



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

Ouverture / Opening

15h00– 15h45

Pr. Tarak BOURAOUI : Président du congrès

Pr. Nizar BEN SALAH : Président du comité scientifique

Pr. Farhat ZEMZEMI : Président du comité d'organisation

Conférence Plénière 1 / Plenary Session 1

15h45– 16h30

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	Présidents : N. AIFAOUÏ & Z. BOUAZIZ
	Keynote 1	Keynote 2	Keynote 3	Keynote 4
16H30 17H00	Unravelling the interplay of structural and material properties of skin <i>Pr. Georges LIMBERT</i>	Tool steels: New developments, Manufacturing techniques, Heat Treatment and Mechanical properties <i>Pr. Riadh ELLEUCH</i>	Biomécanique du disque intervertébral - vers un diagnostic de la dégénérescence discale <i>Pr. Olivier BOIRON</i>	Expectations of advanced CAD systems in the era of Industry 5 and 6.0 <i>Pr. Nizar AIFAOUÏ</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 Nouredine</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 Bisma, 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 Nouredine</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, CHOUCANE 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, CHOUCANE Mnaouar</i>
18H15 18H30	Id (34)612665. Bi-directional deflections of functionally graded plates: 3D FEM approach <i>Souhir ZGHAL, HADRICH Ayman, KARMI Ahlem, BOUAZIZ Zoubair</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 Oifa, AYADI Mahfoud</i>	Id (19)607641. Metaheuristic robot-human disassembly tasks assignment optimization <i>BELHADJ Imen, ZEDDINI Mohamed Ali, BEN ABDALLAH Mohamed Amine, AIFAOU Nizar</i>

Vendredi matin / Friday morning : 02 / 05 / 2025

09H00 – 10H00	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
10h00– 10h30	Pause / break Session Posters Espace Clubs Jeunes

	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
10H30 11H00	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 Enhanced Water Quality Prediction <i>Pr. Ridha ENNATTA</i>	Keynote 8 Nitinol Architected Materials and Interpenetrating Phase Composites <i>Pr Wael ZAKI</i>
11H00 11H15	Id (45)616640. Characterization and Sustainability Assessment of Plaster/Amend Shell Powder Composites for Thermal Insulation Applications <i>HACHEM Houda, BELFKIH 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 ELSAEDY Halemah, MAHJOUR SAID Nejla</i>	Id (93)630042. Design and optimization of curved grid sub-stiffened composite panels <i>CHARGAOUI Hamda, SOULA Mohamed</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 Safouen, DAOUED Mihoubi</i>	Id (33)612474. Additive Manufacturing : Performance Evaluation for Sustainable and Efficient Production <i>HAJJI Amel, DHOUIB 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>DIOP 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**14h00 – 14h45****Conférence Plénière 3 / Plenary Session 3****Pr. Moncef GABBOUJ :**

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>
14H45 15H15	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 Daoued</i>
15H15 15H30	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 Chiekh, 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, FITOUSSI Joseph</i>
15H30 15H45	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 Attyaoui, Mohamed Nasser</i>	Id (78)628562. Etude numérique de l'écoulement de base dans des canaux complexes <i>SOUISSI 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>
15H45 16H00				

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 Dhia, KANOUN Olfa</i>	Id (98)618691. Machine Learning Prediction of Mechanical Properties of PA12/CF Parts Based on FDM Parameters <i>SOUDAN 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, HERNÁNDEZ 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>
	Id (92)629452. Enhanced Tribological Properties of AZ31 Magnesium Alloy with Chitosan/Graphene Oxide Composite Coating <i>Mohamed salah Atallaha , 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, DHOUB 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 CHIAOUI 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 17H00	Pr. Saber BEN ABDESSLAM – Université de Monastir <i>Les textiles techniques et leurs applications</i>
		17H00 17H30	Haythem Haddad (SITEX) <i>Secteur Textile, Circularité et Exigences Internationales : La SITEX au Cœur de l'Innovation</i>
		17H30 17H45	El Mohsen Missaoui (CETTEX) <i>Pour une innovation et une recherche textile responsables</i>
	Présentations & débat	17H30 17H45	SimaPro® as a Life Cycle Assessment Tool: Features and a Case Study on Jeans Washing <i>Mouna Hadj Nasr, Hassen Hedfi, Ayda Baffoun</i>
		17H45 18H15	Débat

Mini Symposium Energie	Plénières	16H30 17H00	Mme Amani CHARRAD (PCN "Widening", UGPO - Horizon Europe, MESRS) <i>"HOP-ON" du Programme Horizon Europe</i>
		17H00 17H30	Prof. Foued MZALI (Université de Monastir -TN) <i>Présentation du Projet HEU OpenMod4Africa et la procédure d'accès au projet</i>
	Présentations & débat	17H30 17H45	<i>Modélisation des systèmes énergétiques à l'aide de GENeSYS-MOD. Implémentation d'une région</i> Intissar ZAMMEL
		17H45 18H00	<i>Analyse des scénarios énergétiques à long terme à l'aide de GENeSYS-MOD</i> Ahlem HOUCINE , Foued MZALI , Maher BENCHIEKH
		18H00 18H30	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
	Présidents : S. KOUBAA & M. ARFAOUI	Présidents : M. GUEDRI	Présidents : M. BACCAR &	Présidents : N. FEKI &
	Keynote 13	Keynote 14	Keynote 15	Keynote 16
10H30 11H00	Computational strategy for quasi-brittle fracture via phase-field modeling: toward multiphysics integration <i>Pr. Sana KOUBAA</i>	<i>Pr. Mohamed GUEDRI</i>	Modélisation numérique du comportement hydrodynamique et des phénomènes de transfert thermosolutal induits dans un étang solaire <i>Pr. Mounir BACCAR</i>	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>NHOUCHI 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 Mnaouer</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	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>	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>	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>	Id (69)620549. An efficient many-objective heuristic approach for constrained engineering design <i>NAJLAOUI Bilel, GRAA Mortadha, AFFI Zouhaier, ROMDHANE Lotfi</i>
11H45 12H00	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 Oifa</i>	Id (65)620439. Influence of bonding layer and fiber thickness on the performance of Macro fiber Composites <i>MALLOULI Marwa, CHOUCANE Mnaouer</i>	Id (111)611353. Parametric study of assisted solar absorption chiller <i>ABED Amani, BOUKHCHANA Yasmina, FELLAH Ali</i>	Id (110)610777. Modélisation numérique du procédé de soudage par résistance par la méthode SPG. <i>MOUSSA Kahri, ROMDHANE Othmani, SHIRI Seddik</i>
12H00 12H15	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>	Id (90)629439. Numerical and Experimental Investigation of Propeller 1045 Thrust <i>Lotfi LAKHDHAR, Abdallah BOUABIDI, Ali SNOUSSI</i>	Id (114)612700. Experimental Investigation of Energy Consumption during Convective Drying Using Phase Change Materials <i>BEN MUSTAPHA Nour El Houda, HACHEM Houda, MIHOUBI Daoued</i>	Id (124)629408. Intelligent control of active vehicle suspension systems using advanced reinforcement learning algorithms <i>DRIDI Issam, HAMZA Anis, BEN YAHIA Nouredine</i>
12H15 12H30	Id (130)629434 Investigation of Physical and Mechanical Characteristics of Palm Fiber Reinforced Composites <i>CHAARI Rania, KHARRAT Fatma</i>	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>	Id (116)613272. Theoretical Investigation of Steam Ejector Design for Performance Optimization <i>SIOUD Doniazed, Raoudha Garma, Ahmed Bellagi</i>	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>

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 & Keynote 17	Présidents : A. BEN KHELIFA Keynote 18	Présidents : N. BEN SALAH & Keynote 19	Présidents : N. FEKI & Keynote 20
14H45 15H15	Revêtements biomédicaux pour implants temporaires bio dégradables en alliage de magnésium <i>Pr. Kaouthar KHELIFI</i>	Fabrication additive métallique par le procédé WAAM : de la conception au post traitement <i>Pr. Ated BEN KHALIFA</i>	Complex Channels Flow: From the Basic Flow to Coherent Structures Onset <i>Prof. Nizar BEN SALAH</i>	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 $\pm 45^\circ$ 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, AIFAOU 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 Khelifi, Kaouthar Khelifi, 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 Sefa, 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 Zaafour 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	<i>MISSAOUI Sami, AUTAY Riadh, DRISS Zied</i>
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	<i>MISSAOUI Sami, AUTAY Riadh, DRISS Zied</i>
id (03)595441.	Experimental Investigation of the Coefficient of Friction in Short Glass Fiber-Reinforced Polyamide 66 Matrix Composites	<i>MISSAOUI Sami, AUTAY Riadh, DRISS Zied</i>
id (10)605422.	Investigation of palm fiber composites : Experimental approach	<i>ISSAMI Ikram, LTAIF Lammeri, Sana BEN KHALIFA</i>
id (16)606642.	Impact of chitosan on microstructural properties and adhesion of hydroxyapatite coatings on Ti6Al4V alloy via electrophoretic deposition	<i>KAMMOUN Jassem, DHIFLAOUI Hafedh, BEN MOUSSA Naoufel</i>
id (18)606730.	A Comprehensive Biomechanical Model of the Left Ventricle: Integration of Orthotropic Transverse Hyper elasticity and Static Simulation	<i>KRAIEM Tesnim, ARFAOUI Makram, AWADI Rania</i>
id (24)610443.	Operating parameters effect on a double pendulum energy harvester	<i>MRAD Charfeddine</i>
id (25)610884.	Fatigue Study of AISi10Mg Alloy as built	<i>CISSE Ibrahim Kalil, NASR Anouar</i>
id (27)610895.	Réduction des vibrations d'un rotor mono-disque comprenant des anneaux en élastomères magnéto et électro rhéologique	<i>SAKLY Faiza, CHOUCANE Mnaouar</i>
id (38)613018.	Post-Additive Manufacturing Surface Enhancement: Effect of Wire Brush hammering on Surface Integrity and Roughness	<i>MANNENA Sahraoui, YAHYAOUI Houda, BEN MOUSSA Naoufel, HABIBI Mohamed</i>
id (39)613073.	Characterization of amorphous metallic alloys through scratch tests	<i>BOUZAKHER Bechir, SELMI Narjes, BEN AMEUR Tarek</i>

id (44)616456.	Detection of Instability Criteria for Conventional Rigid Journal Bearings Using a Nonlinear Hydrodynamic Force Model	<i>AMAMOU Amira, AMAMOU Amani</i>
id (46)616804.	Overview of product and production process model integration in mechatronic system development using the MBSE approach	<i>BOUZID Wafa</i>
id (48)617524.	Machine Learning models for predicting fatigue life of the aluminum alloy AA2024-T351 in Low Cycle Fatigue	<i>KHADIMALLAH Aymen, ZNAIDI Amna, HFAIEDH Naila, PETIT Johann</i>
id (57)619518.	Effect of the Bionic Scapharca Shell Piston Shape of a Gaseous Engine Efficiency.	<i>HADJKACEM Sahar</i>
id (58)620116.	Analysis of 3D-Printed Anti-Trichiral Structures under uniaxial Cyclic Loading and Unloading	<i>KHATERCHI Houda, ALLEGUE Lamis, BEN KHALIFA Ated, NASRI Mondher, ZIDI Mondher</i>
id (59)620233.	CFD simulation of melting process of Phase Change Material (PCM) in rectangular capsule	<i>AMAMOU Amani</i>
id (61)620250.	Hydrodynamic Behavior of Offset Jets Under Various Situations	<i>AMAMOU Amani</i>
id (71)620566.	Numerical Study of the Mechanical Behavior of FDM-Manufactured Parts	<i>BOUDABBOUS Mohamed Iskander, SLAMA Salma, BELHADJ Asma, ZIADIA Abdelhamid, HABIBI Mohamed</i>
id (72)620580.	Impact of the post processing heat treatment on the microstructure and mechanical properties of SLMed AISI 316L stainless steel	<i>YAHYAOUI Houda, BEN MOUSSA Naoufel, HABIBI Mohamed, BARKIA Bassem, BRAHAM Chedly</i>
id (73)620587.	Numerical Investigation of the Airflow Surrounding Tomato Crops in a Soilless Greenhouse	<i>ZGHAL Olfa, ABID Hasna, KETATA Ahmed, DRISS Zied</i>
id (74)620591.	Mechanical and antibacterial properties of denture base resins containing copper oxide nanoparticles	<i>BEN AISSA Chokri, BARHOUMI Najoua, KHLIFI Kaouther, KARKOUCH Ines, WIEM Bousslama, BEN SGHAIER Rafika</i>
id (76)620601.	Development and Characterization of two Biodegradable Bio composite Material Reinforced with Jute Fabric and Raphia Fibers	<i>TOUNSI Amer, SLIMANI Faouzi, RABHI Neji, GHANMI Samir, GUEDRI Mohamed</i>
id (82)629418.	CFD Analysis: Glass Angle Variation in Solar still	<i>DHAOUI Sirine, MEKKI Nabiha, BOUABIDI Abdallah</i>
id (87)629435.	Automated Solution for 3D CAD Model Assessment	<i>ELTAIEF Amani</i>
id (89)629438.	Fused Deposition Modeling for medical application: a literature review,	<i>GHANMI Ines</i>
id (100)629051.	Impact of CuxOy-NPs/TiO2-NTs on Anti-Corrosion and Anti-Wear Applications for Implants	<i>DHIFLAOUI Hafedh, SASSI Sirine, HAJJAJI Anouar</i>
id (117)616260.	Optimal Sensor Placement for a Truss Structure Using a Modified Genetic Algorithm	<i>MOUSSA Hathemi</i>
id (141)706261.	Towards an improving Cutting Tool Life through CFD Driven Design of Internal Cooling Channels	<i>Oussema Ben Rejeb, Ibtihel Maalaoui, Hatem Kanfoudi, Ghazi Belkhal, Tarek Mabrouki, Temel Varol</i>
id (142)706262.	Numerical Investigation of a Spiral-Shaped Solar Air Heater under Varying Solar Flux	<i>Walid Zaafouri, Walid Ben Amara, Abdallah Bouabidi</i>
id (143)706263.	Automated Solution for 3D CAD Model Assessment	<i>AMENI ELTAIEF, SABRINE BEN AMOR, BORHEN LOUHICHI</i>
id (144)706264.	Uniaxial and Biaxial characterization of PLA biocomposites films: Application of 3D-DIC for thickness instability detection	<i>Fakher KHARRAT, Mohamed KHLIF, Mohamed HABOOUSSI, Chedly BRADAI</i>
id (145)706265.	Sustainable approach: using agricultural waste to reinforce biodegradable polymers in the circular economy	<i>Wafa Khmira, Sameh Attia-Essaies, Mehdi Ismail, Najoua Barhoumi, Kaouther Khelifi</i>