



People's Democratic Republic of Algeria
Ministry of higher education and scientific research
The General Directorate of Scientific Research and Technological Development



Ibn Khaldoun University of Tiaret
Applied Sciences Faculty
Department of Mechanical Engineering

In collaboration with the Research Laboratory of Industrial Technologies (RLIT)

National Conference on Mechanical Engineering (NCoME'25)

13th November 2025, Tiaret

Conference Link: sites.google.com/view/ncome25-tiaret/

Global Program of the Conference



8h00-9h00	Reception and attendee's inscription		
9h00-9h30	Opening and address		
	Conference Moderator: Dr ABO SHIGHIBA Hichem		
	Address by the Rector of Ibn Khaldoun University of Tiaret: Prof Ém. BELGOUMANE Berrezoug		
	Address by the Dean of the Faculty of Applied Sciences: Dr BERKANI Abderrahmane		
Address by the Conference President: Dr ELGUERRI Mohamed			
9h30-10h00	Plenary Conference: Dr ABO SHIGHIBA Hichem – Ibn Khaldoun University - Tiaret, Algeria		
10h00-10h30	Coffee Break		
10H30-11H00	Morning Poster Workshop	Topic 1: Mechanical Engineering	ID: T1P01; T1P02; T1P03; T1P04
		Topic 2: Energy	ID: T2P01; T2P02; T2P03; T2P04; T2P05; T2P06
		Topic 3: Electromechanics & Industrial Maintenance	ID: T3P01; T3P02; T3P03; T3P04; T3P05
		Topic 4: Materials Sciences	ID: T4P01; T4P02; T4P03; T4P04; T4P05; T4P06; T4P07; T4P08; T4P09; T4P10; T4P11; T4P12; T4P13; T4P14; T4P15; T4P16; T4P17; T4P18; T4P19; T4P20; T4P21
11H00-12H30	Morning Oral Workshop	Topic 1: Mechanical Engineering	ID: T1O01; T1O02; T1O03
		Topic 2: Energy	ID: T2O01; T2O02; T2O03; T2O04; T2O05
		Topic 3: Electromechanics & Industrial Maintenance	ID: T3O01; T3O02; T3O03; T3O04
		Topic 4: Materials Sciences	ID: T4O01; T4O02; T4O03; T4O04 T4O05; T4O06; T4O07; T4O08
12H30-14H00	Lunch Break		
14H00-14H30	Afternoon Poster Workshop	Topic 1: Mechanical Engineering	ID: T1P05; T1P06; T1P07
		Topic 2: Energy	ID: T2P07; T2P08; T2P09; T2P10; T2P11; T2P12
		Topic 3: Electromechanics & Industrial Maintenance	ID: T3P06; T3P07; T3P08; T3P09; T3P10
		Topic 4: Materials Sciences	ID: T4P22; T4P23; T4P24; T4P25; T4P26; T4P27; T4P28; T4P29; T4P30; T4P31
14H30-16H00	Afternoon Oral Workshop	Topic 1: Mechanical Engineering	ID: T1O04; T1O05; T1O06; T1O07 T1O08; T1O09; T1O10; T1O11
		Topic 2: Energy	ID: T2O06; T2O07; T2O08; T2O09; T2O10
		Topic 3: Electromechanics & Industrial Maintenance	ID: T3O05; T3O06; T3O07
		Topic 4: Materials Sciences	ID: T4O09; T4O10; T4O11; T4O12
16H00-16H30	Closing Ceremony		



National Conference on Mechanical Engineering (NCoME'25)

13th November 2025, Tiaret



Detailed Program of the Conference

8h00-9h00	Reception and attendee's inscription
9h00-9h30	Opening and address – Conference Moderator: Dr ABO SHIGHIBA Hichem
	Address by the Rector of Ibn Khaldoun University of Tiaret: Pr Ém. BELGOUMANE Berrezoug
	Address by the Dean of the Faculty of Applied Sciences: Dr BERKANI Abderrahmane
	Address by the Conference President: Dr ELGUERRI Mohamed
9h30-10h00	Plenary Conference: Dr ABO SHIGHIBA Hichem – Ibn Khaldoun University - Tiaret, Algeria <i>Discrete elements method for modeling granular media physics and tribology</i>
10h00-10h30	Coffee Break

10H30-11H00		Morning Poster Workshop		
Topic 1A: Mechanical Engineering – Moderators: Pr AISSAT Sahraoui				
	N°	Full name	ID	Thema
10H30-11H00	1	BACHIRI Abdessamad	T1P01	Influence des propriétés adhésives sur les performances de la réparation active d'une sur une plaque d'aluminium fissurée
	2	HAROUN Abdelhak	T1P02	Impact of toothed belt geometry on the temperature of the transmission system
	3	MEDKOUR Mihoub	T1P03	Calcul de la pression et le champ de vecteur de vitesse dans un milieu poreux pour un fluide non Newtonien
	4	MAKHFI Souad 1	T1P04	A novel approach to machining parameter optimization
Topic 2B: Energy – Moderators: Pr MEKROUSSI Said				
10H30-11H00	1	BEKHADRA Samira	T2P01	Numerical simulation of blood flow in the bifurcation of the carotid artery
	2	AZZAZEN Mohamed	T2P02	Diffusion d'un mélange stœchiométrique H2 / O2
	3	SARIR Noureddine	T2P03	Evaluating the performance of the GA-fuzzy PI fractional controller on power quality in smart grids: Application to three-phase faults

	4	BELMILOUD Mohamed Amine	T2P04	Étude numérique de l'influence de la disposition des cellules de batterie lithium-ion sur la performance thermique d'un système de gestion thermique des batteries (BTMS)
	5	MAZARI Djamel	T2P05	Investigation of disk friction losses effects on the performance of mixed flow turbine
	6	ZINE KHELLOUFI Omar	T2P06	Étude numérique d'une turbine semi-axiale (Turbine B)
Topic 3B: Electromechanics & Industrial Maintenance – Moderators: Pr MOULGADA Abdelmadjid				
10H30-11H00	1	HARKAT Yamina	T3P01	Approches probabilistes pour la maîtrise du risque de rupture en fatigue des matériaux
	2	TAIBI Ahmed	T3P02	Intelligent bearing fault diagnosis based on dual-tree complex wavelet transform, AR coefficients, and SVM
	3	DEBBAB Mohamed	T3P03	Decentralized data integrity for enhanced reliability analysis in industrial systems
	4	ABOURA Abderrahmane	T3P04	Defect path reconstruction through 3D signal analysis in eddy current array testing
	5	DJELBANE Mohamed	T3P05	Diagnostic de défaillances d'un système d'énergie photovoltaïque avec une approche floue
Topic 4A: Materials Sciences – Moderators: Pr HASSAINE DAOUADJI Tahar				
10H30-11H00	1	ADIM Belkacem	T4P01	Contribution to the free vibration behavior study of laminated composite plates
	2	AKRICHE Ahmed	T4P02	First-principal calculations of half-metallic properties of Ni ₂ MnAl Heusler compounds
	3	BOUMEDIENE Hayet	T4P03	Effet du collage sur la prédiction des contraintes de glissement dans une poutre mixte acier-béton connectée par adhésif
	4	BOUSSENA Ahmed	T4P04	Mechanical characterization of recycled and loaded materials
	5	ATHMANE Sid Ahmed	T4P05	Fatigue and follow of stiffness degradation in a composite material
	6	FEREDJ Bouabdellah 1	T4P06	Durabilité chimique des blocs de terre comprimée stabilisés au ciment soumis à une attaque acide au H ₂ SO ₄
	7	CHAMA Mourad	T4P07	Using XFEM-CZM and fiber-matrix coupling laws to predict damage in notched plates reinforced with graded composite patches by USDFLD approach
	8	DJEBOUR Benali	T4P08	Anisotropie élastique et propriétés mécaniques, dynamiques et électroniques du composé half-Heusler KScSn : Étude ab-initio
	9	MEFTAH Souad	T4P09	Cold forming behavior and compressibility analysis of Copper–Alumina powder mixtures
	10	SAFA Ali 1	T4P10	Recyclage des sables de la fonderie de Tiaret : un pas vers une fonderie durable
	11	LARBI Mhamed	T4P11	First-principles investigation of pressure effects on the electronic properties of a semiconductor
Topic 4C: Materials Sciences – Moderators: Pr BEKKI Hadj				
10H30-11H00	1	CHAMI Guermit	T4P12	Porosity effect on fundamental frequencies of FGM sandwich beams
	2	KRALIFA Abderrahim Souffiane	T4P13	Analyse du comportement mécanique des plaques composites hybrides stratifiées
	3	NASSAH Mohamed	T4P14	A stress and deflection analysis of a functionally graded beam under non-uniform loading
	4	DAIKH Abdelkader	T4P15	Mechanical behavior analysis of structures damaged by cracking
	5	GHOUL Sahraoui	T4P16	Reliability of ANSYS-APDL for the nonlinear numerical modeling of L-Shaped RC shear walls
	6	BOUAKKAZ Ahmed Ouadah	T4P17	Modélisation micromécanique de l'endommagement du composite PP+taic
	7	DRAOUCHE Khayra	T4P18	L'impact de la porosité et des conditions aux limites sur les caractéristiques dynamiques des plaques en matériau à gradient fonctionnel
	8	KHELIFI Halima	T4P19	Influence of boriding on the fatigue behavior of X70 Steel

	9	FEREDJ Bouabdellah 2	T4P20	Influence de la microstructure des matières premières sur la durabilité hydrique des mortiers terre-ciment
	10	ASLI Imen	T4P21	Modélisation des contraintes de cisaillement d'une poutre en béton armé renforcée par matériaux composites : effet de la précontrainte

11H00-12H30	Morning Oral Workshop		
Topic 1A: Mechanical Engineering – Moderator: Pr AISSAT Sahraoui			
Schedule	Full name	ID	Thema
11H00-11H20	MIMOUN & HADDOUCHE	T1O01	Prédiction de l'effort de coupe lors du tournage de l'acier A60 en utilisant les techniques d'apprentissage automatique
11H20-11H40	SEBAA Mohamed Rida	T1O02	Hybrid artificial intelligence framework for multi-objective optimization of spur gear design using Jaya algorithm and multi-agent systems
11H40-12H00	BOUZIDANE Ahmed	T1O03	Influence of three pad hydrostatic journal bearing characteristics on the dynamic behaviour of a three-disk rotor
Topic 2B: Energy – Moderator: Pr MEKROUSSI Said			
11H00-11H20	CHEIKH Samra	T2O01	Analyse de la sensibilité paramétrique d'un thermo-transformateur à absorption destinée à la valorisation des puits de chaleur de bas potentiel
11H20-11H40	BORDJANE Mustapha	T2O02	Investigation numérique de l'écoulement des fluides à travers l'intercooler d'un moteur thermique suralimenté
11H40-12H00	AKERMI Nassreddine	T2O03	Self-starting study of a variable pitch wind rotor exposed to turbulence intensity
12H00-12H20	HAMMOU Mahmoud	T2O04	Impact du choix du verre sur le rendement thermique d'un distillateur solaire passif : Étude numérique
12H20-12H40	AYAD Fouad	T2O05	Experiments at the mixing test facility ROCOM for benchmarking of CFD codes regarding Nuclear Reactor Safety (NRS) accident scenarios
Topic 3B: Electromechanics & Industrial Maintenance – Moderator: Pr MOULGADA Abdelmadjid			
11H00-11H20	BENADDA Mohamed	T3O01	Étude paramétrique des effets vibratoires d'un défaut d'engrenage en régime transitoire et permanent
11H20-11H40	DAHMANE Saida	T3O02	Spectral envelope analysis-random forest based method for bearing fault detection
11H40-12H00	BENMESSAOUD Tahar 1	T3O03	Wind farms real time maintenance based on SCADA data and fuzzy logic: Real case study
12H00-12H20	GOISMI Mohamed	T3O04	Smart contracts for industrial maintenance: Toward autonomous and reliable systems using blockchain technology
Topic 4A: Materials Sciences – Moderator: Pr HASSAINE DAOUADJI Tahar			
11H00-11H20	AOUDIA Hanane	T4O01	Development and characterization of amphiphilic nanocomposites based on PCL-PEG-PCL triblock copolymer and modified maghnite
11H20-11H40	ASSAS Taqiyeddine	T4O02	Analysis of laminated composite plates using higher-order shear deformation plate theory and strain based finite element formulation
11H40-12H00	RABAHI Abderrazak	T4O03	A theoretical analysis for the static behavior of functionally graded porous plates: various models of distribution
12H00-12H20	HOUARI Amin	T4O04	Experimental vibration analysis of composite-patched plate
Topic 4B: Materials Sciences – Moderator: Pr BEKKI Hadj			
11H00-11H20	MESSAAD Taieb	T4O05	Effect of prosthetic liner material on residual limb stress distribution during normal walking
11H20-11H40	TICHOUCHE Fatima Zohra	T4O06	The cantilever beams experimental dynamic investigation according to the Timoshenko theory
11H40-12H00	BENKOUACHI Narimane	T4O07	Numerical modelling of a femoral prosthesis following lower limb amputation
12H00-12H20	HADJI Lazreg	T4O08	Free vibration analysis of functionally graded polymer composite plates reinforced with Graphene nanoplatelets
12H30-14H00	Lunch Break		

14H00-14H30		Afternoon Poster Workshop		
Topic 1B: Mechanical Engineering – Moderators: Pr ZIDOUR Mohamed				
	N°	Full name	ID	Thema
14H00-14H30	1	MERGHACHE Sidi Mohamed	T1P05	Évaluation de la température sur une transmission par courroie dentée «Binder Magnetic»
	2	TAGHEZOUT Ali	T1P06	Application de la méthode XFEM à la modélisation numérique de fissures dans des plaques en aluminium
	3	RABOUH Mustapha	T1P07	Numerical analysis of hygrothermal effects on low-velocity impact contact force in s glass/polyester composite plates
Topic 2A: Energy – Moderators: Pr SAD CHEMLOUL Nord Eddine				
14H00-14H30	1	KECHACHNI Mohamed 2	T2P07	Réduction de la consommation énergétique dans les tunnels et infrastructures enterrées : Approche globale par récupération de chaleur
	2	BOUZID Mohamed Amine	T2P08	Adaptive fuzzy logic control of wind standalone conversion system with storage
	3	BELFODIL Farid	T2P09	Modélisation numérique pour la simulation du refroidissement par pulvérisation d'eau durant la production des métaux
	4	SEGHIER Djamal	T2P10	Optimization of renewable energy resources using machine learning algorithms
	5	MOSTFA Kouider	T2P11	Modélisation mathématique d'une butée hydrodynamique lubrifiée avec un fluide non Newtonien
	6	KECHACHNI Mohamed 1	T2P12	Influence de l'intégration BIM-BEM sur la prévision de la performance énergétique dans les bâtiments
Topic 3A: Electromechanics & Industrial Maintenance – Moderator: Pr KARAS Abdelkader				
14H00-14H30	1	ZEMALI Zakaria	T3P06	Robust fault diagnosis strategy based on Bnak Leunberger observer for pitch system'sonsor of wind turbine machine
	2	DJERBOUB Ahmed	T3P07	An integrated SVM-MPPT and four-Leg SAPF control framework for enhanced power quality in grid-connected photovoltaic systems
	3	KOULALI Mostefa	T3P08	Smart management of AC loads using an integrated PV, fuel fell, and battery system with multilevel inverters
	4	MAASAKRI Moustafa	T3P09	Optimisation des systèmes énergétiques mécaniques par apprentissage automatique : Application à la maintenance prédictive et l'efficacité énergétique des installations CVCA
	5	MOSTFA Kouider	T3P10	Analyse thermo-hydrodynamique d'une butée hydrodynamique : Approche CFD
Topic 4C: Materials Sciences – Moderators: Pr BOUSMAHA Mohamed				
14H00-14H30	1	OULD LARBI Latifa	T4P22	A simple refined plate theory for buckling of in-plane bi-directional functionally graded plates with porosity
	2	LAKEL Adel	T4P23	Analyse de la flexion d'une plaque sandwich poreuse multidirectionnelle à gradient fonctionnel
	3	ZOUATNIA Nafissa	T4P24	Investigation of dynamic performance in porous sigmoid functionally graded sandwich plates
	4	ZAGAAR Yamina	T4P25	Investigation of the flexural response of porous FGM plates resting on elastic foundation
	5	HASSAINE DAOUADJI Maya	T4P26	Renforcement des poutres isostatique en acier par collage externe des plaques composite en précontrainte
	6	NAOUS Mohamed	T4P27	Engineering dual-charged magnetite nanoparticles for broad-spectrum chromium (VI) removal across diverse water conditions
	7	SAFA Abdelkader	T4P28	Study on thermal vibration response of functionally graded material beams
	8	TOUHAMI Belkacem Elhocine	T4P29	Analysis of a wooden beam strengthened by external bonding of a composite materials: Effect of composite materials rigidity
	9	BABAKHALI Elmabrouk	T4P30	La modification des propriétés mécaniques de l'acier sous l'effet de la galvanisation au zinc

	10	SAFA Ali 2	T4P31	Analyse comparative des performances en fatigue de ressorts à lames : Cas des sections droites versus sections courbées
--	----	---------------	-------	---

14H30-16H00	Afternoon Oral Workshop		
Topic 1B: Mechanical Engineering – Moderator: Pr ZIDOUR Mohamed			
Schedule	Full name	ID	Thema
14H30-14H50	ABOSHIGHIBA & HASSANI	T1O04	New design of a porous aerostatic bearing with variable permeability
14H50-15H10	GHEZAL & HADDOUCHE	T1O05	Optimisation du processus de tournage par régulation numérique adaptative de l'effort de coupe
15H10-15H30	BACHA Mohamed	T1O06	Impact of advanced lubrication modes on cutting forces and surface quality during hard turning
15H30-15H50	MAZOUZI Abdelmadjid	T1O07	Stress analysis in the indentation phase of fretting contact with a flat-rounded edge punch
Topic 1C: Mechanical Engineering – Moderator: Pr AISSAT Sahraoui			
14H30-14H50	GUERCHOUH Nawel	T1O08	Analyse dynamique par éléments finis des contraintes de contact à l'interface de prothèse trans-fémorale
14H50-15H10	ELGUERRI Mohamed	T1O09	Study project by simulation of the design of an elliptical tank turning device
15H10-15H30	BENARIBA Aboubakeur	T1O10	Influence of micropolar lubricant on the dynamic behavior of a rigid rotor mounted on four-pad hydrostatic squeeze film dampers
15H30-15H50	BEKHADDA Ahmed	T1O11	Analyse des vibrations et du flambage des poutres FGM par une nouvelle théorie de déformation au cisaillement de premier ordre (NFSDT)
Topic 2A: Energy – Moderator: Pr SAD CHEMLOUL Nord Eddine			
14H30-14H50	KHALDI Sabrina	T2O06	Improving the performance of a photovoltaic panel using phase change materials enhanced with metal foams
14H50-15H10	CHELABI Mohamed Amine	T2O07	Analyse énergétique d'un rotor semi-axial en fonction de l'angle d'entrée d'aube
15H10-15H30	BEKHADRA Mokhtar	T2O08	Heat transfer in magnetorheological fluids under variable magnetic fields
15H30-15H50	SAHEL Djamila	T2O09	CFD study of solar air heater thermal efficiency enhancement by using an innovative spiral configuration
15H50-16H10	TRARI Benaissa	T2O10	Étude numérique de l'effet du sens d'écoulement sur le transport de solutés dans une machine d'hémodialyse à fibres creuses
Topic 3A: Electromechanics & Industrial Maintenance – Moderator: Pr KARAS Abdelkader			
14H30-14H50	BENMESSAOUD Tahar 2	T3O05	Optimization of wind turbines maintenance using the PSO method
14H50-15H10	DJAAD Fethi	T3O06	Enhanced PCM melting in triplex tubes for thermal energy storage with optimized configuration of fin design and nanofluid integration
15H10-15H30	MAKHFI Souad 2	T3O07	Smarter bearing fault detection
Topic 4C: Materials Sciences – Moderator: Pr BOUSMAHA Mohamed			
14H30-14H50	BENGHARBI Omar Abdelaziz	T4O09	Fault detection of induction motor sensor faults using machine learning
14H50-15H10	AICHOUBA Adda Cherif	T4O10	Comparative evaluation of Gel and Silicone prosthetic liners under varying thickness: Focus on contact pressure
15H10-15H30	HAMMOUDI Maram	T4O11	L'optimisation en mécanique des structures par les méta-heuristiques
15H30-15H50	BALTACH Abdelghani	T4O12	Numerical analysis of the effect of cold-expanded plate thickness on residual stresses around cold-expanded fasteners hole 7075-T6 Aluminum alloy
16H00-16H30	Closing Ceremony		