NCSGPA 2024

ESG2E ORAN

The First National Conference on Smart Grid, Power and Applications

Oran, Algeria, December 4, 2024



Venue

Oran, nicknamed “the radiant one”, is the second city in Algeria and one of the most important in the Maghreb. It is a port city in the Mediterranean, located in the northwest of Algeria, 432 km from the capital Algiers, and the capital of the wilaya of the same name, on the edge of the Gulf of Oran. This wilaya has managed to preserve its identity while soaking up the influence of its successive occupants. The city of Oran is located at the bottom of a bay open to the north and dominated directly to the west by the Aïdour mountain, with a height of 420 meters, as well as by the Moulay Abdelkader al-Jilani plateau. . The town extends on either side of the Wadi Rhi ravine, now covered

The conference will take place at ESHRA - Higher School of Hotels and Restaurants in Oran



About the conference NCSGPA 2024

The First National Conference on Smart Grid will be held at Oran | December 04th, 2024. NCSGPA-2024 is organized with the objective of bringing together experts, professionals, researchers, and policymakers to discuss the latest advancements, challenges, and opportunities in the field of smart grid technology. With the increasing importance of smart grids in optimizing energy distribution, reducing carbon footprint, and enhancing grid reliability, this conference serves as a platform for sharing knowledge, fostering collaboration, and exploring innovative solutions.

We believe that your expertise and insights would greatly enrich the discussions at the conference. Your participation will contribute significantly to the collective effort of advancing smart grid technology and its applications

Smart Grid Infrastructure

- *Integration of solar, wind, and other renewables into the grid*
- *Power forecasting and scheduling for renewable energy sources*
- *Grid-friendly renewable energy technologies*
- *Energy storage solutions for renewable integration*
- *Virtual power plants and demand response programs*

Renewable Energy Integration

- *Advanced metering infrastructure (AMI)*
- *Distribution automation and control*
- *Grid modernization strategies*
- *Integration of distributed energy resources (DERs)*
- *Microgrids and islanding operations*
- *Grid resilience and reliability enhancements*

Grid Control and Optimization

- *Grid stability and power quality management*
- *Demand-side management and load control strategies*
- *Frequency regulation and voltage control techniques*
- *Grid congestion management and optimization*
- *Optimization algorithms for grid operation and control*

Emerging Technologies and Innovations

- *Blockchain applications in energy trading and grid management*
- *Artificial intelligence and machine learning for grid optimization*
- *Internet of Things (IoT) devices and sensors in smart grid applications*
- *Quantum computing for grid optimization and security*
- *Advanced sensor technologies for grid monitoring and control*

Higher School of Electrical and Energy Engineering of Oran
Smart Grid Development Laboratory

CONFERENCE PROGRAM

Oran, Algeria, 04 th, 2024

Wednesday, 04 th December		
08h00 – 08h30	**REGISTRATION**	
08h30 – 09h00	**OPENING REMARKS**	
PLENARY SESSION A		
09h00 – 10h00	**Chairs**: **Pr.** Mokhtar BENDJEBAR & **Pr.** Abdelber BENDAOUD **Presented by: Pr**. Amar TILMATINE " Décharges à barrière diélectrique pour la production d'ozone : mécanismes et applications "	
10h00 – 10h45	**POSTER SESSION A & COFFEE BREAK**	Hall

Chairs : Pr. Khaled BOUSBAHI, **Pr**. Rabah OUIDIR, **Dr.** Mohammed REZOUG

ID	Presenter	Title
15	Kamila ALIANE	EM Parameters and design of Slotted Elliptical Tube-Line for Telecommunications Applications
57	Manel ACIMI	Etude De l'impact d'une Ferme Eolienne Sur La Stabilité de Tension d'un Réseau Réel
39	Hamdi Cherif MOUNTASSIR	An Algorithm of Control for the Local Fractional Emden-Fowler and Lane-Emden equations.
08	Abdelali LAID	Study of electronic and optical parameters of the laser diode based GaInP/AlGaInP structure
23	Benyekhlef LAROUCI	Power load balancing on power system using fuzzy logic
41	Wissem BENAISSA	Modeling and performance investigation of novel inorganic BaZrS3 perovskite solar cell using SCAPS-1D
55	Abdesselam GUERBOUZ	An Adaptive Super-Twisting Sliding Mode applied to Dc-Link voltage regulator
38	Meriem BOUMEHED	Inductive Resonant Wireless Energy Transfer

59	Feriel MIDOUNI	Optimal coordination of directional overcurrent relays using WCA
51	Amir MERAHI	Évaluation Expérimentale de l'Efficacité d'un Système Photovoltaïque en Conditions Réelles

ORAL SESSION A			
10h45 – 11h45		**Chairs: Pr**. Kamel NASOUR, **Dr**. Mhamed ZERHOUNI, **Mr**. Nadir KHARROUBI	**ROOM 1**
Time	**ID**	**Presenter**	**Title**
10h45 – 11h05	13	Mimouna OUKLI	Impact of Ultrathin XY (X = B, Al and Y= Bi, P, N) Layers on the Structural and Electronic Properties of BN-Based Superlattices
11h05 – 11h25	32	Imen Souhila BOUSMAHA	Simulation of a Microgrid Integrating Renewable Energies and Electric Vehicles: Analysis of Energy Management
11h25 – 11h45	30	Mohamed HORCH	New intelligent direct power control of DFIG based on Fuzzy logic Approach
10h45 – 11h45		**Chairs : Pr**. Rachid MEZIANE, **Pr** Abdelkader ZEBLAH, **Mr**. Abdelkader BOUMEDMED	**ROOM 2**
Time	**ID**	**Presenter**	**Title**
10h45 – 11h05	19	Houari BOUDJELLA	Power Losses reduction by Optimal location and Sizing of DG in RDN Using Improved Particle Swarm Optimization Algorithm
11h05 – 11h25	34	Mohammed Adel DJARI	Voltage Stability Enhancement through Static Var Compensator SVC Integration
11h25 – 11h45	43	Amel ABROUCHE	Solving Hybrid dynamic Combined Economic Environmental Dispatch Problem with CSA Algorithm
10h45 – 11h45		**Chairs : Pr**. Younes MIMOUN, **Pr**. Lahouari KOTNI **Pr**. Wassim AKSA	**ROOM 3**
Time	**ID**	**Presenter**	**Title**
10h45 – 11h05	36	Lotfi MOSTEFAI	Model-Free Stochastic Position Control of Solar Farms for Maximum Power Generation
11h05 – 11h25	06	Fatima MOULAY	Fuzzy Logic MPPT applied for Photovoltaic Systems
11h25 – 11h45	29	Halima BOUBEKEUR	Optimization of a Phovoltaic-Diesel hybrid system with battery

11h45 – 12h00	**Taking a photo**
12h00 – 13h30	**Lunch**

PLENARY SESSION B	
13h30 – 14h30	**Chairs**: **Pr.** Abdelhalim TAIEB BRAHIMI & **Pr.** Farid MILOUA **Presented by: Pr**. Amine BOUDGHENE STAMBOULI " Renewable energies in Algeria: Experience, Policy Initiatives and PV Perspectives "

ORAL SESSION B				
14h30 – 15h30		**Chairs : Pr**. Fatima Zohra ZERHOUNI, **Pr**. Ali TAHRI		**ROOM 1**
Time	**ID**	**Presenter**	**Title**	
14h30 – 14h50	02	Mohammed Cherif RAMDANI	Optimization of ITO/WS2 /KSNI3/ Cu2O /Ag based perovskite solar cell	
14h50 – 15h10	42	Rihab BELHABRI	Enhancing Energy Efficiency and Cost Reduction with Integrated EMS and DSM Strategies	
15h10 – 15h30	58	Bouchra HAMAI	Optimal Coordination of Directional Overcurrent Relays Using GWO	
14h30 – 15h30		**Chairs : Pr**. Mounir KHIAT, **Pr**. Ahmed ALLALI		**ROOM 2**
Time	**ID**	**Presenter**	**Title**	
14h30 – 14h50	48	Abdelkadir FELLAGUE	Analysing Electricity Consumption Patterns using Machine Learning	
14h50 – 15h10	40	Zouheir ETTAHRI	Performance Evaluation of Two Improved MPPT Methods for Solar Photovoltaic Systems Under Dynamic Conditions	
14h30 – 14h50	22	Benyekhlef LAROUCI	Economic Dispatch of Power System Considering Valve-Point Effect and Multi Fuel Options Solving using Adaptive Gaining-Sharing Knowledge Based Algorithm	
14h30 – 15h10		**Chairs: Dr**. Said NEMICH, **Dr**. Adel BENABOUN, **Mr**. Khelifa Farrouk ABED		**ROOM 3**
Time	**ID**	**Presenter**	**Title**	
14h30 – 14h50	16	Nihed AOUF	Balancing Electrical Energy Consumption and Production: A Machine Learning Approach with RTE Data	

14h50 – 15h10	12	Ghrissi TAHRI	Artificial Intelligence Control of Active and Reactive Power for a Three-Level Inverter with Neutral Point Clamped Connected to Grid Utility
15h30 – 16h30		**POSTER SESSION B & COFFEE BREAK**	Hall

Chairs: Pr. Khaled BOUSBAHI, **Dr**. Mansour ZEGRAR, **Pr**. Yassine BELEBNA

ID	Presenter	Title
53	Latifa DEKHICI	Modeling of A Green Electrical Microgrid Cost Optimization
54	Amir MERAHI	Modélisation et Validation des Systèmes Photovoltaïques : Un Cadre Intégré d'Expérimentation et de Simulation pour une Efficacité Maximale
11	Fatima TAHRI	Modeling and Analysis of active and reactive current Control Strategy Applied for Advanced Static Var Compensator
33	Lilia BELHADJ	Robust Control Using Neuro-Fuzzy Approaches for Damping Electromechanical Oscillations in Multi-Machine Networks
35	Djamel Eddine FEKIR	Design and modelling of an over current relay using MATLAB (Simulink)
52	Meriem ZEBOUDJ	Optimizing Web Queries with the Pigeon Algorithm: A Fresh Approach
46	Nada SELAMI	Contrôleur Hybride FLC-P&O Appliqué aux Systèmes Éoliens
49	Yamina Ahlem GHERBI	Enhancing Electrical Network Efficiency through Wind Farm Integration
26	Meriem BOUMEHED	Compensation de la puissance réactive basée sur le compensateur statique synchrone (STATCOM)
10	Salim RAMZI	Application of Fuzzy Logic-Sliding Mode in DFIG-Based Wind Energy Systems for Maximum Power Point Tracking.
56	Mouffok AREZKI	Design and Analysis of Residential Solar Power Systems Using PV*SOL Software
31	Yacine BOUROUMEID	Optimization of Solar Energy Production in Algeria: Comparison of Fixed and Tracking Photovoltaic Systems

16h30	**CLOTURE AND RECOMMENDATION**


PROGRAM NCSGPA