



# The 15<sup>th</sup> International Conference on Mechanical Engineering

28-29 April 2026  
Conference Program



Day 1: Tuesday, 28 April 2026			
07h:00-08h:30	<b>Registration</b>		Cedoc Hall
08h:45--09h:10	<b>Opening ceremony</b>		Amphi B
09h:10--10h:20	<b>Keynote 1: From Reverse Engineering to Indigenous Innovation: East Asian Strategies and Algeria's Opportunity to Leapfrog Industrial Development</b> <b>Dr. BOUTI Abdeslam</b> , Husky injection Molding Systems LTD. Milton VT. USA. <b>Chairs:</b> Prof. KHELLADI Sofiane (ENSAM, France) & Prof. HADDAD Moussa (EMP)		Amphi B
10h:20--11h:00	<b>Souvenir Photo &amp; Coffee-Break</b>		Cedoc Hall
11h:00--12h:00	<b>Keynote 2: Materials At The Heart Of The Hydrogen Revolution</b> <b>Prof. HOCINE Abdelkader</b> , Chlef University, Algeria <b>Chairs:</b> Dr. Abdeslam BOUTI (Insulet Corporation, USA) & Prof. TARABET Lyes (EMP, Algeria)		Amphi B
12h:00--13h:30	<b>Lunch</b>		
13h:30--15h:00	<b>Oral sessions 1</b>	Diagnostics and Maintenance	<b>Bloc P1</b>
		Composite and Hybrid Materials: Processing, Interfaces, and Performance	<b>Bloc P2</b>
		Fatigue, Damage, and Advanced Modeling of Engineering Materials	<b>Bloc P3</b>
		Applied Fluid Mechanics	<b>Bloc P4</b>
	<b>Workshop 1</b>	<b>Openfoam : The Open Source CFD Toolbox</b>	<b>CAO1</b>
<b>Workshop 2</b>	<b>Reverse Engineering And Additive Manufacturing</b>	<b>UERC FM</b>	
15h:00--15h:30	<b>Poster Session 1 + Coffee break</b>		Hall BP
15h:30--16h:30	<b>Oral sessions 2</b>	Non-destructive Testing, Structural Health	<b>Bloc P1</b>
		Advanced manufacturing and metrology	<b>Bloc P2</b>
		Metallic Materials: Processing, Microstructure, and Mechanical Behavior	<b>Bloc P3</b>
		CFD and Numerical Modelling	<b>Bloc P4</b>

Day 2: Wednesday, 29 April 2026			
08:30--09:50	<b>Keynote 3: On the Uses of Multi-Agent Artificial Intelligence for the Design and Optimization of Fluid and Energy Systems</b> <b>Prof. KHELLADI Sofiane</b> , Arts & Métiers - Sciences and Technology, France <b>Chairs:</b> Prof. HANCHI Samir (USTHB, Algeria) & Prof. KHALFALLAH Smail (EMP, Algeria)		Amphi B
09:50--10:30	<b>Poster Session 2 + Coffee break</b>		Cedoc Hall
10:30--12:00	<b>Oral sessions 3</b>	Shock, Impact and Explosions	<b>Bloc P1</b>
		Advanced Design and additive manufacturing	<b>Bloc P2</b>
		Turbomachinery, ICE & propulsion	<b>Bloc P3</b>
		Heat/Mass Transfer & Thermodynamics	<b>Bloc P4</b>
	<b>Workshop 3</b>	<b>Composite Materials : From Design To Manufacturing</b>	<b>Lab. Mat</b>
<b>Workshop 4</b>	<b>Mechanical Analyses And Cyclic Behavior Of Materials</b>	<b>Lab. Mat</b>	
12:00--13:30	<b>Lunch</b>		
13:30--14:20	<b>Poster Session 3</b>		Cedoc Hall
14:20--15:30	<b>Keynote 4 : Study Of The Active Vibration Control Of Nanocomposite Plates With Piezoelectric Layers</b> <b>Prof. TIBERKAK Rachid</b> , Blida university, Algeria <b>Chairs :</b> Prof. CHETTIBI Taha (U. Blida, Algeria ) & Prof BENABID Yacine (EMP, Algeria)		Amphi B
15:30--16:00	<b>Closing Ceremony and Best Paper Award</b> <b>Chair :</b> Dr. MEKADEM Mahmoud and Dr. CERDOUN Mahfoudh (EMP)		Amphi B

Day 1: Tuesday, 28 April 2026:		Oral sessions 1	
		Diagnostics and Maintenance	BLOC P1
Time	ID	Session chairs:	Pr BOUMEDIEN Faiza Pr BENKADJOUH Tarek
13:30-13:45	146	<b>A Physics-Informed Hybrid Framework for Robust Bearing Fault Diagnosis under Time-Varying Speeds</b>	
		M. SEKINI, B. EL YOUSFI, T. BENKEDJOUH, A. LOURARI	
13:45-14:00	153	<b>Bearing And Gears Fault Diagnosis Using Dynamic Mode Decomposition Of Acoustic Signals</b>	
		A. BOUCHAREB, A. LOURARI, B. EL YOUSFI, T. BENKEDJOUH	
14:00-14:15	36	<b>Neuro-Fuzzy Maximum Speed Controller for an Anti-Lock Braking System Dedicated to Autonomous Electric Vehicles</b>	
		I. DJELAMDA	
14:15-14:30	87	<b>Deep Learning-Based Prognostics for Ground Vehicle Powertrains: A Framework for Enhancing Military Fleet Readiness</b>	
		Y. HERAOUA, H. OUBOUCHOU	
14:30-14:45	207	<b>A Lightweight Rotor Eccentricity Faults Diagnosis Framework Using Mobilenetv2-PCA-SVM</b>	
		A. CHENNANA, A. TETA, D. BAKRIA, E. BELABBACI	
14:45-15:00	183	<b>Experimental Investigation of Tool Wear Monitoring in Milling via Vibro-Acoustic Signal Fusion</b>	
		O. REDJAIMIA, H. HABBOUCHE, S. SADAoui, A. TAATALI, T. BENKEDJOUH	

Day 1: Tuesday, 28 April 2026:		Oral sessions 1	
		Composite and Hybrid Materials: Processing, Interfaces, and Performance	BLOC P2
Time	ID	Session chairs	Pr HEMMOUCHE Larbi Dr MEDJAHED Aboubakr
13:30-13:45	167	<b>Surface-Treated Aluminum for Enhanced Performance of Fiber-Metal Laminates</b>	
		F. CHERADI, A. MEDJAHED, M. DERRADJI	
13:45-14:00	171	<b>Enhanced Mechanical and Energetic Performance of PTFE/Al Composites via Ammonium Perchlorate Incorporation Using a Two-Stage Sintering Method</b>	
		R. MAKAOUI, O. MEHELLI, Dj. TRIA, L. HEMMOUCHE, M. DERRADJI	
14:00-14:15	12	<b>Mechanical and SEM Characterization of Hybrid Natural Fiber Reinforced Polyester Composites</b>	
		C. BENCHAAABANE, T. MANSEUR, M. BARKI	
14:15-14:30	82	<b>Influence of Graphite on the Mechanical Properties of Rubber Composites</b>	
		H. BOUKFESSA	
14:30-14:45	77	<b>Tensile Properties of an Agave Sisalana Fiber Reinforced Biocomposites</b>	
		S. GHODBANEA, H. LAOUICI, K. ZEMANIA, A. MEGDOUD, A. BENIAICHE, A. BELKALLOUCH, F. KELOUAZ, H. TAYEB	

Day 1: Tuesday, 28 April 2026:		Oral sessions 1	
		Fatigue, Damage, and Advanced Modeling of Engineering Materials	BLOC P3
Time	ID	Session chairs	Dr BELATTAR Adel Dr HARROUCHE M K
13:30-13:45	75	<b>Effect of Coarse Grains on the Cyclic Behavior of Bimodal 316L Stainless Steel: A Micromechanical Finite Element Analysis</b>	
		K. KOUACHI, M. BELOUCHRANI, M. BOUCHEDJRA, A. BELATTAR, M. OUALI	
13:45-14:00	132	<b>Cyclic Behavior and Damage Recovery of AA2017A-T6 Aluminium Alloy under Post-Damage Annealing</b>	
		ZBDALLAH, A. MAY, R. BADJI, A. BELATTAR	
14:00-14:15	186	<b>An Experimental Study of the Structural Behavior of GFRP Laminates under High-Velocity Multiple Impacts</b>	
		L. BEDDIAF, D. TRIA, H. HEBBOUCHE	
14:15-14:30	196	<b>Machine Learning Prediction of Tensile and Flexural Properties of Epoxy/Kaolin Composites under Hygroscopic Aging, Filler Ratio, and Particle Size Effects</b>	
		F. BEN ADDAD, M. BOUDIAF, K. HARROUCHE	
14:30-14:45	52	<b>Thermo-Oxidative Aging, Lifetime Prediction, and Maximum Service Temperature Assessment of Three Commercial Polycarbonate Grades</b>	
		E. MOKHNACHE, N. RAMDANI	
14:45-15:00	22	<b>Effect of synthesized metal oxides (Zinc and iron oxides) on the ballistic properties of a propulsive charge</b>	
		H. HACHELEF, D. DAHMEN, S.M. MESSAHI	

Day 1: Tuesday, 28 April 2026:		Oral sessions 1	
Applied Fluid Mechanics			BLOC P4
Time	ID	Session chairs	Prof ADJLOUT Lahouari      Dr AIT ALI Takfarines
13:30-13:45	73	<b>Validation of Turbulence Models in a Stairmand Cyclone with Application to an Arc-Curved Geometry</b>	
		A. HANIFI, A. BENIAICHE, A. BELKALOUCHE, S. GHODBANE, C. BELKACEMI	
13:45-14:00	74	<b>Hydrodynamic Modeling and Layout Optimization of Tidal Stream Turbine Farms: Application to the Algerian Coastline</b>	
		A. AMOURA, A. SMAILL, M. HAMLAOUI, A. BOUHELAL	
14:00-14:15	174	<b>Aerodynamic Performance Enhancement of a Low Reynolds Number NACA 6415 Airfoil Using Co-Flow Jet Active Flow Control</b>	
		M. EL ADASSI, H. REZAIGUIA, A. BOUTEMEDJET, R. KHELFAOUI	
14:15-14:30	216	<b>Investigation of Tip Clearance Influence on Two-Phase Flow Centrifugal Pump Performance</b>	
		B. TOUMI, A. ATIF	
14:30-14:45	221	<b>CFD-Based Prediction of the Self-Propulsion Point of a Torpedo-Shaped AUV</b>	
		A. MEFTI, M CERDOUN, S KHALFELLAH, D BOUCETTA, D SCHOLZ	
14:45-15:00	229	<b>Design and optimization of a test system for the hydrodynamic characterization of portable filter straws</b>	
		I. MERKHOUSA, A. LARABI, S. TAZIBET, Y. BOUTILLARA	

Day 1: Tuesday, 28 April 2026:		Oral sessions 2	
Non-destructive Testing, Structural Health			BLOC P1
Time	ID	Session chairs:	Dr BOUZAR ESSAIDI Ahmed      Dr REBHI Lamine
15:30-15:45	169	<b>Machine-Learning-Based Surrogate Modeling for Accelerated Multiscale Thermomechanical Analysis</b>	
		H. SAIDIA, E. TIKARROUCHINE, A, LOURARI, G. CHATZIGEORGIOU, F. MERAGHNI	
15:45-16:00	83	<b>Multi-Scale Finite Element Analysis Of 3D Woven Composite Structures Taking Into Account Matrix-Reinforcement Debonding</b>	
		H. OUKFIFA, E. TIKARROUCHINE, M-A. LOUAR, F. MERAGHNI	
16:00-16:15	177	<b>Comparative Numerical Analysis Of The Compressive Behavior Of Aluminum And Gfrp Honeycomb Structures</b>	
		Z. BENSAAD, M. LOUAR, Y. DJEMAOUNE, A. TARARBIT	
16:15-16:30	46	<b>GABES: A 3D H-Matrix Accelerated BEM Solver for Elastostatics</b>	
		R. SI HADJ MOHAND, Y. BELKACEMI, S. RECHAK	

Day 1: Tuesday, 28 April 2026:		Oral sessions 2	
Advanced manufacturing and metrology			BLOC P2
Time	ID	Session chairs:	Pr MAY Abdelghani      Dr. SADAUI Seif Eddine
15:30-15:45	208	<b>Automated Neural Architecture Search for Acoustic-Based Tool Condition Monitoring</b>	
		K. ZENNADI, T. BENKEDJOUH Y. BELKACEMI, M. BELOUCHRANI	
15:45-16:00	3	<b>Deep Learning-Based Comparative Analysis for Steel Surface Defect Inspection in Manufacturing Processes</b>	
		Y. KATEB, A. KHEBLI, S. AGUIB	
16:00-16:15	202	<b>Robust Multi-Sensor Neural SDF Reconstruction via Continuous Anchored Learning</b>	
		C. MERCHICHI, S. SADAUI	
16:15-16:30	176	<b>New multi-axis Incremental Sheet Forming framework by progressive tool tilting</b>	
		A. HABIBECHÉ, S. SAADAUI, K. BELOUETTAR	

Day 1: Tuesday, 28 April 2026:		Oral sessions 2	
Metallic Materials: Processing, Microstructure, and Mechanical Behavior			BLOC P3
Time	ID	Session chairs:	Dr CHILALI Abderezak      Dr TIKARROUCHINE ELHADI
15:30-15:45	30	<b>Microstructure and Mechanical Properties of Cold-Rolled and Heat-Treated AISI 316Ti Austenitic Stainless Steel</b>	
		H. KADDOUR, L. BELGACEM	
15:45-16:00	141	<b>Effect of the Interface Geometry on the Tensile Properties of the CuZn30 RFW Joints</b>	

		S. REGUIEG YSSAAD, H. LAKACHE, A. MAY, A. BELATTAR
16:00-16:15	175	<b>Comparative Evaluation of Natural Plant Extracts as Corrosion Inhibitors for XC38 Steel in 0.5 M HCl</b> A. KAIDI, S. BENAMIROUCHE, S. TAZIBET
16:15-16:30	220	<b>Comparative study of the geotechnical and chemical properties of the sediments of the k'sob dam (M'sila) and the Foug El-kherza dam (Biskra) in the context of the valorization of sustainable and economical building materials.</b> A. MEKDOUR, A. MEDJNOUN, M. AKCHICHE, R. BAHAR

<b>Day 1: Tuesday, 28 April 2026:</b>		<b>Oral sessions 2</b>	
		<b>CFD and Numerical Modelling</b>	
		<b>BLOC P4</b>	
<b>Time</b>	<b>ID</b>	<b>Session chairs:</b>	<b>Prof NEMMOUCHI Zoubir      Dr ZEBIRI boubakr</b>
15:30-15:45	81	<b>Comparative Analysis of FVM and MRT-LBM for Energy Dissipation, Computational Cost and Flow Topology: A Driven Cavity Case</b> E. AZZOUZ, S. HOUAT	
15:45-16:00	88	<b>Numerical Investigation of Melting and Heat Transfer of Power-Law Nano-Enhanced Phase Change Materials in a Partitioned LTES System</b> M. ADNANI, A. SAHI, A. BENSLIMANE	
16:00-16:15	40	<b>Contribution to the Optimal Design of Radial Turbine Volute for sCO<sub>2</sub> in CSP Applications</b> A. BENSAYA, M. EL HAMEUR, Y. SEHILI, M. CERDOUN, L. TARABET	
16:15-16:30	166	<b>Advanced Numerical Simulation of Dimethyl ether Combustion in DLR-A for Modern RCCI Engine Applications</b> A. BOUZIANE, F. MECEIB, M. ZAITRI, S. LAOUEDJ	

<b>Day 2: Wednesday, 29 April 2026:</b>		<b>Oral sessions 3</b>	
		<b>Shock, Impact and Explosions</b>	
		<b>BLOC P1</b>	
<b>Time</b>	<b>ID</b>	<b>Session chairs:</b>	<b>Dr LOUAR Mohamed Raouf      Dr TREA Djalel eddine</b>
10:30-10:45	180	<b>Numerical Investigation of Wave-Shaper Configurations Effect on Shaped Charge Jet Formation and Penetration Depth Using AUTODYN-2D</b> H. KEMMOUKHE, M DALI, C. BOULAHBAL, S. LEBOUALDJIA, N. REZGUI	
10:45-11:00	182	<b>Effective Mitigation Strategies for Blast-Induced Vibrations in Existing Tunnels</b> T. KAMEL, T. BUI, A. LIMAM	
11:00-11:15	184	<b>Thermal Effects on the Free Vibration Characteristics of Symmetric and Antisymmetric Cross-Ply Laminated Plates</b> Z. MOUAS, R. TIBERKAK, M. EZZRAIMI, M. LAZAR	
11:15-11:30	181	<b>Contribution to the Optimal Design of a Fully Actuated Hexarotor Drone</b> A AYAD, H DEBBACHE, A BOUZAR ESSAIDI, M HADDAD	

<b>Day 2: Wednesday, 29 April 2026:</b>		<b>Oral sessions 3</b>	
		<b>Advanced manufacturing and additive manufacturing</b>	
		<b>BLOC P2</b>	
<b>Time</b>	<b>ID</b>	<b>Session chairs:</b>	<b>Dr BENFRIHA Khaled,      Dr. MAHIEDINI Ibrahim</b>
10:30-10:45	164	<b>Volumetric Machining Feature Recognition from STL Models via Slice-Based Material Subtraction</b> A. KIRECHE, O. REMIL, M.A. LOUAR	
10:45-11:00	215	<b>Simultaneous optimization of topology and orientation in additive manufacturing to minimize the volume of supports for anisotropic materials</b> M. NAILI, O. ADJOUL, A. MAY	
11:00-11:15	143	<b>Performance and additive manufacturing of thermoplastic rotary heat exchangers</b> A. Belkhir	
11:15-11:30	47	<b>Development and Validation of a Numerical Thoracic Surrogate for Non-Lethal Projectiles Impact Assessment</b> Y.Kebbab, M.A.Louar, A.Oukara, D.E.Tria	

Day 2: Wednesday, 29 April 2026:		Oral sessions 3	
		Turbomachinery, ICE & propulsion	
		BLOC P3	
Time	ID	Session chairs: Pr ATIF Abdelmadjid Dr REZAIGUIA Hichem	
10:30-10:45	172	<b>Effect of hot-streak and swirl in a two-stage high-pressure axial turbine</b>	
		K. TOUIL, A. GHENAIET	
10:45-11:00	135	<b>Artificial Neural Network-Based Prediction of Brake Power and Thermal Efficiency of a Dual- and Tri-Fuel Diesel Engine Fueled with Biogas and Hydrogen</b>	
		Y. REZGA, D. GHERSI, R. BOUGUessa, M. AMOURA, K. LOUBAR, L. TARABET	
11:00-11:15	151	<b>Impact of Hydrogen-Enriched Ammonia on Performance and Emissions of Diesel Engine Operating in Dual Fuel Mode</b>	
		A. KAMLI, L. TARABET, Y. SEHLI, K. LOUBAR	
11:15-11:30	219	<b>Continuous Biodiesel Production from Waste Frying Oil via Transesterification in a 3D-Printed Chaotic Reactor: Process Optimization and Fuel Properties Assessment</b>	
		M. MAAMOURI, A. LARABI, M. KADI, K. KHIARI, L. TARABAT, M. LAPUERTA	
11:30-11:45	230	<b>System-Level Reconfiguration Of Diesel Engine Adaptation For A Backhoe Loader After Powertrain Modification Using A V-Model Based Methodology With Experimental Validation On An Engine Test Bench</b>	
		S. DIR	

Day 2: Wednesday, 29 April 2026:		Oral sessions 3	
		Heat/Mass Transfer & Thermodynamics	
		BLOC P4	
Time	ID	Session chairs: Dr BENIAICHE Ahmed Dr BOUTEMDJET Abdelwahed	
10:30-10:45	140	<b>Numerical Modeling of Heat Transfer and Maximum Temperature in an Internal Combustion Engine Exhaust Valve for Different Materials.</b>	
		F. SAHI, M. CERDOUN, Y. SEHLI, M. ELHAMMER, L. TARABET, C. CARCASI	
10:45-11:00	102	<b>Numerical Investigation of Rib Shape Effects on Flow, Combustion, and Thermal Characteristics of a Hydrogen-Fueled Micro-Combustor</b>	
		A. LACHRAF	
11:00-11:15	127	<b>Numerical Simulation of Lithium-Ion Battery Thermal Runaway in an Aircraft Cargo Compartment</b>	
		H. HIBER, H. MILOUA, A. BENAROUS, W. HAMAIDIA	
11:15-11:30	189	<b>High-Frequency Vibrational Effects on the Stability of Horizontal Natural Convection in an Elongated Cavity</b>	
		A. MEDELFEF, M. HAREK	

Day 1: Tuesday, 28 April 2026:		15h:00--15h:30	
		Poster session 1	
		HALL BP	
General chairs : Dr M. BOUDIAF, Dr A. MESSELLEK, Dr K. BELOUETTAR, Dr A. LARABI			
Field	ID	Session chairs: Dr BOUZIANE Mohamed, Dr DJEMAOUN Younes	
Fluid Mechanics and Energetics	198	<b>Effect of Cone Geometry Modification on Cyclone Performance: A CFD Assessment</b>	
		A. HANIFI, A. BENIAICHE, A. BELKALOUICHE, S. GHODBANE, C. BELKACEMI	
	228	<b>Experimental Analysis of Pendular Water Bridge Evaporation: Implications for Water Retention in Porous Media</b>	
		A. DOURARI, M. CERDOUN, S. CHIKH, L. TADRIST	
	217	<b>Experimental study of wake dynamics behind a bluff body controlled by an oscillating upstream micro-rod</b>	
		A. LARABI, T. AZZAM, T. AIT-ALI, A. MAMMERI, H. OUALLI, S. KHELLADI, F. BAKIR	
	227	<b>Large Eddy Simulation (LES) of a Vortex Tube</b>	
		I. AMROUNE, N. BRAHMI, B. ZEBIRI	
	149	<b>Implementing Third Order Spectral Difference Method for unstructured grid to Solve Compressible Viscous Flow around NACA0012 Airfoil</b>	
		T. AIT-ALI, N. HANNOUN, A. LARABI, T. AZZAM, N. BOUGUELLAB	
	126	<b>Unsteady gasdynamical Response of a Supersonic Flow to a Sinusoidally Oscillating Tab</b>	
		C. BOULAHBAL, H. KEMMOUKHE, M. DALI, N. REZGUI	
223	<b>Natural convection flows in open environment generated by a micrometric electronic component</b>		
	H.C SADOUK, X. NICOLAS		

	224	<b>A Canonical Plane Plane Heat-Transfer-Coefficient Framework and Radiative Purity Index for Cross-Geometry Comparison of Near-Field Heat-Transfer Experiments</b>
		A. BENIAICHE, A. LARABI, M. SAHRAOUI, A. BOUTEMDJET, N. BRAHMI, A. DOURARI, M. BELKADI
<b>Materials Sciences and Engineering</b>	142	<b>Mechanical performance of carbon nanotube reinforced composite laminated beams</b>
		S.BERRAIS, S. TEKILI, A NEHAL, Y KHADRI
	90	<b>Environmentally Benign Fabrication of a Diatomite Modified by Iron Composite for Photocatalytic Decontamination</b>
		W. REZIG
	93	<b>Hygrothermal performance of building in Algerian climate</b>
		S. DAIM, M. BENYAMINE, N. FEZZIOUI
	101	<b>Effect of sintering parameters on the microstructure of reaction cured glass (RCG) coating</b>
		N. SADLI
	157	<b>Severe Plastic Deformation via ECAP: Microstructure, Precipitation, and Mechanical Performance in Al-Mg-Si Alloys – Review</b>
		A. HALKOUM, L. HEMMOUCHE, A. HALIMI
44	<b>Pretreatment Flax Fiber and Enhanced Matrix through Vitrimerisation</b>	
	L.YAHIA CHERIF, A.MEKKI, N.NAAR	

**Day 2: Wednesday, 29 April 2026: 09:50--10:30**

**Poster session 2 CEDOC HALL**  
**General chairs : Dr M. BOUDIAF, Dr A. MESLEK, Dr K. BELOUATTAR, Dr A. LARABI**

**Field ID Session chairs: Dr BRAHMI Nassim, Dr ELYOUSFI Bilal**

<b>Fluid Mechanics and Energetics</b>	116	<b>Amélioration des performances d'un panneau photovoltaïque grâce à l'utilisation de matériaux à changement de phase renforcés par des mousses métalliques</b>
		S. KHALDI
	92	<b>Static and Dynamic Analysis of Porous Gas Bearings Lubricated with Air, Refrigerant R-134a, Helium and Hydrogen</b>
		S. BECHIRI, B. BOUCHEHIT
	104	<b>Steady flow measurements in a model of aortic stenosis</b>
		I. TREA, M. MAHFOUD, F. HADDAD
	34	<b>Numerical Prediction of Flow and Thermal Characteristics of a Turbulent Swirling Diffusion Flame Using a PDF Model</b>
		S. NECHAD, A. KHELIL, A. BRAHIMI, K. CHERAITIA, T. MANA
	210	<b>Interfacial Control of Oscillatory Wavy Taylor Vortex Dynamics in Vertical Multiphase Taylor–Couette Flows</b>
	N. MERABET, F. YAHY, Y. HAMNOUNE, A. MAHAMDIA	
13	<b>Tuning Structural and Electronic Properties of NaMgH<sub>3</sub> via Lithium Incorporation: A First-Principles Study at Critical Composition (<math>x = 0.625</math>)</b>	
	S. SAADOUN, T. GHELLAB, H. BAAZIZ, Z. CHARIFI	
<b>Materials Sciences and Engineering</b>	4	<b>Mathematical Modeling of Heat Transfer in a Complex Building Wall Considering Phase Change Hysteresis</b>
		A. SARRI
	19	<b>Comparative Study of Doctor Blade and Screen-Printing Methods for DSSC Solar Cell fabrication</b>
		A. CHABOU, B. CHEKNANE, Z. ZEFFOUNI, F. ZERMANE
	26	<b>Influence of sputtering parameters on the optical and electrical behavior of binary copper oxides</b>
		H. TRIR
	65	<b>Multiple linear regression analysis of the effects of electrodeposition parameters of a Ni-P-Y<sub>2</sub>O<sub>3</sub> composite coating on microhardness</b>
		Y. ABDESSELAM, A. BELOUFI
69	<b>Effect of using the superplasticizer "MASTER GLENIUM 26" and fiber reinforcement on the mechanical behavior of concrete</b>	
	G. MIROUZI, A. HOUDA, W. LAIFA	
76	<b>Electro-Thermal Modelling of Resistance Spot Welding: The role of Contact Resistance in Nugget Growth</b>	
	K.T. CHAOUCH, M. DJEGHDJOUGH	
79	<b>Effect of microstructure on corrosion behavior of ferritic-austenite stainless steel.</b>	

		M. DJEGHDJOUGH, K.T. CHAOUCH
	97	<b>Elaboration and characterization of PLA/Cellulose whisker nanobiocomposite films compatibilized with Poly(oxyethylene)</b>
		T. AOUAT, M. KACI, A. DUFRESNE
	106	<b>Behavior of imperfect FGM structures under mechanical loading</b>
		B. FAHSI, A. BENAHMED, A. FAHSI
	115	<b>Analysis of the crystallization kinetics of polypropylene/talc composites</b>
		D. FRIHI, A. LAYACHI, H. SATHA, A. GHARSALLAH, A. LOUAER, M. GACI

**Day 2: Wednesday, 29 April 2026:**

**13:30--14:20**

		<b>Poster session 3</b>	<b>CEDOC HALL</b>
		<b>General chairs : Dr M. BOUDIAF, Dr A. MESLEK, Dr K. BELOUATTAR, Dr A. LARABI</b>	
<b>Field</b>	<b>ID</b>	<b>Session chairs: Dr BELKADI Mobarek, Dr. H. HEBOUCHE</b>	
<b>Fluid Mechanics and Energetics</b>	226	<b>Parametric Geometric Modeling and Design Analysis of a Marine Toroidal Propeller</b>	
		S. FELLAH, A. MEFTI, M. CERDOUN	
	178	<b>Validity of Solid Propellant Combustion Laws at Low Pressure: Comparison between Crawford Method and Experimental Motor for 122 mm Base Bleed Design</b>	
		M. DALI, C. BOULAHBAL, H. KEMMOUKHE	
	160	<b>OpenFOAM Modeling of the Flame Dynamics of AP/HTPB Solid Laminate Propellants under Acoustic Velocity Oscillations</b>	
		H. REZAIGUIA, A. HALAIMIA, A. S. HAMDI	
	211	<b>Design, manufacturing and experimental investigation of a solar water heater performance</b>	
		A.C. GUERMACHE, A. ZAGHBIB, M. CERDOUN	
	35	<b>Numerical Study of an Heavy-Duty 6L Diesel Engine Equipped With an Electrified Turbocharging System</b>	
		M. EL HAMEUR, M. BELGUEDRI, M. CERDOUN, L. TARABET, G. FERRARA	
1	<b>Numerical Investigation of Confined Hydrogen-Air Explosions</b>		
	B. ZEBIRI, N. BRAHMI, M. GHALI, M. HORRABI, A. BOUTAMDJET		
150	<b>Numerical study of the combustion chamber geometry effect on combustion performance and pollutant emissions of a biogas-diesel common rail dual-fuel engine</b>		
	Y. SEHILI, L. TARABET, M. CERDOUN, A. KAMLI, K. LOUBAR		
<b>Materials Sciences and Engineering</b>	122	<b>Pin Profile vs. Welding Speed: Impact on AA2024-T3 FSW Performance</b>	
		N.S. ADAMOU DOUMI, F.Z. BENACHOUR, D. MIROUD, S. BOUARISSA, M. BENAMARA	
	131	<b>Elaboration and characterization of porous SiC ceramics</b>	
		A. BRAHIMI, F. KERAGHEL	
163	<b>Design Optimization Of Patch Composite Geometry For Repairing Cracked Steel Structures Using A Design Of Experiments Strategy</b>		
	N. H. BOUSSAHRA, S.C. DJEBBAR, K. MADANI		
222	<b>Multimodal Machine Learning for Nondestructive Hardness Prediction in Heat-Treated Steels</b>		
	K. HAROUCHE, M. BOUDIAF, L. HEMMOUCHE, I. KISMOUNE, A. AISSAOUI		
<b>Applied mechanics</b>	209	<b>Experimental Identification of Aerodynamic Coefficients of Mini-Drone Propellers Using a Deformation-Based Test Bench</b>	
		A. AYAD, N. BOUNIA, M. BENCHERIF, A. BOUZAR ESSAIDI	
	18	<b>Automated Visual Inspection of Industrial Steel Surfaces Using DenseNet-121-Based Deep Learning</b>	
	Y. KATEB, A. KHEBLI, S. AGUIB		
213	<b>Tool Wear Conditions Monitoring Based On Deep Learning</b>		
	R. KOUAS, S. SADAoui, T. BENKEDJOUH		