









Program

18/11/2025 Diagnostics des Systèmes Industriels IEEE 2025: The 5th International Conference on Applied Automation and Industrial Diagnostics – ICAAID 2025 - Ghardaïa, Algeria | 18-20 November 2025











	8 h – 9 h 00	Registration		
	9 h 00 – 09 h 45	Opening Ceremony (Conference room)		
	9 II 00 – 09 II 45	Prof. Ilyes Bensaci (Rector of Ghardaïa University), Prof. El Hadj Ailam (Rector of Djelfa University)		
	09 h 45 – 10 h 45	Plenary Session 1		
		Fast Electric Vehicles Charging Stations Infrastructure, Control, and Grid Interaction		
		Professor Haitham A Abu-Rub		
		College of Science and Engineering, Hamad Bin Khalifa University, Qatar		
Chair: Prof. Said Drid		Chair: Prof. Said Drid		
	11 h 15 – 11 h 30	Coffee break		
		Plenary Session 2		
		Rethinking Grid Resilience: The Iberian Wake-Up Call		
	11 h 30 – 12 h 30	Professor Dr. Sertac Bayhan		
		College of Science and Engineering, Hamad Bin Khalifa University, Qatar		
		Chair: Prof. Abdellah Kouzou		















URL: https://conference.univ-dielfa.dz/icaaid25/

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IEEE 2025: The 5th International Conference on Applied Automation and Industrial Diagnostics – ICAAID 2025 -

18/ 11/ 2025 / Afternoon : Oral Sessions (A) Ghardaïa, Algeria | 18-20 November 2025













		Session 1	Session 2	Session 3
	Chairs	Dr Abdelhalim Rabehi, Dr Fayçal Chouia	Pror. Abdallah Zegaoui, Dr Aissa Rebai	Pror. A. Kaabech, Dr Mohamed Elbar
	15h35- 15h50	ID 3. Issam Attoui, Nadir Fergani, Adel Boudiaf, A Robust ML-Based diagnostic procedure for rotating machinery under varying noise, speed, and load conditions	ID 49. Kaouthar Othmani, et al., Scada-based analysis of temperature effects on wind turbine performance in hot climates	ID 96. Ahmed Chennana, et al., Enhanced rotor eccentricity faults diagnosis in three-phase induction motor based on transfer learning and machine learning techniques
arque	15h50 - 16h05	ID 7. Chellali Benachaiba, The role of satan's influence coefficient alpha base in qudwa PV MPPT optimization – A Comparative study with IT2FL	ID 56. Djamel Eddine Boukhari, Mourad Kezai, Aleatoric uncertainty-aware deep learning for robust and interpretable facial beauty prediction	ID 101. Abdelouahab Chebbah, et al., ANFIS-PSO model optimization for predicting the output parameters of a two shaft gas turbine
	16h05 - 16h20	ID 16. Wahiba Menasri, et al., Vision- localization-based control of a mobile robot a real-time approach	ID 77. Abdelkader Lichti, Seddik Rabhi, Investigation of bio-inspired hybrid approaches to improve localization in wireless sensor networks	ID 108. Achour Benchabane, Modeling and Identification of the Twin Rotor Multiple-Input Multiple-Output System (TRMS)
ion	16h20 - 16h35	ID 31. Abderraouf Bouakkaz, Adel Lahsasna, Salim Haddad, Pv power output prediction using machine learning: an accuracy assessment based on feature pattern selection	ID 91. Abdelhamid Benchikh, et al., Improved leach protocol for energy-saving in wireless sensor networks: A review	ID 138. Kaouthar Othmani, et al., Rule-based clustering and decision tree approach for SCADA-driven early fault detection in wind turbines
	16h35 - 16h50	ID 41. Elhassen Benfriha, et al., Thrust vector control of a space launch vehicle	ID 144. Fatima Bachir, Ahmed Hafaifa, Nadji Hadroug, Modeling and performance evaluation of shell and tube heat exchangers using MATLAB/Simulink	ID 151. Batoun Bachir, et al., μ- Synthesis based fault-tolerant control for improved reliability of the wind turbine
CIBY	16h50 - 17h10	ID 155. Soufiane Djeribie, et al., Predictive modeling of MS5002B gas turbine global efficiency using design of experiments: A case study from hassi rmel field	ID 157. Abdelfetah Ouadah, et al., Machine learning-based remote monitoring of electric vehicle battery systems	ID 158. Abdelfetah Ouadah et al., Enhancing energy management in parallel hevs through fuzzy logic optimization: A simulation-based approach



















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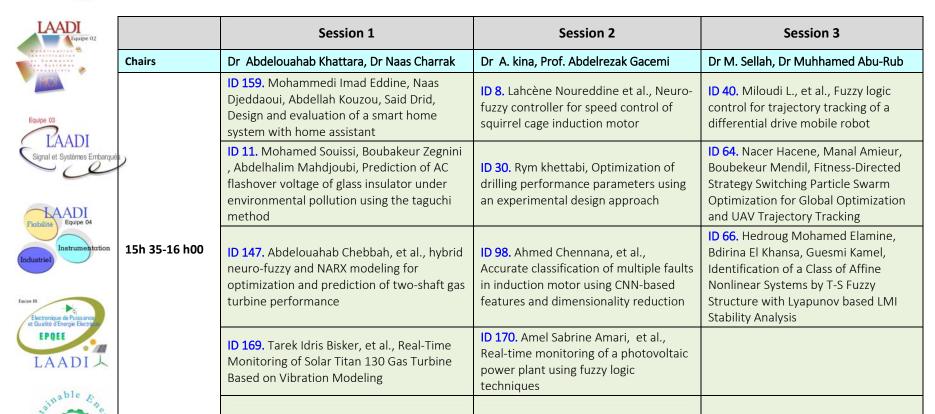
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18/11/2025: Poster Sessions





















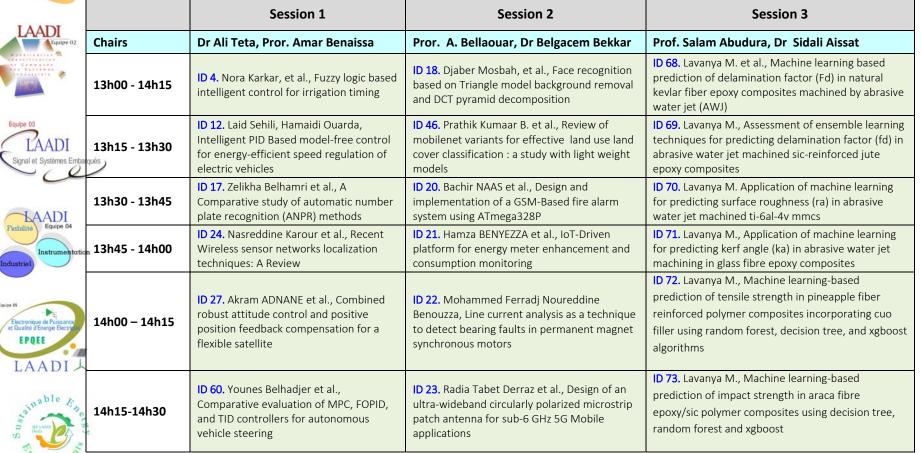
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18/11/2025: Virtual Sessions





















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IEEE 2025: The 5th International Conference on Applied Automation and Industrial Diagnostics – ICAAID 2025 -

Ghardaïa, Algeria | 18-20 November 2025

18/11/2025: Virtual Sessions



	Session 4	Session 5	Session 6
Chairs	Dr B. Kourich, Prof. Benalia Mhamedi	Dr C.A. Mosbah, Dr Dahmane Djandaoui	Dr Fares Fenniche, Dr Fatma Bouchelga
14h30 - 14h45	ID 28. Fatima Souad Bezzaoucha et al., Real-time damage detection and classification in wind turbine gearboxes using Ferderated learning	ID 45. Kamel Touati, Lamia Cheklat, An integrated Al framework for unsupervised wildfire risk prediction and automated detection	ID 55. Medoukali Hemza et al., Machine learning diagnosis-based of hvdc faults
14h45 - 15h00	ID 33. Sivakumar Rajendran, Automated detection of lung disease using deep learning techniques: a comparative study	ID 47. Wiame Guenaya et al., Design and optimization of an energy storage system for an electric wheelchair with integrated solar assistance	ID 57. Amar Gouri et al., Enhancing reliability in industrial systems through the universal motor controller umc100.3: Failure analysis, prognostics, and risk-based maintenance
15h00 - 15h15	ID 34. Indrawata Wardhana et al., Robust peak detection of shifting fault characteristic frequencies for bearing	ID 50. Ehsan Esmaeeli et al., Optimizing maintenance part allocation using association rules and mixed-integer linear programming	ID 62. Ali Teta et al., Deep learning framework for short-circuit fault detection in photovoltaic systems using infrared thermography
15h15 - 15h30	ID 35. Hiba Abir Chemakh et al., Enhancing horizontal partitioning in DBMS through machine learning-guided metaheuristics	ID 118. Sabah Lecheheb et al., Automated deep learning and incremental retraining-driven MAPE-K analyzer architecture for intelligent self-adaptation	ID 116. Oumaima Gharsa et al., Autonomous landing of a quadrotor on a moving target using a vision-based approach
15h30 – 15h45	ID 39. Nadia Hoggas et al., Advancing milk quality prediction: Dynamic stacking ensemble with quality-aware adaptive sampling	ID 94. Moulay Kheireddine et al., Fault diagnosis of submodule capacitors in modular multilevel converters using intelligent method	ID 123. Wassan Adnan Hashim, et al., Multiagent energy optimization in connected HEV convoys via MPC and reinforcement learning
15h45 – 16h00	ID 44. Taha Bachir Ammour et al., Bio-inspired swarm intelligence approaches to wireless sensor network optimization: innovations and applications	ID 114. Hafidha Boudouaia et al., Predictive maintenance of rotating machine in petrochemical plants using a hybrid KNN and RPN methodology	ID 131. Abdelhak Djellad et al., Sensor fault diagnosis and switched fault-tolerant control for gas turbines using wavelet features and random forest classifier
16h00- 16h15	ID 119. Sabah Lecheheb et al., Automated deep learning and incremental retraining-driven MAPE-K analyzer architecture for intelligent self-adaptation	ID 82. Amina Azizi, Benabda Amina, Experimental and Numerical Study of the Impact of Shading on a Photovoltaic System with Conventional and Advanced MPPT Controls	ID 86. Amira Lakhdara et al., MPC-based speed tracking for PMSM electric vehicles











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18/11/2025: Virtual Sessions

ADI	Session 7	Session 8	Session 9
Chairs	Dr Hamed Boukhari, Dr Hemza Medoukali	Prof. Kaddouri A. Miloud, Dr Khaled Ferkous	Pror. L. Mokrani, Dr Mohammed Aouf
16h15 - 16h30	ID 132. Tahar Boukra, Smail Bazi, a hybrid approach for RUL prediction of li-ion batteries using GRU-based additive attention	ID 88. PrathikKumaar B., Deepak A., Image based air quality level assessment using mobilenet and ResNet152V2	ID 74. Lavanya M., Prediction of impact strength in coir fibre reinforced epoxy composites using decision tree, random forest, and xgboost model
ADI 16h30 - 16h45 Systèmes Enbarqués	ID 129. Belkacem Houara et al., Advanced control of a hybrid PV—wind energy conversion system with STSMC-based dc-link regulation and dpc grid integration	ID 89. PrathikKumaar B., Deepak A. Optimized deep neural network architecture for high-performance weed detection with lightweight MobileNetV3 and enhanced ConvNeXt small	ID 75. Shanmuga Priya S. et al., A hybrid ids (h-ids) model for iomt security: combining machine learning and deep learning techniques
16h45 - 17h00	ID 130. Mehdi Fazilat, Nadjet Zioui, A brief review on quantum-based control strategies for robotic systems	ID 100. Abdelkader Garmat, Kamel Guesmi, Sliding mode control of flying-capacitor voltage in serial multi-cell dc-dc converters	ID 83. Xopo-Rodriguez B. L et al., Disturbance rejection control system for stabilizing a driverless two-wheeled vehicle
Instrumentation 17h00 - 17h15	ID 156. Abdesattar Mazouzi, et al., Improved efficiency of the fuel cell vehicle energy management system: a multi-phase optimization approach	ID 143. Mouhcen El Hadi Dahmoun, Khaoula Salima Reguieg, Smart energy management of pv–hybrid storage systems for sustainable grid integration	ID 92. Neal Stephen Reon C. Rajinikanth V., Deep-learning scheme to accurately classify the retinal OCT into normal/ AMD with MobileNetV1 than EfficientNetB1
a de Puissano Energie Electric 17h15 — 17h30	ID 140. Gamboa-Escobar AJ., et al., Sustainable production and automation: A case study on anaerobic digestion of dairy industry wastewater	ID 141. Neal Stephen Reon C. Rajinikanth V., Improving accuracy with VGG16 based normal/drusen retinal oct images compared with ResNet152 results	ID 85. Bahena-Bustamante E. et al., Takagi- Sugeno unknown input observer for secure communication of nonlinear chaotic systems
17h30 – 17h45	ID 135. Mokhtar Khenfer, improving CSTR performance using a super-twisting sliding mode controller	ID 136. El Arkam Mechhoud et al., Automated risk assessment approach using d-higraph integrated into DCS apllied on fired heater	ID 97. Amina Azizi, Benabda Amina, Enhancement of the electrical energy quality of a grid connected photovoltaic panel
17h45- 18h30	ID 149. Nacera Bekhadda et al., Fuel consumption prediction of non-coplanar orbital transfer using machine learning techniques	ID 165. khaled sahraoui et al., System reconfiguration under open-circuit faults based on five/four-legs converter using zero-sequence voltage	ID 99. Junia Maisa De Oliveira et al., Applying correlation equations to distance matrices to introduce noise and improve model-AI performance











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	Plenary Session 3	
8 h 30 – 9 h 30	Power electronics and hybrid transformers in distributed energy system - opportunities and challenges	
01130 - 91130	Professor Mariusz Malinowski	
	Warsaw Technical University, Warsaw, Poland	
	Chairs: Prof. Lakhder Moukrani and Professor Mostefa Mohamed-Seghir	
(Presentation of IEEE Algeria Section	
09 h 30 – 10 h 30	Professor Abdellah Kouzou	
09 11 30 – 10 11 30	University of Djelfa, Algeria	
	Chairs : Prof Soumia KOUADRI MOUSTEFAI	
10 h 30 – 11 h 00	Coffee break	





















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		Session 1	Session 2	Session 3
LAADI	Chairs	Prof. N. Henini, Dr Oussama Moussa	Dr Rafik Euldji, Dr Redha Kara	Dr Smain Bentouati, Dr Tahar Djellouli
SITS)	11h10 - 11h15	ID 102. Joaquin Hernandez Santiago et al., Coupled dynamic–kinematic modeling of an autonomous ground vehicle with aerodynamic forces: drag, side force, and yaw moment	ID 125. Salima Khaoula Reguieg, Mouhcen Elhadi Dahmoun, Performance monitoring and fault diagnosis of piezoelectric accelerometers using optimized sensitivity modeling	ID 139. Bilal Benarabi et al., Real-time communication between different types of plcs and matlab with fuzzy controller integration via OPC: a desalination plant as a case study
Equipe 03 LAADI Signal et Systèmes Emba	11h15 - 11h30	ID 104. Ameur Fethi Aimer et al., Condition monitoring of simultaneous faults in variable speed induction motor operation	ID 124. Sabah Lecheheb, et al., automated deep learning and incremental retraining-driven mape-k analyzer architecture for intelligent self-adaptation	ID 150. Assala Bouguerra et al., Addressing shading challenges: an improved carpet weaver optimization mppt method for effective tracking in shaded circumstances
Fiabilité Equipe 04	11h30 - 11h45	ID 167. Derradji Bakria et al., A Hybrid Deep- Machine Learning Approach to Diagnose Partial Shading and Short-Circuit Faults in Solar Photovoltaic Systems using Infrared Thermography Images	ID 122. Ramos Hernandez E. et al., Observer- based estimation for an essential oil extraction system	ID 121. Afouf Oussama et al., Intelligent weather forecasting system based on internet of things for smart cities
Equipe 05 Electronique de Puissance et Qualité d'Energie Electronique	11h45 - 12h00	ID 166. Hamza Adaika et al., Enhancing maintenance agility in water desalination plants via explainable MCSA: a case study on workflow integration and diagnostic efficiency	ID 128. Fouad Zebiri et al., Dspace real-time implementation of mppt-based direct method	ID 146. Messaoud Babaghayou et al., UAV LINK: A UAV-assisted communication framework for smart farming in isolated environments using satellite-based edge computing
LAADI	12h00 - 12h15	ID 163. Ihssane Houhou et al., Comparative analysis of deep learning models for background subtraction on LASIESTA	ID 161. Selma Amrani et al., RT-driftselect: A real-time dynamic feature selection framework for concept drift adaptation in SDN-IoT environments	ID 127. Riad Bendib, et al., Design of an advanced optimal sliding mode controller for a laboratory process using methaheuristic approaches
S STIANT OF STIANT	12h15 - 12h30	ID 162. Rahma Berchi et al., MV-EA-IDS: an optimized dual view, energy-aware ids for battery drain attacks in IoT	ID 145. Hichem Merabet et al., Performance analysis of a three-level z-source converter controlled by a predictive strategy	ID 160. Sarah Benziane, Adaptive anisotropic diffusion with dynamic z-score thresholding for efficient low-contrast defect detection in textured metal surfaces

















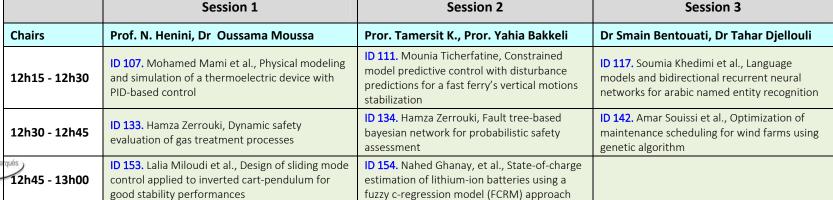
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12 h 30 – 13 h 00	Closing Ceremony
13 h 00	Lunch











