



Programme / Program

7^{ème} Congrès Tunisien de Mécanique / COTUME 2025 / 7th Tunisian Congress on Mechanics Programme / Program

Jeudi après-midi / Thursday afternoon : 01/ 05 / 2025

14h00– 15h00

Réception de bienvenue

15h00– 15h45

Ouverture / Opening

Pr. Tarak BOURAOUI : Président du congrès

Pr. Nizar BEN SALAH : Président du comité scientifique

Pr. Farhat ZEMZEMI : Président du comité d'organisation

15h45– 16h30

Conférence Plénière 1 / Plenary Session 1

Pr. Chiheb BOUDEN

Hydrogène Vert : Quelle contribution est attendue du secteur de l'enseignement supérieur pour accompagner les objectifs de la stratégie nationale ?

Modérateurs : T. BOURAOUI & N. BEN SALAH

Jeudi après-midi / Thursday afternoon : 01/ 05 / 2025

		Salle SP	Salle 1	Salle 2	Salle 3
Présidents : G. LIMBERT & F. GHANEM		Présidents : R. ELLEUCH & S. CHATTI (ENIM)		Présidents : O. BOIRON & S. BENNOUR	
16H30	17H00	Keynote 1 Unravelling the interplay of structural and material properties of skin <i>Pr. Georges LIMBERT</i>	Keynote 2 Tool steels: New developments, Manufacturing techniques, Heat Treatment and Mechanical properties <i>Pr. Riadh ELLEUCH</i>	Keynote 3 Biomécanique du disque intervertébral - vers un diagnostic de la dégénérescence discale <i>Pr. Olivier BOIRON</i>	Keynote 4 Expectations of advanced CAD systems in the era of Industry 5 and 6.0 <i>Pr. Nizar AIFAOUI</i>
17H00	17H15	Id (04)595776. Effect of coupling agent on mechanical properties of HDPE composites reinforced with higher content reed fiber obtained by injection moulding <i>KRAIEM Dalila, KHLIF Mohamed</i>	Id (05)598405. Modeling the Influence of Vibration and Welding Parameters on Spot Weld Resistance Using PSO-ANN <i>BOUSNINA Kamel, HAMZA Anis, BEN YAHIA Noureddine</i>	Id (14)606548. Physico-chemical and mechanical properties of DC sputtered ZrO ₂ coatings prepared by oblique angle deposition <i>GZAIEL Asma, Khalil AOUADI, Faker BOUCHOUCHA</i>	Id (06)600805. Gradient plate with cosine porosity distribution: vibration study <i>Souhir ZGHAL, KARMI Ahlem, BOUAZIZ Zoubeir</i>
17H15	17H30	Id (07)600929. Tribological and mechanical studies of irradiated SnO ₂ thin films <i>CHAYOUKHI Slah, DHIFELAOUI Hafedh, MEJRI A</i>	Id (08)603524. Energy Consumption prediction of AM-FDM isovolumetric components using the ANN and GPR models <i>NASRAOUI Helmi, TRABELSI Ali, AMDOUNI Marwan, REZGUI Mohamed Ali</i>	Id (30)611652. Impact of MS Particles and DLC Coatings on the Tribological Properties of MS-HDPE Biocomposites <i>SIDIA Besma, BENSALAH Walid</i>	Id (22)610098. Suspension of Heavy Trucks with Intelligent Control using Extended Adaptive Neuro-Fuzzy Inference System (EANFIS) <i>HAMZA Anis, BOUSNINA Kamel, DRIDI Issam, BEN YAHIA Noureddine</i>
17H30	17H45	Id (12)606287 Advanced Modeling of Fatigue Behavior in SMCs Under Tempered Moisture Aging Conditions <i>ABDESSALEM Abir, Sahbi TAMBOURA, FITOUSSI Joseph, BEN DALY Hachmi</i>	Id (09)603736. Robust Design Optimization of Compressive Strength of HPC- specimens using the Static RDPP-SF method <i>AMDOUNI Marwan, NASRAOUI Helmi, REZGUI Mohamed Ali, TRABELSI Ali</i>	Id (68)620533. Design and Optimization of a Polycentric Prosthetic Knee Mechanism <i>MEHERZI Sameh, NAJLAOUI Bilel, AFFI Zouhaier, ROMDHANE Lotfi</i>	Id (23)610441. Oscillation coupling effect on a double pendulum energy harvester <i>Seif Eddine Chebbi, Charfeddine Mrad, Fethi Aloui, Rachid Nasri</i>

17H45 18H00	Id (13)606395. Comparison of the performance of liquid and gaseous nitriding on the wear resistance and surface properties of 42CrMo4 material <i>DAGHBOUCH Ahmed, GHANEM Abdelkarim, TERRES Mohamed Ali</i>	Id (11)605929. Contribution of the potential of additive manufacturing technologies to the performance of orthopedic implants <i>Ameni El Abed, Houda Yahiaoui, Naoufel Ben Moussa</i>	Id (77)620607. Effect of Solvent on the Development of Graphene Oxide Coating as a Protective Layer on AZ31 Magnesium Alloy: In Vitro Biodegradation and Adhesion Behavior <i>ATALLAH Mohamed Salah, KHLIFI Kaouther, KHLIFI Akila</i>	Id (26)610885. Analyse de la stabilité d'un rotor mono-disque comprenant des anneaux en élastomère magnéto rhéologique <i>SAKLY Faiza, CHOUCHANE Mnaouar</i>
18H00 18H15	Id (15)606579. Effect of firing temperature and materials particle size distribution on the mechanical performances of Clay composite filled with Expanded Perlite <i>KAIBA Chaima, BOUMNIJEL Ibtissem, MIHOUBI Daoued</i>	Id (17)606698. Enhanced Surface Quality and Mechanical Properties of Ti-6Al-4V Alloy via Brushing and Electropolishing Post-Treatments in L-PBF Additive Manufacturing <i>KORTLI Houcem Edine, YAHYAOUI Houda, BEN MOUSSA Naoufel, GHANEM Farhat</i>	Id (96)615167. 3D pose estimation and REBA-based automated ergonomic risk assessment for industrial worker <i>ABIDI Ramzi, BENNOUR Sami, KAMMOUN Mohamed Ali, REZGUI Taysir, HAJEJ Zied</i>	Id (35)612693. Modeling and Analysis of a Piezoelectric Bimorph Energy Harvester with Honeycomb Sandwich Structures <i>MHIRI Mohamed Taha, LARBI Walid, GUERICH Mohamed, CHOUCHANE Mnaouar</i>
18H15 18H30	Id (34)612665. Bi-directional deflections of functionally graded plates: 3D FEM approach <i>Souhir ZGHAL, HADIRICH Ayman, KARMI Ahlem, BOUAZIZ Zoubeir</i>	Id (21)607978. Numerical Modeling of Local Mechanical Behavior in the Surface Layer During and After EDM <i>TLILI Adnene, GHANEM Farhat</i>	Id (115)612896. Numerical Modeling and Simulation of the Human Trachea Post-Endoprosthesis Insertion <i>JAZIRI Marwa, LARBI Badreddine, TRABELSI Olfa, AYADI Mahfoud</i>	Id (19)607641. Metaheuristic robot-human disassembly tasks assignment optimization <i>BELHADJ Imen, ZEDDINI Mohamed Ali, BEN ABDALLAH Mohamed Amine, AIFAOUI Nizar</i>

Vendredi matin / Friday morning : 02 / 05 / 2025

09H00 – 10H00	<p style="text-align: center;">Conférence Plénière 2 / Plenary Session 2 Pr. Mohamed HABIBI Fabrication additive intelligente et matériaux réactifs : Catalyseurs de la transition vers le manufacturier 5.0 Modérateurs : F. ZEMZEMI & S. GUELLOUZ</p>
10h00– 10h30	<p style="text-align: center;">Pause / break Session Posters Espace Clubs Jeunes</p>

Salle SP	Salle 1	Salle 2	Salle 3
Présidents : T. BEN AMEUR & G. LIMBERT	Présidents : N. BEN MOUSSA & R. ELLEUCH	Présidents : R. ENNATA & M. CHRIGUI	Présidents : W. ZAKI & A. ZNAIDI
Keynote 5 Recent Advances in Bulk Metallic Glasses for High-Performance Applications <i>Pr. Tarek BENAMEUR</i>	Keynote 6 Proposal for the manufacturing of personalized orthoses by 3D printing <i>Pr. Sami CHATTI</i>	Keynote 7 Green Hydrogen: Production and Use in Electricity Generation. <i>Pr. Ridha ENNETTA</i>	Keynote 8 Nitinol Architected Materials and Interpenetrating Phase Composites <i>Pr Wael ZAKI</i>
10H30 11H00			
11H00 11H15	Id (45)616640. Characterization and Sustainability Assessment of Plaster/Amend Shell Powder Composites for Thermal Insulation Applications <i>HACHEM Houda, BELFIKH Hedi, MIHOUBI Daoued</i>	Id (32)612376. Surface Roughness in PBF-LB/M Additive Manufacturing: A first investigation into the Role of Design and Thermal Factors <i>VEZIRIAN Antoine, ABROUG Foued, BAILI Maher, ARNAUD Lionel</i>	Id (29)611599. Magnetohydrodynamic Natural Convection in a Square-Curved Corners Enclosure: The Effect of Thermal Arrangements in Multi-Inner Pipes of Heat Exchangers <i>HASSAN ASIRI Wedad, ABDULKADHIM Ammar, IBRAHIM ELSAEEDY Halemah, MAHJOUB SAID Nejla</i>
11H15 11H30	Id (49)617761. Mechanical and thermal characterization of Plaster-based composites reinforced with expanded perlite and/or leather waste <i>BOUMNIJEL Ibtissem, KAIBA Chaima, BEN FRADJ Saouen, DAOUED Mihoubi</i>	Id (33)612474. Additive Manufacturing : Performance Evaluation for Sustainable and Efficient Production <i>HAJJI Amel, DHOUB Karem, GHARBI Ali</i>	Id (36)612909. Absorption cooling system investigation for tri-generation Application: industrial case study <i>SIOUD Doniazed, Raoudha Garma, Ahmed Bellagi</i>
			Id (95)612989. Effects of duplex carburizing-PVD treatments on the tribological behavior of Hardox 400 steel <i>KHALDI Abir, GHANEM Abdelkarim, TERRES Mohamed Ali</i>

11H30 11H45	Id (50)618040. Characterization of Viscoelastic Behavior in Relaxation and Evolution of the Shapery Model for mirror epoxy <i>DARDOURI Mohsen</i>	Id (42)615616. Detection and evaluation of porosity defect in 308L beads using the YOLOv8x computer vision model <i>OUSSAMA Trad, KHALFALLAH Souhaila, BEN KHALIFA Ated, ZEMZEMI Farhat, HAMDI Hedi</i>	Id (41)613393. Mechanical and Thermal Characterization of Composite Materials Based on Clay, Fired Clay Waste, and Sand: Effects of Firing and Composition Parameters <i>HFAIEDH Yosra, HACHEM Houda, MIHOUDI Daoued</i>	Id (97)616354. Effect of modulation period on mechanical properties of multilayered protective nanostructured coatings <i>CHAKROUN Nadia, Hedi Belhadjsalah</i>
11H45 12H00	Id (56)619173. Nanomechanical Properties of Zr-Based Bulk Metallic Glass: Insights from Experimental and Numerical Nanoindentation Prediction <i>BOUZAYENI Sami, GHARBI Fathi, BENAMEUR Tarek</i>	Id (43)615871. Robust Design of the Friction Stir Welded HDPE using the RDPP-SF method <i>REZGUI Mohamed-Ali, Ali Trabelsi, Marwen Amdouni, Salah Bejaoui, Khaled Hamrouni</i>	Id (51)618171. Optimal sites selection for green hydrogen production in Senegal from solar photovoltaic power plant using a GIS-AHP-based approach <i>DIOUF Mohamed, DIOUF Djicknoum, MANESCAU Brady, MAIGA Amadou Seidou</i>	Id (101)629419. Sustainable Polypropylene Composites Reinforced with Natural Fillers: An Analysis of Mechanical and Wear Performance <i>BARHOUMI Najoua, ATTIA-ESSAIES Sameh, SAMET Amel, KHLIFI Kaouther, MAJID Fatima</i>
12H00 12H15	Id (66)620445. A decoupled homogenization methodology for fibre-reinforced composites with fibre-bending stiffness <i>GAMRA Anwar, MANSOURI Khalil, RENARD Yves, ARFAOUI Makrem, HOMOLLE Thomas</i>	Id (55)618921. Heat source model calibration for the simulation of LSC-GMAW additive manufacturing Process of SS 316L <i>BOUZGAROU Kamar, MZALI Foued, BEN KHALIFA Ated</i>	Id (53)618569. Enhancing Building Energy Efficiency: A Pathway to Sustainable Development <i>EZZAALOUNI Yathreb, BEN ABID Taycir</i>	Id (104) 601553. Investigation of Poly(2-acrylamido-2-methyl-1-propanesulfonic acid-co-acrylonitrile) / β -Galactosidase complex structure by Image Dynamic Light Scattering <i>RJILI Mohamed, ASCHI Adel</i>
12H15 12H30	Id (67)620505. Numerical Analysis of the Mechanical Behavior of Date Palm Fiber-Reinforced polylactide Bio-composite <i>Ghalia Nhassa , Romdhane Ben Khalifa , Ali Snoussi</i>	Id (137)629450. Material instabilities in an incompressible transversely isotropic hyperelastic hollow cylinder under radial inflation <i>MATHLOUTHI Safa, TRIFA MOHAMED, ARFAOUI MAKREM</i>		Id (106)605551. Experimental Investigation of the Mechanical Properties of Cement Mortar Incorporating Recycled Polyurethane Particles <i>CHAABEN Rihem, BAHRI Amir, ELLEUCH Khaled</i>

12H30– 14h00

Déjeuner / Lunch

Vendredi après midi / Friday afternoon : 02 / 05 / 2025

Conférence Plénière 3 / Plenary Session 3

Pr. Moncef GABBOUJ :

14h00 – 14h45

Le Deep Learning et ses applications diverses
Modérateurs : F. ZEMZEMI & T. BEN AMEUR

Salle SP	Salle 1	Salle 2	Salle 3
Présidents : T. BEN ZINEB & W. ZAKI	Présidents : H. MAROUANI &	Présidents : M. CHRIGUI & B. CHEBBI	Présidents : A. ZNAIDI & K. KHELIFI
Keynote 9 Analyse numérique multi-échelles de la réponse des structures poreuses ou architecturées en alliages à mémoire de forme par les méthodes des éléments finis au carré et basées sur les données <i>Pr. Tarak BEN ZINEB</i>	Keynote 10 Fatigue Performance and Predictive Modeling of 3D Printed PLA: Towards Reliable Additive Manufacturing of Polymers <i>Pr. Haykel MAROUANI</i>	Keynote 11 Turbulence Modeling: A Pillar of Fluid Mechanics <i>Pr. Mouldi CHRIGUI</i>	Keynote 12 Sur une nouvelle stratégie d'identification des lois de comportement des matériaux métalliques <i>Pr. Amna ZNAIDI</i>
Id (79)629054. Prediction of 3-layer Laminate Shells Failure: A Comparative Study of Machine Learning Algorithms <i>REZGUI Taysir, KNANI Bchira, HELAILI Sofiene</i>	Id (75)620592. Surface characterization of abrasive waterjet-machined composites: Contribution of 3D topography analysis <i>CHAOUCH Faten, BEN KHALIFA Ated, ZITOUNE Redouane, ZIDI Mondher</i>	Id (62)620268. Using Laser Bessel beams to measure fluid flow velocity <i>CHEBBI Brahim, SAKAH Mahmud</i>	Id (107)606606. Drying kinetics and Mechanical performances of a Kaolin-based composite filled with expanded Perlite <i>KAIBA Chaima, BOUMNIJEL Ibtissem, MIHOUBI Daoud</i>
Id (84)629424. Enhancing Viral Protection and Scratch Resistance of Stainless Steel Surfaces with Copper Oxide Coating <i>MANNAI Zied, KHLIFI Kaouther</i>	Id (81)629413. AI/ML-Driven Hybrid Life Cycle Assessment for Greening Manufacturing Systems <i>BEN SLAMA Hadhami, GAHA Raoudha, CHATTI Sami</i>	Id (64)620293. POD-based reduced order model for transitional flow dynamics in a stenotic vessel <i>Ameni Trigui, Maher Ben Cheikh, Bruno Gilles, Jean Christophe Béra</i>	Id (109)610093. Microstructural Evolution and Damage Mechanisms in SMC Composites: A Detailed Microscopic Study Before and After Accelerated Wet Aging <i>ABDESSALEM Abir, TAMBOURA Sahbi, BEN DALY Hachmi, FITOUESSI Joseph</i>
Id (85)629426. Enhancing Predictive Accuracy in FSSW Simulations Using Design of Experiments on Johnson-Cook Parameters <i>HANNACHI Nasra, KHALFALLAH Ali, LEITÃO Carlos, RODRIGUES Dulce</i>	Id (88)629436. Experimental study on surface roughness in end-ball milling of inclined Toolox 33 steel surfaces <i>Lotfi Dahmani, Boujemaa Hadj Brahim, Slimen Attyoui, Mohamed Nasser</i>	Id (78)628562. Etude numérique de l'écoulement de base dans des canaux complexes <i>SOUSSI Faika, GUELLOUZ Mohamed Sadok, BEN SALAH Nizar</i>	Id (118)616678. Multiaxial Fatigue Limit of V-Notched AISI 416 Steel based on Affected Depth approach <i>YOUSSEF Marwa, NASR Anouar, MAJED Nesrine</i>

16H00 16H15	Id (86)629432. Effects of Particle Size and Sonication Parameters on the Mechanical and Energy Harvesting Performance of BaTiO ₃ -P(VDF-HFP) Composite Nanogenerators <i>NAIFAR Slim, BENBRAHIM Fatma, AYADI Mohamed Dhaia, KANOUN Olfa</i>	Id (98)618691. Machine Learning Prediction of Mechanical Properties of PA12/CF Parts Based on FDM Parameters <i>SOUUD Mohamed Amine, TIMOUMI Mohamed, BARHOUMI Najoua, LAMNAWAR Khalid</i>	Id (83)629423. Influence of Intake Temperature on Spray Vaporization in Methanol Diesel Dual-Fuel Engines <i>HAMDI Fathi, HAMDI Takwa, HERNÃjNDEZ Juan J., CHRIGUI Mouldi</i>	Id (119)620584. Laser welding joining of glass fiber reinforced thermoplastic composite and DP600 steel dissimilar joint <i>BOUKHADRA Khaoula, JENDLI Zouhaier, WALRICK Jean Christophe, KOUADRI-HENNI Afia</i>
16H15 16H30	Id (92)629452. Enhanced Tribological Properties of AZ31 Magnesium Alloy with Chitosan/Graphene Oxide Composite Coating <i>Mohamed salah Atallah , Akila Khelifi , Ali Beskri , Kaouther Khelifi , Najoua Barhoumi</i>	Id (103)629445. Optimization of Laser Metal Welding Process Parameters of Ti-6Al-4V Plates. <i>FRIJA Mounir, JABLAOUI Nour</i>	Id (91)629443. The impact of integrating latent heat storage (LHS) on the performance of a solar-assisted heat pump (SAHP) system used for greenhouse heating <i>MEZNI Taoufik, Sameh Agrebi, AmenAllah Guizani</i>	Id (120)620599. Hygrothermal behaviour of composite tubes exposed to acid solution <i>BRAHEM Nesrine, ATED Ben Khalifa, LAGACHE Manuel, BRAIEK Sonia, MONDHER Zidi</i>

Mini Symposium Industrie 5.0	Plénières	16H30 17H00	Pr. DALLAGI Sofiene, Université de Lorraine - France <i>Optimizing Operations in the Era of Industry 5.0: A Cross-Industry Perspective with Potential Healthcare Application</i>
		17H00 17H30	Pr. BENNOUR Sami, Université de Monastir / Sousse - Tunisie <i>New approaches for detecting and monitoring musculoskeletal disorders using smart wearable sensors</i>
Présentations et débat	17H30 17H45	<i>Production Planning and control of a Production cell prone to random degradation</i> HMAIED Yasmine, BOUABID Hanen, DHOUIB Karem, GHARBI Ali	
	17H45 18H00	<i>Dynamic Ergonomic Job Rotation Based on Cumulative Fatigue Levels for Optimized Production Planning and Ergonomic Risk Mitigation</i> EL MABROUK Oumayma, KAMMOUN Mohamed Ali, BENNOUR Sami, HAJEJ Zied, REZGUI Taysir	
	18H00 18H15	<i>Numerical modeling and optimization of a smart 3dprinted support for vibration control</i> KIBBOU El Mehdi, RAJOUH Meriem, ENNABRAOUI Omar, KLÓSAK Maciej, WOJCIECHOWSK Szymon, DELLAGI Sofiene, MOUFKI Abdelhafdi	
	18H15 18H30	<i>Revolutionizing Operations: The Role of Artificial Intelligence in Production Scheduling and Supply Chain Excellence in Industry 5.0</i> BEN CHIHAOUI Faten	
	18H30 18H45	Smart Predictive Maintenance of Bearings: Data-Driven Fault Prediction <i>BEN HASSENA Amine</i>	
	18H45 19H00	Bone drilling system with vibration control and osteonecrosis prediction <i>RAJOUH Mariam, KIBBOU El Mehdi, BENDARMA Amine, ELGAROUGE Salwa, KLÓSAK Maciej, WOJCIECHOWSK Szymon, MOUFKI Abdelhadi</i>	

Mini Symposium Textile	Plénières	16H30	Pr. Saber BEN ABDESSLAM – Université de Monastir
		17H00	<i>Les textiles techniques et leurs applications</i>
		17H00	Haythem Haddad (SITEX)
	Présentations & débat	17H30	<i>Secteur Textile, Circularité et Exigences Internationales : La SITEX au Cœur de l'Innovation</i>
		18H00	El Mohsen Missaoui (CETTEX)
	Présentations & débat	17H30	<i>Pour une innovation et une recherche textile responsables</i>
		18H00	SimaPro® as a Life Cycle Assessment Tool: Features and a Case Study on Jeans Washing
		18H15	<i>Mouna Hadj Nasr, Hassen Hedfi, Ayda Baffoun</i>
		18H15	Débat

Mini Symposium Energie	Plénières	16H30	Mme Amani CHARRAD (PCN "Widening", UGPO - Horizon Europe, MESRS)
		17H00	<i>"HOP-ON" du Programme Horizon Europe</i>
	Présentations & débat	17H00	Prof. Foued MZALI (Université de Monastir -TN)
		17H30	<i>Présentation du Projet HEU OpenMod4Africa et la procédure d'accès au projet</i>
	Présentations & débat	17H30	<i>Modélisation des systèmes énergétiques à l'aide de GENeSYS-MOD. Implémentation d'une région</i>
		17H45	Intissar ZAMMEL
	Présentations & débat	17H45	<i>Analyse des scénarios énergétiques à long terme à l'aide de GENeSYS-MOD</i>
		18H00	Ahlem HOUCINE , Foued MZALI , Maher BENCHIEKH
		18H00	Débat

	CONCOURS MEILLEUR POSTER (VOTE)
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Samedi matin / Saturday morning : 03 / 05 / 2025

09H00 – 10H00	Conférence Plénière 4 / Plenary Session 4 Dr. Amani CHARRAD Les opportunités des instruments "Widening" dans le programme Horizon Europe Modérateurs : F. ZEMZEMI & T. BEN AMEUR
10h00– 10h30	Pause / break Session Posters Espace Clubs Jeunes

	Salle SP	Salle 1	Salle 2	Salle 3
10H30 11H00	Présidents : S. KOUBAA & M. ARFAOUI Keynote 13 Computational strategy for quasi-brittle fracture via phase-field modeling: toward multiphysics integration <i>Pr. Sana KOUBAA</i>	Présidents : M. GUEDRI Keynote 14 Conception robuste en dynamique des structures mécaniques <i>Pr. Mohamed GUEDRI</i>	Présidents : M. BACCAR & Keynote 15 Modélisation numérique du comportement hydrodynamique et des phénomènes de transfert thermosolutal induits dans un étang solaire <i>Pr. Mounir BACCAR</i>	Présidents : N. FEKI & Keynote 16 Advanced hybrid approaches for predictive maintenance 4.0: Integrating physics-based models and AI <i>Pr. Nabih FEKI</i>
11H00 11H15	Id (121)629047. Vibration performance of a lightweight natural fiber reinforced composite footbridge <i>HELAILI Sofiene, REZGUI Taysir, NAJAR Fehmi, CHAFRA Moez</i>	Id (47)616950. A multi-scale patch approximation for Poisson problems with a small inhomogeneous inclusion <i>AMDOUNI Saber, GDOURA Mohamed Khaled, HEIBIG Arnaud, HOMOLLE Thomas, MANNAI Nidhal, PETROV Adrien, RENARD Yves</i>	Id (94)630043. CFD Study of a Wind Catcher-Evaporative Cooling System for Poultry Climate Control <i>FEZAI Mariem, Mouna Elakhdar, Khaled El Moueddeb</i>	Id (20)607761. Heuristic-Based Pathfinding in FreeCAD: Length, Energy and Hybrid Optimization <i>NHOUCI Ahmed, Salma BEN SAID, BEN ABDALLAH Mohamed Amine, AIFAOUI Nizar</i>
11H15 11H30	Id (122)629053. Etude Expérimentale des Assemblages à Simple Recouvrement : Influence des Paramètres du Processus sur la Résistance Mécanique <i>HAMDI Faouzi, BOULILA Atef, NASRI Mohamed Toumi</i>	Id (54)618641. Optimization of the number and location of piezoelectric patches bonded on a rotor shaft surface using an iterative method <i>BRAHEM Maryem, CHOUCANE Mnaouar</i>	Id (102)629444. Numerical and experimental study of an innovative heat exchanger design with phase change materials for enhanced latent heat thermal storage <i>AGREBI Sameh, MEZNI Taoufik</i>	Id (52)618568. Advancing sustainable performance in Green Logistics through Industry 4.0 innovations <i>BEN ABID Taycir, EZZAALOUNI Yathreb</i>

11H30 11H45	<p>Id (123)629056. Electrochemical Properties of PbS Decorated TiO₂ Nanotubes Via SILAR for Biomedical Applications <i>GHOZLANI Jabeur, DHIFLAOUI Hafedh, HAJJAJI Anouar, TERRES Mohamed Ali</i></p>	<p>Id (63)620270. Comparative Analysis of LQR and PI Control Strategies for Active Vibration Mitigation in Flexible Structures <i>MAYSSA Touil, BEN HASSEN Dorra, CHÂARI Riadh, HADDAR Mohamed</i></p>	<p>Id (105)602393. Simulation on optical and thermal performance of a cylindrical cavity receiver in a parabolic dish collector system <i>HOUDA Zagrouba, Ali Snoussi</i></p>	<p>Id (69)620549. An efficient many-objective heuristic approach for constrained engineering design <i>NAJLAOUI Bilel, GRAA Mortadha, AFFI Zouhaier, ROMDHANE Lotfi</i></p>
11H45 12H00	<p>Id (128)629431. Analytical Study of Stress Distribution in MWCNT Nanocomposite Films on Flexible Substrates under Residual Stresses and Unidirectional Loading <i>BOUHAMED Ayda, KANOUN Olfa</i></p>	<p>Id (65)620439. Influence of bonding layer and fiber thickness on the performance of Macro fiber Composites <i>MALLOULI Marwa, CHOUCANE Mnaouar</i></p>	<p>Id (111)611353. Parametric study of assisted solar absorption chiller <i>ABED Amani, BOUKHCHANA Yasmina, FELLAH Ali</i></p>	<p>Id (110)610777. Modélisation numérique du procédé de soudage par résistance par la méthode SPG. <i>MOUSSA Kahri, ROMDHANE Othmani, SHIRI Seddik</i></p>
12H00 12H15	<p>Id (129)629433. Improvement of Mechanical Properties and Antibacterial Behavior of 316L Stainless Steel through Zinc Oxide Nanocoating for Biomedical Applications <i>KHLIFI Kaouther, MANNAI Zied</i></p>	<p>Id (90)629439. Numerical and Experimental Investigation of Propeller 1045 Thrust <i>Lotfi LAKHDHAR, Abdallah BOUABIDI , Ali SNOUSSI</i></p>	<p>Id (114)612700. Experimental Investigation of Energy Consumption during Convective Drying Using Phase Change Materials <i>BEN MUSTAPHA Nour El Houda, HACHEM Houda, MIHOUBI Daoud</i></p>	<p>Id (124)629408. Intelligent control of active vehicle suspension systems using advanced reinforcement learning algorithms <i>DRIDI Issam, HAMZA Anis, BEN YAHIA Noureddine</i></p>
12H15 12H30	<p>Id (130)629434 Investigation of Physical and Mechanical Characteristics of Palm Fiber Reinforced Composites <i>CHAARI Rania, KHARRAT Fatma</i></p>	<p>Id (108)609116. Effect of Al content on the elastoplastic properties of CrAlN coatings studied by means of nanoindentation and finite element-reverse analysis <i>BEN AMMAR Yamen, BOUCHOUCHA Faker, GASSARA Adnan, AOUADI Khalil, BESNARD Aurelien, NOUVEAU Corinne,</i></p>	<p>Id (116)613272. Theoretical Investigation of Steam Ejector Design for Performance Optimization <i>SIOUD Doniazed, Raoudha Garma, Ahmed Bellagi</i></p>	<p>Id (140)636661. Synthesis of flexible multibody systems using SALP Swarm Algorithm Optimisation <i>KHEMILI Imed, Imen BELHADJ, Mohamed Amine Ben Abdallah, Nizar Aifaoui</i></p>

12H30 – 14h00

Déjeuner / Lunch

Samedi après midi / Saturday afternoon: 03 / 05 / 2025

Conférence Plénière 4 / Plenary Session 4

Pr. Elhem GHORBEL

14h00 – 14h45

Impact des Matériaux sur le Réchauffement Climatique : Analyse par l'ACV pour une Efficacité Environnementale améliorée

Modérateurs : N. BEN MOUSSA & F. DJEMAL

	Salle SP	Salle 1	Salle 2	Salle 3
	Présidents : K. KHELIFI &	Présidents : A. BEN KHELIFA	Présidents : N. BEN SALAH &	Présidents : N. FEKI &
14H45 15H15	Keynote 17 Revêtements biomédicaux pour implants temporaires bio dégradables en alliage de magnésium <i>Pr. Kaouthar KHELIFI</i>	Keynote 18 Fabrication additive métallique par le procédé WAAM : de la conception au post traitement <i>Pr. Ated BEN KHALIFA</i>	Keynote 19 Complex Channels Flow: From the Basic Flow to Coherent Strucrtures Onset <i>Prof. Nizar BEN SALAH</i>	Keynote 20 La robotique au service de la santé humaine <i>Prof. Abdelfattah MLIKA</i>
15H15 15H30	Id (131)629441. Investigations of in-plane shear properties of ±45 Carbon Fabrics using Bias-Extension Test and Optical Measurement <i>Mondher Nasri, Houda Khaterchi, Olivier Dalverny, Ali Zghal</i>	Id (112)611717. New Approach to creating customized products using 3D printing <i>FOUED Gassoumi, Ameni ELTAIEF, Farhat ZEMZEMI</i>	Id (126)629425. A case Study on Diesel Engine Combustion Behavior: Numerical Simulations and Insights <i>GASSOUMI Mehrez, MONDO Kambale, ENNETTA Ridha</i>	Id (31)611736. Fit Approximation of 3D Sphericity Errors using Radial Basis Functions <i>RADHOUAN Ali, GHALI Marwa, AIFAoui Nizar</i>
15H30 15H45	Id (135)629448. Adhesion Behavior of Hydrogenated Amorphous Carbon (a-C=H) Film Deposited on AZ31 Magnesium Alloy for Temporal Implant Applications <i>BESKRI Ali, Mohamed salah Atallah, Akila Khilfi, Kaouthar Khilfi, Masoud Atapour</i>	Id (113)611861. Experimental study of cutting parameters effects and combined optimization of quality-productivity during turning of Inconel 718 <i>FRIFITA Wassila, Sahbi BEN SALEM, Abdelkrim haddad, Mohamed Athmane YALLESE</i>	Id (127)629429. Optimization of Pyramid Solar Still Performance Through Fins: Experimental and CFD Analysis <i>MEKKI Nabiha, DHAOUI Sirine, BOUABIDI Abdallah</i>	Id (60)620235. A comparative study of accuracy in Optimized and Non-Optimized Parallel Manipulators <i>EL HRAIECH Safa, AFFI Zouhaier, ROMDHANE Lotfi</i>

15H45 16H00	Id (139)631556. Dynamic Characterization of the Fe-28Mn-6Si- 5Cr Iron-Based Shape Memory Alloy via Impact Testing <i>MEGDICHE Malek, FTOUTOU Ezzeddine, HELLARA Myriam, BOURAOUI Tarak</i>	Id (125)629420. Slug impact on punching quality in case of various punch-die clearance and velocity <i>ZEIDI Abdelwaheb, BAHRI Amir, ELLEUCH Khaled</i>	Id (133)629446. Geometric design optimization for improved thermal performance in a solar air collector <i>Walid Ben Amara, Walid Zaafouri and Abdallah Bouabidi</i>	Id (99)629050. Development of a Cost-Effective Navigation System for Differential Drive Robots Using LowCost Sensors and Optimized Control Algorithms <i>BELGHITH Mohtadi, REZGUI Taysir, CHOURA Slim</i>
16H00 16H15	Id (70)620550. Mechanical Performance of Additively Manufactured Polylactic Acid Parts <i>BOUDABBOUS Mohamed Iskander, BELHADJ Asma, SLAMA Salma, ZIADIA Abdelhamid, HABIBI Mohamed</i>	Id (132)629442. Finite Element Simulation of Laser Welding for Ti-6Al-4V Titanium Alloy Plates <i>JABLAOUI Nour, FRIJA Mounir</i>	Id (134)629447. Enhancing Darrieus Rotor Performance with Innovative Deflector Integration <i>RABEH Nour, Ahmed Ayadi, Ridha Enetta</i>	
16H15 16H30		Id (136)629449. Effect of Laser Processing Parameters on the Porosity and Density of Ti-6Al-4V Parts Produced by Selective Laser Melting SLM <i>SELMI Narjess, kaouther khelifi</i>	Id (138)630045. Thermal Energy Storage Potential of Desert Sand: Experimental Analysis and Performance Evaluation <i>HAMDI Fakher, NOURHENE JEMNI, ZAINEB TOUATI, RIDHA ENNETTA</i>	

Session Poster

id (01)595425.	The impact of glass fiber orientation in polyamide 6,6 on the friction coefficient during short dry sliding	MISSAOUI Sami, AUTAY Riadh, DRISS Zied
id (02)595429.	The effect of varying the contact face on the friction coefficient of glass fiber-reinforced polyamide 66 (PA66) composites against a steel surface	MISSAOUI Sami, AUTAY Riadh, DRISS Zied
id (03)595441.	Experimental Investigation of the Coefficient of Friction in Short Glass Fiber-Reinforced Polyamide 66 Matrix Composites	MISSAOUI Sami, AUTAY Riadh, DRISS Zied
id (10)605422.	Investigation of palm fiber composites : Experimental approach	ISSAMI Ikram, LTAIF Lammeri, Sana BEN KHALIFA
id (16)606642.	Impact of chitosan on microstructural properties and adhesion of hydroxyapatite coatings on Ti6Al4V alloy via electrophoretic deposition	KAMMOUN Jassem, DHIFLAOUI Hafedh, BEN MOUSSA Naoufel
id (18)606730.	A Comprehensive Biomechanical Model of the Left Ventricle: Integration of Orthotropic Transverse Hyper elasticity and Static Simulation	KRAIEM Tesnim, ARFAOUI Makram, AWADI Rania
id (24)610443.	Operating parameters effect on a double pendulum energy harvester	MRAD Charfeddine
id (25)610884.	Fatigue Study of AlSi10Mg Alloy as built	CISSE Ibrahim Kalil, NASR Anouar
id (27)610895.	Réduction des vibrations d'un rotor mono-disque comprenant des anneaux en élastomères magnéto et électro rhéologique	SAKLY Faiza, CHOUCHANE Mnaouar
id (38)613018.	Post-Additive Manufacturing Surface Enhancement: Effect of Wire Brush hammering on Surface Integrity and Roughness	MANNENA Sahraoui, YAHYAOUI Houda, BEN MOUSSA Naoufel, HABIBI Mohamed
id (39)613073.	Characterization of amorphous metallic alloys through scratch tests	BOUZAKHER Bechir, SELMI Narjes, BEN AMEUR Tarek

id (44)616456.	Detection of Instability Criteria for Conventional Rigid Journal Bearings Using a Nonlinear Hydrodynamic Force Model	AMAMOU Amira, AMAMOU Amani
Id (46)616804.	Overview of product and production process model integration in mechatronic system development using the MBSE approach	BOUZID Wafa
id (48)617524.	Machine Learning models for predicting fatigue life of the aluminum alloy AA2024-T351 in Low Cycle Fatigue	KHADIMALLAH Aymen, ZNAIDI Amna, HFAIEDH Naila, PETIT Johann
Id (57)619518.	Effect of the Bionic Scapharca Shell Piston Shape of a Gaseous Engine Efficiency.	HADJKACEM Sahar
Id (58)620116.	Analysis of 3D-Printed Anti-Trichiral Structures under uniaxial Cyclic Loading and Unloading	KHATERCHI Houda, ALLEGUE Lamis, BEN KHALIFA Ated, NASRI Mondher, ZIDI Mondher
id (59)620233.	CFD simulation of melting process of Phase Change Material (PCM) in rectangular capsule	AMAMOU Amani
id (61)620250.	Hydrodynamic Behavior of Offset Jets Under Various Situations	AMAMOU Amani
id (71)620566.	Numerical Study of the Mechanical Behavior of FDM-Manufactured Parts	BOUDABBOUS Mohamed Iskander, SLAMA Salma, BELHADI Asma, ZIADIA Abdelhamid, HABIBI Mohamed
id (72)620580.	Impact of the post processing heat treatment on the microstructure and mechanical properties of SLMed AISI 316L stainless steel	YAHYOUI Houda, BEN MOUSSA Naoufel, HABIBI Mohamed, BARKIA Bassem, BRAHAM Chedly
id (73)620587.	Numerical Investigation of the Airflow Surrounding Tomato Crops in a Soilless Greenhouse	ZGHAL Olfa, ABID Hasna, KETATA Ahmed, DRISS Zied
id (74)620591	Mechanical and antibacterial properties of denture base resins containing copper oxide nanoparticles	BEN AISSA Chokri, BARHOUMI Najoua, KHLIFI Kaouther, KARKOUCH Ines, WIEM Bousslama, BEN SGHAIER Rafika
id (76)620601.	Development and Characterization of two Biodegradable Bio composite Material Reinforced with Jute Fabric and Raphia Fibers	TOUNSI Amer, SLIMANI Faouzi, RABHI Neji, GHANMI Samir, GUEDRI Mohamed
id (82)629418.	CFD Analysis: Glass Angle Variation in Solar still	DHAOUI Sirine, MEKKI Nabiha, BOUABIDI Abdallah
id (87)629435.	Automated Solution for 3D CAD Model Assessment	ELTAIEF Amen
id (89)629438.	Fused Deposition Modeling for medical application: a literature review,	GHANMI Ines
id (100)629051.	Impact of CuOy-NPs/TiO ₂ -NTs on Anti-Corrosion and Anti-Wear Applications for Implants	DHIFLAOUI Hafedh, SASSI Sirine, HAJJAJI Anouar
id (117)616260.	Optimal Sensor Placement for a Truss Structure Using a Modified Genetic Algorithm	MOUSSA Hathemi
id (141)706261.	Towards an improving Cutting Tool Life through CFD Driven Design of Internal Cooling Channels	Oussema Ben Rejeb, Ibtihel Maalaoui, Hatem Kanfoudi, Ghazi Belkhal, Tarek Mabrouki, Temel Varol
id (142)706262.	Numerical Investigation of a Spiral-Shaped Solar Air Heater under Varying Solar Flux	Walid Zaafouri, Walid Ben Amara, Abdallah Bouabidi
id (143)706263.	Automated Solution for 3D CAD Model Assessment	AMENI ELTAIEF, SABRINE BEN AMOR, BORHEN LOUHICHI
id (144)706264.	Uniaxial and Biaxial characterization of PLA biocomposites films: Application of 3D-DIC for thickness instability detection	Fakher KHARRAT, Mohamed KHLIF, Mohamed HABOUESSI, Chedly BRADAI
id (145)706265.	Sustainable approach: using agricultural waste to reinforce biodegradable polymers in the circular economy	Wafa Khmira, Sameh Attia-Essaias, Mehdi Ismail, Najoua Barhoumi, Kaouther Khelifi