Modeling, Detection and Diagnosis of Rotor and Stator Faults in Open end Winding Induction Motor
ID-191	Performance study of using Earth-Air Heat Exchanger for Heating and Cooling of Greenhouse Under Algerian Climate



Lunch (12h30 – 13h30)

13h30 – 15h00 \ Auditorium – Oral Session 1

Renewable, Sustainable Energy and Applications

Chairs : Pr. A. Metatla, Pr. H. Labar, Dr. A. Aouiche

ID-15	Real Time Implementation of Grid Connected Wind Energy Conversion System: Predictive Current Controller
ID-26	Optimal Fuel Consumption Planning and Energy Management Strategy for a Hybrid Energy System with Pumped Storage
ID-32	Implementation of Integral LQR Controller with Anti-Windup on FPGA
ID-38	Maximum Power Point Tracking for Photovoltaic System under partial shading conditions using Particle Swarm Optimization and Model predictive
ID-43	Optimal Static State-Feedback Controller Design for Multivariable Bidirectional IPT System Using Block Roots and Harris Hawks Optimizer
ID-164	Stand-alone Photovoltaic System with integrated Energy Storage using Cascaded Predictive Direct Power Control

13h30 – 15h00 \ ROOM A – Oral Session 1

Power Electronics and Power Systems

Chairs : Pr. Lazhar Rahmani, Pr. Djalel Dib, Dr. L. Houam

ID-113	Using FTC for a 7-Leg Inverter to Ensure Operational Continuity of Two Machines in Case of Fault
ID-120	Power wind turbines control based on a doubly fed induction generator
ID-132	Passivity-based Current Control Strategy for PMSG Wind Turbine
ID-147	Improvement of Direct Torque Control of Wind Energy Conversion System Based on Dual Stator Induction Generator using Matrix Converter
ID-148	Fixed Switching Direct Torque Control of Dual Stator Induction Motor Powered by NPC- Matrix Converter
ID-115	A Maximum Power Point Tracking Controller for Photovoltaic Systems Using Takagi–Sugeno Fuzzy Models

13h30 – 15h00 \ ROOM B – Oral Session 1

Fault detection and monitoring

Chairs : Pr. M. F. Harkat, Pr. M. Mansouri , Dr. A. Djeddi

ID-60	Effect of ELF fields on Public Health Case Study (220 and 400 KV lines)
ID-97	Fault detection in five phase permanent magnet synchronous machine affected by inter-turn short circuits
ID-102	Voltage Stability Improvement by Optimal Location of Wind Sources
ID-135	Diagnosis and Localization of Fault PMW Inverter in Energy Conversion System Using Fuzzy Logic
ID-176	Comparative study between several controller approaches: application to gas turbine system
ID-175	Improved kernel principal component analysis for online fault detection of Photovoltaic systems

13h30 – 15h00 \ ROOM C – Workshop 2

Fuzzy Logic Type 2 / Part 1

Organiser : Pr. Kheireddine Chafaa



(15h00– 15h30)

15h30 – 17h00 \ Auditorium – Oral Session 2

Smart Grids, Smart Cities and Smart Building

Chairs : Pr. A. Zerek, Pr. T. Bahi, Dr. Mayache Hichem

ID-56	Modeling and Performance Analysis of the Transceiver Duplex Filter using Simulink
ID-57	Design and Performance Evaluation of Frequency Reconfigurable Antenna for 5G Wireless Communication Applications
ID-62	Smart Hybrid AC-DC Distribution System for Solar Electric House: Case of an Air Conditioner System
ID-136	A comparative study of multilevel topologies using predictive control technique
ID-182	Power Management of Grid Connected PV System with Integrated Energy Storage
ID-149	Next Generation of Indoor Navigation Systems for the Blind

15h30 – 17h00 \ ROOM A – Oral Session 2

Electrical Machines Control and Drives

Chairs : Pr. Djamila Rekioua, Pr. Said Grouni, Dr. Med Saaidia

ID-19	Control of Asymmetrical Six-Phase Permanent Magnet Synchronous Generator Dedicated to Standalone Marine Current Energy Conversion
ID-29	Control of a standalone wind energy conversion system with storage battery based on asynchronous generator
ID-39	Sensorless Control of Induction Motor Using Second-Order Sliding Mode Algorithms
ID-59	Tracking Power Photovoltaic System Using Indirect Adaptative Control
ID-64	A Fractional Order PI Controller Based Predictive Direct Torque Control for a Five-Phase PMSM
ID-75	Predictive Control of a Grid Connected PV Systems Incorporating Active Power Filter Functionalities

15h30 – 17h00 \ ROOM B – Oral Session 2

Technologies, Policies, Energy efficiency and Strategies

Chairs : Pr. Messaoud Louafi, Pr. Gadri Larbi, Dr. Aziz Boukadoum

ID-118	A Comparison between a Passive and Active Suspension Vehicle using PID and Fuzzy Controllers with Two Entries. (Applied on Quarter Vehicle Model)
ID-181	Modeling of a Resistant Earth Protection Relay and comparison of the neutral regimes on the H
ID-30	Optimization and design of gallium gradient for CIGS thin film solar cells high efficiency
ID-54	Analysis of Al2O3 high-k gate dielectric effect on the electrical characteristics of a 4H-SiC low-power MOSFET
ID-98	A comparison of the productive energy of PV (5MW) in ten different cities to connect with the grid. Sudan case study
ID-138	Adequate wind speed extrapolation model for the region of the Algerian highlands

15h30 – 17h00 \ ROOM C – Workshop 2

Fuzzy Logic Type 2 / Part 2

Organiser : Pr. Kheireddine Chafaa

December 5, 2019

08h00 – 08h30	Registration (Location: Poster Hall)
08h30 – 10h00	Oral Session 3 (Location: Auditorium, Rooms A,B) Workshop 1 (Location: Room C)
10h00 – 11h00	Poster session 2 (Location: Poster Hall)
11h00 – 11h30	Coffee Break
11h30 – 12h00	Closing Ceremony
12h00 – 13h30	Lunch

08h30 – 10h00 \ Auditorium – Oral Session 3

Sustainable, Renewable Energy and Applications

Chairs : Pr. Khereddine Chafaa, D. Mahmoud Maamri, Dr. Djamel Ounnas

ID-02	Comparison Between Artificial Neural Network and Fractional Order Controller for DTC Control Switched Reluctance Motor 8/6 use for the Hybrid and Electric Vehicles
ID-09	Sliding mode control of a permanent magnet synchronous generator based wind power conversion systems applied to battery charging
ID-22	Modeling of partial shading in photovoltaic systems by MLP artificial neural networks
ID-127	Robust control of an associated PMSG-Matrix converter wind plant
ID-139	Detailed design of a 6 KWp grid connected PV plant with storage batteries: Part-II- Active & reactive power controllers optimization
ID-121	Economic Dispatch on a Power System Network Interconnected With Solar Farm

08h30 – 10h00 \ ROOM A – Oral Session 3

Technologies, Policies, Energy efficiency and Strategies

Chairs : Pr. Mourad Mordjaoui, Pr. Lachouri A. Razak, Pr. Harkati Elhadi

ID-05	Design and Implementation of a Solar Tracker System with Dual Axis for Photovoltaic Panels in El Oued Region of Algeria
ID-76	Investigation of Harmonics Problems in Grid Connected PV-Wind-Battery for Household Applications
ID-67	Early fault detection of gear system based on Wavelet Packets Transform
ID-108	Energy performance and sizing of a heating installation
ID-134	Data driven photovoltaic power station monitoring using robust sparse representation
ID-155	In-plane shear moduli of a new curved cell walls honeycomb plates for application in wings of wind turbines

08h30 – 10h00 \ ROOM B – Oral Session 3

Electrical Machines Control and Drives

Chairs : Pr. Soufi Youcef, Pr. Nabil Derbal, Dr. Meraomia Abdallah

ID-106	Control of a Doubly Fed Induction Generator (DFIG) in a Wind energy system using a fractional order adaptive control (FOMRAC) approach
ID-116	Energy-Reliability Optimization of Wind Energy Conversion System Using High Order Sliding Mode Control
ID-122	Direct torque control and FLC for SRM 8/6 poles used for electric underground mining vehicles
ID-145	Separately Excited DC motor Speed Control Simulation Case Studies
ID-171	Predictive Control of Matrix Converter based Grid Connected Wind Energy Conversion System
ID-198	Control by fuzzy logic with adaptive gain of a photovoltaic pumping system

08h30 – 10h00 \ ROOM C – Workshop 1

Control and Applications of Multi-phase Induction Machines

Organiser : Pr. Abdallah Kouzou

10h00–11h00 \ Poster Session 2 (Main Hall)

Chairs: Pr. A. Metatla, Pr. M. Mordjaoui, Pr. T. Bahi, Pr. A. Aissat, Dr. S. Gouder, Dr. D. Samai, Dr. M. R. Kafi

ID-06	An Effective Approach for Severity Fault Diagnosis of Rolling Bearings
ID-27	MPPT /power limitation" optimization strategy to Extend Optimal Energy Management in Hybrid Wind Turbine
ID-28	Optimal Control of Variable Speed Air Conditioning System Fed by Solar PV System
ID-31	Efficiency improvement of thermal photovoltaic hybrid system optimized by ANN
ID-36	Techno-economic Analysis and Feasibility Study of a Hybrid Photovoltaic/Fuel Cell Power System
ID-37	Simulation of Low cost Incremental Conductance MPPT control based SEPIC converter in solar application under fast-changing solar irradiation level
ID-52	One day ahead prediction of PV power production: case study of Oued-Elkebrit's station (Algeria)
ID-58	A Comparison Study: Direct and Indirect Mode Control of Perturb and Observe-MPPT Algorithms for Photovoltaic System
ID-65	Increasing the Order Of Nonlinear Systems To Eliminate External Disturbance

ID-66	Quasi-Static Parameters of Multilayer Asymmetrical Coplanar Stripline Using Fuzzy Model Systems and Artificial neural networks
ID-73	Evaluation Performance of Mono- and Polycrystalline Photovoltaic Modules Installed in Outdoor Environment
ID-82	Optimal angle of a photovoltaic roof placed in a building using the ant colony optimization algorithm
ID-88	Contribution to the analysis of the maintenance function for the continuous optimization of the reliability of an industrial system
ID-94	Valorization Of Agricultural Waste For The Production Of Biogas In The Framework Of Renewable Energy Development In Algeria
ID-99	Implementation of Modified Perturb and Observe Based MPPT Algorithm for Photovoltaic System
ID-103	Design and Implementation of a Digital PID Controller for DC-DC Buck Converter
ID-119	Bearing Faults Diagnosis Using Discrete Wavelets and Artificial Intelligence Approaches
ID-126	InGaAsN Carriers impulse response investigation'
ID-140	Bouziane Keziz, Abdelbaki Djouambi and Samir Ladaci. Recursive Parameter Estimation Algorithm for a Fractional Order PI λ Controller Design Using MRAC
ID-141	Performance improvement of Matrix Converter under Open-Switch Fault
ID-144	New structure AlGaAsNSb/Ge for solar cell Applications
ID-158	The High Performances of an Eleven Levels Active Power Filter with a Fuzzy Logic Controller under a High Voltage
ID-163	Discrete Wavelet transform for inter-turn short circuit diagnosis in variable speed control
ID-173	PID controller Design for a Wind Turbine with the Backlash Phenomenon
ID-194	The role of legislation in launching and diversifying sustainable development projects: Case Study Algeria
ID-197	HVDC electricity transportation technology: Study of feasibility (Algeria).
ID-195	Solar energy in Algeria between exploitation policies and export potential
ID-196	Robust Angle Droop Controller based on Pilot Point Voltage Measurement in Low-voltage Microgrid
ID-200	Design and Control Strategy of Hybrid Photovoltaic Battery systems for automotive applications



(11h00 – 11h30)

11h30 – 12h00

Closing Ceremony



Lunch (12h00 – 13h30)



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