



People's Democratic Republic of Algeria
University of M'sila
Faculty of Sciences, Department of Chemistry
Laboratory of Organo-Therapeutic Substances and Sustainable Processes (OTSSPL)



1st International Hybrid Seminar: Green Chemistry and Artificial
Intelligence: Towards Molecular Design

Certificate of participation

Ms./Miss/Mr. **SIASSI Abderrahim**

N°: T3 PP 181 /GCAITMD/2025

Presented a Poster communication entitled: "Investigating the structural and optical properties of manganese oxide nanoparticles synthesized via the sol-gel method."

Co-authors: Rabie AMARI, Abdelhalim KAHOU, Bahri DEGHEFEL, Noudjoud LEBGAA and Salim DAOUDI

During the 1st International Hybrid Seminar: Green Chemistry and Artificial Intelligence: Towards Molecular Design, held from October 21st –22nd, 2025, at University of M'sila, Algeria.

Chairman of the seminar

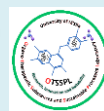


Dr. BOULEGHLEMHocine
Dr. BOULEGHLE



Dean of the Faculty of Sciences

رابع بونكار
كلية العلوم
المكلف بشؤون عمادة



Investigating the structural and optical properties of manganese oxide nanoparticles synthesized via the sol–gel method

Abderrahim SIASSI^{1,2, ✉}, Rabie AMARI^{3,4}, Abdelhalim KAHOU^{1,2}, Bahri DEGHEFEL^{3,5}, Noudjoud LEBGAA^{2,6}, Salim DAOUDI^{1,2}

¹Department of Matter Sciences, Faculty of Sciences and Technology, University of Mohamed El bachir El ibrahimi - Bordj Bou Arreridj. 34030, Algeria

²Laboratory of Materials Physics, Radiation and Nanostructures (LPMRN), University of Mohamed El bachir El ibrahimi - Bordj Bou Arreridj 34030, Algeria

³Laboratory of Materials and Renewable Energy, Faculty of Sciences, University of M'sila, Algeria.

⁴Department of Civil Engineering, Faculty of Technology, University of M'sila, Algeria.

⁵Department of Physics, Faculty of Sciences, University of M'sila, Algeria

⁶Department of Physics, Faculty of Sciences, University of Setif 1, Setif 19000, Algeria..

✉Corresponding Author Email: abderrahim.siassi@univ-bba.dz

Abstract

Manganese oxide thin films were prepared using the sol–gel spin-coating method in this work. While numerous synthesis techniques are cited in the literature, this procedure utilized manganese acetate tetrahydrate ((CH₃COO)₂Mn·4H₂O) with ethanol serving as the solvent. The synthesis began by dissolving a measured quantity of manganese acetate in ethanol, followed by the addition of MEA in a 1:1 molar ratio relative to manganese ions. The mixture was stirred continuously at 50 °C for 60 minutes to ensure homogeneity. The resulting sol was deposited onto glass substrates through spin coating at a speed of 2000 rpm for 30 seconds and subsequently annealed at 450 °C. Optical measurements showed that the fabricated films possess an indirect optical band gap of approximately 2.36 eV. Structural analysis by X-ray diffraction (XRD) confirmed the presence of a cubic Mn₂O₃ crystalline phase in the deposited layers.

Keywords: *Manganese oxide; DRX; sol gel; spin coating.*

References:

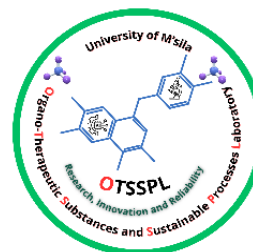
- [1] L. Cheng et al., 'Crystal facet-dependent reactivity of α-Mn₂O₃ microcrystalline catalyst for soot combustion', Appl. Catal. B Environ., vol. 204, pp. 374–384, May 2017, doi: 10.1016/j.apcatb.2016.11.041.
- [2] A. K. Singh, T. K. Dhiman, L. G. B. V.S., and P. R. Solanki, 'Dimanganese trioxide (Mn₂O₃) based label-free electrochemical biosensor for detection of Aflatoxin-B1', Bioelectrochemistry, vol. 137, p. 107684, Feb. 2021, doi: 10.1016/j.bioelechem.2020.107684.



University Mohamed Boudiaf of M'sila - Algeria
Laboratory of Organo-Therapeutic Substances and Sustainable Processes (OTSSPL)
Organize



1st International Hybrid Seminar:
Green Chemistry and Artificial Intelligence: Towards Molecular Design
21st-22nd October 2025



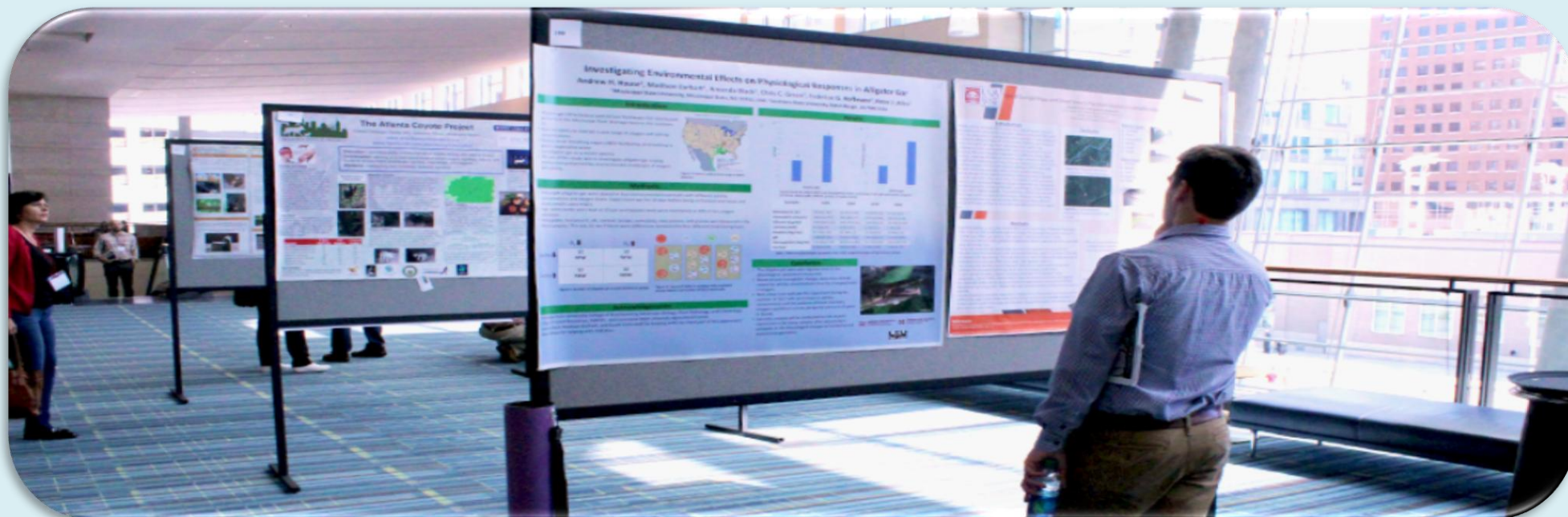
SEMINAR PROGRAM

Conference room "Ibn El Haithem university center"

Tuesday, October 21st, 2025

07H30–08H30	Registrations "Guest reception and check-in"
Opening Ceremony	
08H30–09H30	Seminar Chair: Dr. Hocine BOULEGHLEM Dean of the Faculty: Prof. Rabah BOUNAR Speech by the Rector of M^{ed}. Boudiaf University - M'sila: Prof. Amar BOUDELLA Seminar opened by Wali Nedjmeddine TIAR
Opening Conferences	
09H30–09H50	Plenary Conference 01 Prof. Mokhtar DJEHICHE Applications de l'énergie solaire thermique à la dépollution de l'eau et des sols President : Prof. Nadjia LATELLI Member : Prof. Abdelbaki REFFAS Dr. Kamel Noufel

09H50–10H10	Plenary Conference 02 Prof. Nour-Eddine AOUF Bio-Organic Chemistry Group, Faculty of Sciences (LCOA), University of Annaba, Algeria Title : Ecocatalysis and Asymmetric Organocatalysis, a New Vision of Green and Sustainable Chemistry President : Prof. Houcine SAADI Member : Pr. Zeghough DJIDEL Dr . Abdelhakim KHENICHE
10H10–10H30	Plenary Conference 03 Prof. Wissem HAMDI <i>Higher Institute of Water Sciences and Techniques, University of Gabes, 6072 Zrig, Gabes, Tunisia</i> Chimie verte et intelligence artificielle pour les agrosystèmes durables: une synergie innovante pour optimiser l’association culturale blé–légumineuse President : Prof. Elhadi DEBIH Member : Dr. Smail TERCHI Dr. Hichem HAFFAR
10H30–10H45	Debate
Conference room "Ibn El Haithem university center" Coffee break 45min Posters Session 1 10H45–11H30 Animators: Presidente : Dr. Salima ZIDANE Member : Dr. Mohamed Lamine FREIDJA and Prof. Sabah FETAH (Topic 1) Dr. Naouel MAKOUF and Dr. Sara BAKRI (Topic 2 and 3) Dr. Saber SAAD ESSAOUD and Dr. Walid DILMI (Topics 4 and 5)	



Poster 1	T1 PP 198	KAABI Ilhem	Molecular Docking Insights into the Dual Antioxidant and Enzyme-Inhibitory Potential of Azomethine SB
Poster 2	T1 PP 301	Safia MERAH	Antimicrobial Activity of <i>Satureja montana</i> L. Extracts from Two Ecotypes
Poster 3	T1 PP 305	Ahlem HACHELEF	Phytochemical analysis of <i>Ranunculus arvensis</i> L extracts
Poster 4	T1 PP 303	H. ZOUAOUI	Développement et caractérisation avancée de membranes composites à base de polyalcool vinylique modifié pour applications énergétiques et environnementales
Poster 5	T4 PP 90	FREIDJA Mohamed Lamine	In vitro Antioxidant and Antimicrobial Activity of <i>Teucrium polium</i> L. Extracts and <i>Pistacia lentiscus</i> L. Seeds' Oil
Poster 6	T4 PP 241	TERCHI Smail	Coques de noyaux d'abricot comme biosorbant durable pour l'élimination efficace du colorant violet de cristal
Poster 7	T5 PP 270	HARRAR Abdenassar	Integrating AI for Metabolite Identification from Mass Spectrometry Data: Challenges in Preprocessing and Neural Network Training
Poster 8	T5 PP 22	LATELLI Nadjia	Title : Free Radical Scavenging Efficiency of Isatin Schiff Bases(O-H versus N-H). A DFT Study
Poster 9	T1PP152	KHALDI Hafsa	Synthesis of arylidene-3H-benzo[4,5]imidazo[1,2-c]thiazole-1-thione and their biological application

Poster 10	T1 PP 60	FELLAHI Zineb	Synthesis, crystallographic study and molecular modeling of the compound edta chloride monohydrate
Poster 11	T1 PP 252	BOUDJEDIR Atidel	Computational design of novel α -glucosidase inhibitors To combat type 2 diabetes
Poster 12	T1 PP 278	CHADI Sara	Activité antioxydante, anti-inflammatoire et antibactérienne d'Anthemis pedunculata
Poster 13	T1 PP 183	CHERAIET Zine Laabidine	Synthesis and biological activities α -amino phosphonate derivatives of thiadiazol
Poster 14	T1 PP 203	TAHARCHAOUICHE Djamel	Evaluation of the Hydrolytic Degradation of Triphenylmethane Dyes Using DFT and TD-DFT Methods
Poster 15	T1 PP 01	BOUYA sara	Développement de plateformes d'intelligence artificielle pour l'optimisation accélérée de catalyseurs en chimie verte : vers des procédés moléculaires plus innovants et performants
Poster 16	T2 PP 173	ZINE Djihane	Evaluation of the antioxidant activity of novel synthetic heterocyclic compounds
Poster 17	T3 PP 50	HENINI Ghania	Evaluation of the biosorption kinetics and thermodynamics for the removal of textile dye from aqueous solutions using calcined opuntia ficus indica
Poster 18	T3 PP 181	SIASSI Abderrahim	Investigating the structural and optical properties of manganese oxide nanoparticles synthesized via the sol-gel method
Poster 19	T3 PP 131	BEN KOUIDER Tayeb	Enhanced Methylene Blue Adsorption from Water Using Fe ₂ O ₃ -Decorated Kaolinite
Poster 20	T3 PP 2	OUADAH Mustapha	Amélioration de l'ultrafiltration des margines par couplage aux ultrasons « la sono-ultrafiltration »
Poster 21	T3 PP 251	TEBERMACINE Ouarda	Physical and chemical properties of nanomaterial spinel oxide doped with magnesium.
Poster 22	T3 P P 230	MECHEHOUD Naima	Comparative Analysis of the Physicochemical and Morpho-Structural Characteristics of a Nanomaterial Synthesized by Sol-Gel, Precipitation, and Hydrothermal Methods
Poster 23	T3 PP 271	GHERBI Khouloud	A DFT study of the 2D nanomaterial -hydrogenated silicene
Poster 24	T3 PP 276	HAMMOUDI Naima	Préparation, propriétés physico-chimiques et activité biologique d'un film nanocomposite multifonctionnel.
Poster 25	T3 PP 108	MAHI Ahmed	Etude de la Fixation Du Ni ²⁺ et Cr ³⁺ par la Resine Acide Para-Aminobenzoïque-Formol
Poster 26	T3 PP 84	AMITOUICHE Dahbia	Iron-Vanadyl based Keggin Polyoxometallates for clean synthesis of Adipic Acid
Poster 27	T3 PP 273	BENDEBANE Hawa	Dégradation avancée du bleu de méthylène par un procédé Fenton-like modifié : Application du plan Box-Behnken
Poster 28	T5 PP171	MOKHTARI Djihad	First principle study on Half metallic properties of MnSb compound in the two structures hexagonal and zinc-blende, by employing Ab initio calculations
Poster 29	T3 PP 276	Naima HAMMOUDI	Préparation, propriétés physico-chimiques et activité biologique d'un film nanocomposite multifonctionnel.

Poster 30	T3 P P 281	REFICE Lamouri	Investigation of structural, mechanical, electronic, optical, and dynamical properties of cubic MgLiF ₃ , MgLiH
Poster 31	T3 PP 271	GHERBI Khouloud	A DFT study of the 2D nanomaterial -hydrogenated silicene
Poster 32	T3 PP 21	HAMZA Laila	Magnesium Oxide Nanoparticles Synthesized Using Olive Leaf Extract for Environmental Remediation
Poster 33	T3 PP 297	Mustapha BOUBATRA	Enhanced Visible Eriochrome Black T Degradation using ZnS/TiO ₂ Heterojunction Nanocatalysts
Poster 34	T3 PP 142	ASSELI Rabah	Electrolytic synthesis and characterization of Ni-W alloys from a chloride bath and citrate as complexant.
Poster 35	T3 PP 137	Djaber SABAH	Removal of Dye Pollutants from Wastewater Using Activated Carbon Supported by Nano-oxides for the Adsorption Process
Poster 36	T4 PP 83	BENMAHAMMED Ahmed	Antibacterial,Antidiabetic,and Hepatoprotective Activites of the Polyphenol rich extract from pulicaria odora
Poster 37	T4 PP 72	GUETTOUCHI Ahlam	Molecular markers and their applications on the date palm (Phoenix dactylifera L.)
Poster 38	T4 P P 92	HOUICHAIR Aicha	Optmization of date syrup valorized by using response surface methodology
Poster 39	T4 PP 266	BRIKI Lyamine	Alkaline activation of a geopolymer based on industrial mineral waste
Poster 40	T4 PP 199	ZITOUNI Khalida	Enhancing Plant Fiber Properties via Chemical Modification: A Review
Poster 41	T4 PP 211	KEMEL Hadjer	Alkaloid Profiling of Peganum harmala Extract by LC-ESI-QTOF-MS/MS and Evaluation of Its Pharmacological Activity Against Cancer Cell Lines
Poster 42	T4 PP 25	DJELLAL Amel	Valorization of Olive Wood Ash for the Debittering Step in Green Table Olive Processing
Poster 43	T4 PP 247	HAKMI Abdellatif	Sustainable Valorization of Bio-Amendments for the Stabilization of Heavy Metals in Polluted Soils
Poster 44	T4 PP 239	BOUCHELKIA Imene	Hydrogen Production from Plastic Waste via Pyro-Gasification: Dynamic Simulation Using Aspen Plus
Poster 45	T4 PP 189	ASLOUM Abdelmadjid Yagoub	Toxic activity of the Chemical Components of Coriaria myrtifolia on the Survival of Drosophila melanogaster.
Poster 46	T1 PP 309	Abdelhalim SAADI	Health Risks of Consuming Spirulina Grown in Mineral-Enriched Media
Poster 47	T4 PP 266	BRIKI Lyamine	Alkaline activation of a geopolymer based on industrial mineral waste
Poster 48	T4 PP104	ZERROUKI Sara	Phytochemical investigation of an Algerian. Plant: a green approach for bioactive compounds discovery

Poster 49	T4 PP 33	CHEBIRI Fatima	Phytochemical Analysis and Evaluation of the Antioxidant Activity of Methanolic and Aqueous Extracts of <i>Cynoglossum creticum</i>
Poster 50	T4 PP 91	MEZHOUD Bilel	<i>Punica Granatum</i> derived compounds as green corrosion inhibitors for zinc in acidic environments
Poster 51	T5 PP 308	Salima HAMADOUCHE	Mechanistic and Molecular Interaction Perspectives on the Enhanced Antioxidant Activity of Copper–Tetrahydroxystilbene Complexes: A Theoretical Approach
Poster 52	T5 PP 119	SAIHI Youcef	Virtual Screening of Natural Compounds Targeting Tyrosinase: Toward Novel Anti-Browning Agents for the Agri-Food Industry
Poster 53	T5 PP 170	HENTABLI Mohamed	AI-Driven Modeling of Occupational Exposure Limits for Active Pharmaceutical Ingredients Using Cheminformatics and Machine Learning
Poster 54	T5 PP 254	BENOUIS Sabrina	Molecular Docking Studies on Analogues of Lupeol from “ <i>Lupinus</i> ” with Human tyrosinase.
Poster 55	T4 PP 302	Wassila REMACHE	Solar light-Induced Degradation of Cresol Red in the Presence of the Fe(III)-NTA Complex
Poster 56	T1 PP 14	Meriem HAMLIA	Formulation and Assessment of an Environmentally Friendly Dishwashing Detergent from Biosourced Surfactants
Poster 57	T1 PP 99	BELHADDAD Oum El-Kheir	Qualitative and quantitative phytochemical analysis and biological activities of <i>Fraxinus excelsior</i> L extracts
Poster 58	T1 PP 124	MAHI Fatima Imane	Potent In Vitro Anti-inflammatory Activity and Molecular Docking of Two Cis-Clerodane Derivatives
Poster 59	T1 PP 274	BERKANE Aya	Extraction of Essential Oils from <i>Ephedra</i> Species Using Clevenger-Type Hydrodistillation: A Standardized Approach for Isolating Volatile Bioactive Compounds
Poster 60	T1 PP 155	BARBECHE Zakaria	Screening phytochimique et activité antioxydante de l'extrait méthanolique d'une plante de la famille des Ranunculacées
Poster 61	T1 PP 9	AMAMRA Samra	<i>Moringa Oleifera</i> fruit extracts: Phytochemical Screening, Antioxidant and Antibacterial Activities
Poster 62	T1 PP 103	MOHAMADI Sabrina	Antimicrobial and antioxidant activities of aqueous extracts of <i>Rhus tripartita</i> species
Poster 63	T1 PP 215	CHENNA Malika	Valorization of biofloculants for the Textile dyes by coagulation Flocculation Green chemistry

11H30–11H50	Plenary Conference 04 Prof. Boulbaba LOUHICHI <i>Higher Institute of the Sciences and Techniques of Waters of Gabes, University of Gabes, Tunisia</i> Title : Development of a prototype for hydrogen production and industrial and/or urban wastewater treatment using various electrochemical techniques based on solar energy President : Pr. Ahmed BAHLOUL Member : Pr . Laid TELLI Pr Abdellah MERROUCHE Dr Khadidja BERARMA
11H50–12H10	Plenary Conference 05 Prof. Nouredine HAMDI <i>Composite Materials and Clay Minerals Laboratory, National Center for Research in Material Sciences, Technopole Borj Cedria, 8020 Soliman, Tunisia</i> <i>Higher Institute of Water Sciences and Techniques, University of Gabes, 6072 Zrig, Gabes, Tunisia</i> Title : Synthesis of new green composite zeolite/activated carbon: adsorption of Non-Steroidal drug and volatile organic compounds President : Prof. Abdellah MERROUCHE Member : Prof. Mokhtar DJEHICHE Dr. Samir MOUFFOK
12H10–12H30	Plenary Conference 06 Prof. Ahmed BAHLOUL Supercondensateurs : la révolution énergétique au service des technologies de demain. President : Prof. Elhadi DEBIH Member : Prof. Laid TELLI Dr. Mohamed Lamine FREIDJA Dr. Samir BOUAACHA
12H30–12H45	Debate

12H45 –13H50	Lunch
--------------	--------------

	Afternoon Conference room "Business incubator"
--	---

	Conference Room 1 Animators: Dr. Oumelkheir BELHADDAD Dr. Kenza BOUCHELOUCHE Dr. NESSARK Faiza	Conference Room 2 Animators: Dr. Abdelhalim SAADI Dr. Fatima Zohra MEZAH Dr. Samra AMMAMRA	Conference Room 3 Animators: Dr. Samia Yousfi Dr. Meriem HAML Dr. Saber SAAD ESSAOUD
14H00 – 14H10	Oral 1: T3 OP 47 : LAIDANI Ykhlef Equilibrium, kinetic and thermodynamic studies of the biosorption of textile dye from aqueous solutions onto opuntia ficus indica Cords	Oral 5: T4 OP 59: ATMANI-KILANI Dina Revealing the bioavailability and gastroprotective activity of polyphenols from Clematis flammula extract by in vitro digestion	Oral 9: T2 OP 67: MOUFFOK Samir Sustainable Recovery of a Synthetic Polymer Waste Via a Bio-Based Polymer System
14H10– 14H20	Oral 2: T1 OP 146: MAGHRAOUI Nadjah Characterization and Electrochemical behavior of new synthesized zinc (II) tetradentate Schiff base complex	Oral 6: T1 OP 244: BEN AMARA Nail-El-Mebrouk Decontamination of soil contaminated by heavy metals.	Oral 10: T4 O P 204: MAZOUZ Ouisam Enzymatic valorization of renewable plant resources: catalytic conversion of ficus carica ficin into sustainable cheese coagulant
14H20 – 14H30	Oral 3: T1 OP 221: KRAIM Khairedine Integrating machine learning and molecular docking to identify natural product inhibitors of Broton's tyrosinase kinase	Oral 7: T3 OP 110 : Imane DJOUABI Antibacterial Activity of Green Synthesized NiO Nanoparticle and NiO-ZnO Nanocomposite using Limon Citrus Extract	Oral 11: T3 OP 304 Ahmed BAHLOUL Optimisation du prétraitement électrochimique de l'aluminium
14H30 –14H40	Oral 4: T3 OP 282: Fahima ARAB 3D Printed Polymer Phononic crystal structures for the Detection and Characterization of Acetic Acid	Oral 8: T3 OP 79 : BENDEBANE Farida Electrodeposition and Characterization of Zn–Cu Alloy Thin Films	Oral 12: T4 OP 34: ATMANI Djebbar Valorization of Algerian medicinal plants in medicine and cosmetology

Business incubator

Coffee break 45min

Posters Session 2 14H50–15H35

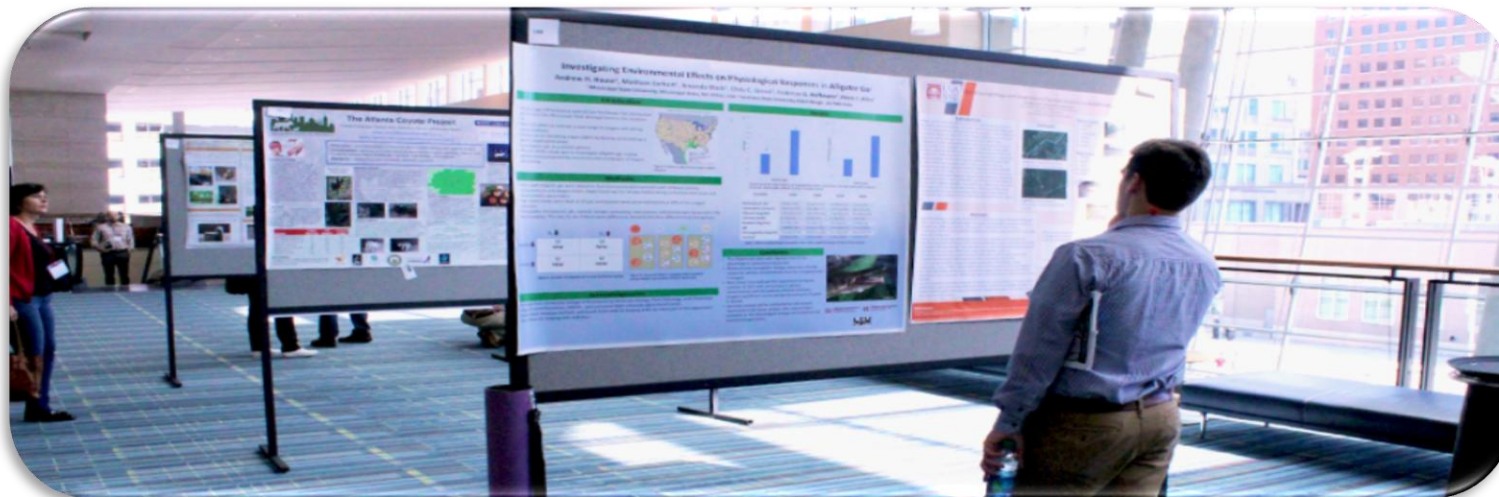
Animators:

President : Prof. Fatima Zohra MEZAH

Members : Dr. Malika CHENNA and Dr. Samir MOUFFOK (Topics 1)

Dr. Ammar DJERIOUI and Dr. Nairouz BENZEGGOUTA (Topics 2 and 3)

Dr Fahima Arab and Dr. Faiza MERITETE (Topics 4 and 5)



Poster 64	T1 PP 114	BOUAZZA Fatma	Integrated Experimental and Computational Approach for Enantiomeric Separation of Profens Using Vancomycin as Chiral Selector
Poster 65	T1 PP 216	BOUDJELAL Amel	On Vivo wound healing and molecular docking studies support traditional use of Arisarum vulgare aqueous extract
Poster 66	T1 PP 03	SAGHIRI Khadijah	Structure-Based Design and Pharmacokinetic Studies of Novel GAC Inhibitors for Triple-Negative Breast Cancer
Poster 67	T1 PP 114	BOUAZZA Fatma	Numerical Simulation and Kinetic Modeling of Bioactive Compound Extraction Processes
Poster 68	T1 PP 106	BENZEGGOUTA Naïrouz	Plantes Médicinales Anti-inflammatoires Citées dans la Médecine Prophétique
Poster 69	T1 PP 259	BOULEGHLEM Hocine	Eco-Responsible Extraction of Collagen from Food Waste: Towards a Green Approach
Poster 70	T1 PP 197	ADOUI Nabila	Etude phytochimique d'une plante utile en médecine traditionnelle Hertia Cheirifolia
Poster 71	T1 PP 24	BENABILA Nabila	Theoretical Study of Excess Molar Volumes in Binary Mixtures of Alkoxyethanols and Selected Amines Using DFT
Poster 72	T1 PP 178	MAKOUF Naouel	Synthesis, Structure and Molecular Docking Studies of a Cobalt(II) Complex Derived from Phthalimide Ligands
Poster 73	T1 PP 220	BOUCHELOUCHE Kenza	Phytochemical screening, biological activity and corrosion inhibition of a medicinal plant
Poster 74	T1 PP 121	SAHKI Feriel Aouatef	Synthesis, Crystal Structures, Antioxidant Activity and Molecular Docking Studies of a Thiomethylbenzimidazole Ligand and Its Mononuclear Zn(II) Complex
Poster 75	T1 PP 163	SEBAI Ibtissam	Visible light induced hydrogen evolution from water on the hetero-system 10% NiO/ γ -Al ₂ O ₃
Poster 76	T1PP268	LACHACHE Sabira	Physicochemical study of Medicinal plants in the region,Algeria
Poster 77	T1 PP 78	HADJI Maroua	LC-MS/MS Characterization of Phenolics and Green Synthesis of Antibacterial Silver Nanoparticles from the Acetonic Extract of Algerian Daucus carota
Poster 78	T1 P P 260	ZIDANE Salima	Evaluation of a Binary Complex for Use in Cosmetics
Poster 79	T1 PP 176	KHADRAOUI Soheyb	Application of Cation Exchange Membranes for the Removal of Ammonium from Water
Poster 80	T1 PP 245	BENADEL Zohra	Extraction And Treatment Of Cellulosic Fibers From Date Palm
Poster 81	T1 PP 300	Sarra Chabane	Phytochemical Profile and Anticancer Potential of Pituranthos scoparius
Poster 82	T1 PP 301	Safia MERAH	Antimicrobial Activity of Satureja montana L. Extracts from Two Ecotypes
Poster 83	T2 PP 75	CHETIOUI Souheyla	Cu(II) coordination polymer bearing diazenyl-benzoic ligand: Synthesis, physicochemical and XRD/HSA-interactions
Poster 84	T2 PP 193	KADI Souad	The role of Artificial Intelligence in sustainable smart food packaging: Recent advances

Poster 85	T2 PP 136	KALOUN Amina	: Optimized PVA-Based Cationic Membranes for Efficient Dual-Electrolyte Water Electrolysis.
Poster 86	T2 PP 13	GHERBAOUI Fatima	Contribution to the Study of the Physico-Chemical Quality of Water in the Hodna Basin
Poster 87	T2 PP 227	MOKRANE Amira	Thermal Stability of Sol-Gel Derived Hydroxyapatite for Ca/P Molar Ratio 1.67 and 1.5
Poster 88	T3 P P 18	SAIGA Amira	Enhancement of Polystyrene Nanocomposites with THDACL-Modified Montmorillonite via Melt Compounding
Poster 89	T3 PP 64	MAALMI Mohamed	Experimental study of the effect of nitric acid on wollastonite synthesis via sol-gel method
Poster 90	T3 PP 147	GHARNOUT Zahia	PVA-Based Proton-Exchange Membranes for Energy-Efficient Dual-Electrolyte Water Electrolysis.
Poster 91	T3 PP 76	TURQUI Tarik	Eco-Friendly Synthesis of AgNPs Using Asteraceae Extract and Their Comparative Antioxidant Potential
Poster 92	T3 PP 231	SAADI Taieb	Electronic structure, mechanical and optical properties of hydrogen storage alkaline amides XNH_2 ($X = Li, Na$) compounds.
Poster 93	T3 PP 233	REDAOUI Samiha	The morphology ,electro chemical performance and characterization of nanostructured α -PbO prepared from spent lead acid battery negative plate
Poster 94	T3 PP 120	BENKOUIDER Imen	Theoretical Study of Electronic Transport Properties in Platinum-Based Organometallic Molecular Wires
Poster 95	T3 PP 117	Oualid DILMI	Effect of potential on the electrochemical nucleation and growth of the nanostructured indium thin film
Poster 96	T3 PP150	LAKHAL Lynda	The effect of physical properties of nanostructural ZnSe quantum Dots
Poster 97	T3 PP 190	CHAHLAT Said	Computational Study of a Half-Heusler Alloy Using Ab Initio Methods
Poster 98	T3 PP 138	SADEDDINE Sarra	solvothermal sythesis ,characterization and antibacterial activity of undoped and Ag doped ZnO
Poster 99	T3 PP 212	MEZRAG Fadila	Band gap energies and optical properties in nanostructured semiconductor InAs: The Effect of Quantum Confinement
Poster 100	T3 PP 132	CHENAGUE Hanane	Spray Pyrolysis Deposition of Aluminum- Doped Zinc Oxide(AZO) Thin Films for Energy Applications
Poster 101	T3 P P133	TALHI Souaf	Removal of Methyl Orange dyes from water Utilizing Layered Double Hydroxide ($NiFeCO_3$).
Poster 102	T3 PP 97	TIAIBA Wafa	Efficient Methylene Blue Adsorption: Experimental & DFT Analysis of H_3PO_4 -Activated Date Palm Carbon
Poster 103	T3 PP 236	KHENICHE Abdelhakim	Optimisation des membranes protoniques à base de PVA sulfoné : effet des agents de réticulation sur les propriétés électrochimiques et thermomécaniques

Poster 104	T3 PP 192	DJELLALI Brahim Said	A Theoretical Framework for Modeling the Nonlocal Mechanical Behavior of Protein Networks in Biomolecular Resonant Sensors: Integrating Hydrogen Bonding and van der Waals Interactions
Poster 105	T3 PP 219	DILMI Souad	Electron-Phonon Coupling and Superconductivity in YC2 via first principle calculation
Poster 106	T3 PP 246	DJERIOUI Ammar	وتفككها الضوئي للملوثات بالاستعمال التقنيات الحديثة. (CuO) جسيمات اكسيد النحاس)
Poster 107	T3 PP 284	SALMI Somia	Investigation into the photocatalytic degradation of red congo dye using semiconductor
Poster 108	T3 PP 296	Abdallah RAHALI	Removal of Nickel(II) in wastewater by nanochitosan
Poster 109	T3 PP 195	BOUAFIA Sihem	Étude expérimentale du refroidissement d'un panneau solaire photovoltaïque à l'aide
Poster 110	T4 PP 40	HERIZI Achwaq	Sustainable Valorization of Wastewater Sludge: Resource Recovery for Energy and Soil Applications
Poster 111	T4 PP 269	KOUIDRI Djamilia	Physicochemical Characterization of a Natural Fiber Extracted from Kochia indica
Poster 112	T4 P P 93	BOUCHAREB Samira	Bioprocessing and structural valorization of natural lignocellulosic fibers for sustainable material development
Poster 113	T4 PP 145	HADJ KOUIDER Boubakr	Analyse de la composition chimique du quinoa et perspectives de valorisation pour l'alimentation humaine
Poster 114	T4 PP 149	LALLOUCHE Bahia	Évaluation de la valeur nutritionnelle et de la composition chimique de plants de blé destinés à la fabrication de chlorophylle alimentaire
Poster 115	T4 PP 186	YOUSFI Samia	The effect of nitrate ions on the electrochemical behavior of brass.
Poster 116	T4 PP 58	ATTOUI Warda	Elaboration et caractérisation d'un matériau composite à base de caoutchouc naturel renforcé par des fibres de verres, fibres végétales et hybrides.
Poster 117	T4 PP 70	HADROUG Aldjia	Comparative GC/MS Analysis of Essential Oil Profiles in Origanum glandulosum Desf. from Algeria and Tunisia
Poster 118	T4 P P 283	BOUCHAREB Khaled	Climatic Impact on the Performance of a Parabolic Trough Solar Power Plant: Case of the Semi-Arid Northern Region of Algeria and Southern Spain
Poster 119	T4 PP 264	SAIB Cherif	Manufacture and charecterisation of a tube made from sand and plastique waste
Poster 120	T4 PP 62	MEFTAH Lamya	Development of Activated Carbon from Almond Shells: Physico-Chemical Characterization and Application in Wastewater Treatment.
Poster 121	T4 PP 238	BELAMRI Kenza	Développement des batteries Zn/MnO ₂ pour le stockage des énergies renouvelables : une alternative écologique basée sur la valorisation des ressources minérales abondantes.
Poster 122	T4 P P188	NESSARK Faiza	Etude de la tenue a la corrosion d'un acier a304 modifie par un materiau composite : polypyrrole/TiO ₂

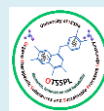
Poster 123	T4 PPOL86	MERABET Sarra	Effect of Thermal Environmental fluctuations on the corrosion behaviour of low-carbon steel alloy in saline conditions
Poster 124	T1 PP 307	Samir BOUACHA	Pharmacophore Generation, 3D QSAR model, Molecular Docking studies and in silico ADMET Screening of Benzimidazole Derivatives as HCV NS5B RNA-dependent RNA Polymerase In
Poster 125	T4 PP 306	Malika MERZOUGUI	Effect of Deformation and Annealing on the Microstructure and Mechanical Behavior of a Magnesium Alloy
Poster 126	T1 PP 310	Sarra BEKRI	Preparation and application of biomass-derived activated carbon for wastewater remediation.
Poster 127	T5 PP 311	Hesna BENSEDDIK	VALORIZATION OF BIOLOGICAL STUDIES OF MEDICINAL PLANT « Thapsia garganica »

15H40 –16H30	Oral session 2	Conference room "Business incubator"
---------------------	-----------------------	---

	<u>Conference Room 1</u> Animators: Pr. Mokhtar DJEHICHE Dr. Samir MOUFFOK Dr. Faiza MERITATE	<u>Conference Room 2</u> Animators: Pr. BENDEBANE Farida Dr. Smail TERCHI Dr. Samia YOUSFI	<u>Conference Room 3</u> Animators: Dr. Ammar DJERIOUI Dr. KRAIM Khairedine Dr. Abdeslam BOUZINA
15H40 –15H50	Oral 13: T3 OP 35: BOUDERBALA Ibrahim Yaacoub Influence of Zinc Acetate Concentration on the Photoelectrochemical Performance of Chemically Deposited ZnO Films	Oral 17: T4 OP 139: LARKAT Karima Caractérisation physico-chimique et composition minérale d'une argile naturelle (Région de Soubella, M'Sila, Algérie)	Oral 21: T4 OP 248 : ABCHICHE Hacina Energy Recovery and Regeneration of Used Engine Oils: Comparison between Pyrolysis and Combined Treatment Methods
15H50 –16H00	Oral 14: T1 OP 88: MESSAOUDI Noura Analysis and Evaluation of the in vitro Antioxidant, Anti-enzymatic, Anti-mold and Cytotoxicity activities of Erodium trifolium (Cav.)	Oral 18: T4 OP 194: BENDJELLOUL Sara Co-detection de l'eugenol et du butylhydroxytoluene par hydrodistillation verte et selective d'heliotropium tenuiflorum (L.) utilisant de nouveaux solvants verts	Oral 22: T4 O P 89: BENDEBANE Salima Homogeneous Catalyzed Transesterification of Biodiesel: Application of the Box-Behnken Design

16H00 –16H10	Oral 15 : T3 OP 232 : KHENICHE Abdelhakim Plant-Driven Nanotechnology: CuO Nanoparticles and Their Light-Induced Degradation of Pollutants	Oral 19 : T4 OP 237 : YAHYAOUI Zouhaira Characterization of effluent from the paper industry of Kasserine in west central Tunisia	Oral 23 : T4 O P187: NESSARK Faiza Electrosynthese et analyse des proprietes electrocatalytiques d'electrodes modifiees par des films de polypyrrole fonctionnalise contenant du nickel
16H10–16H20	Oral 16 : T3 OP 82 : KABOUYA Imane Valorisation nanoformulée des extraits d'Artemisia herba-alba pour la protection pré-récolte du blé contre les ravageurs	Oral 20 : T4 OP 38: BACHIRI Marwa The optimization of experimental conditions using Design Expert to enhance the oxidation of rhodamine B with persulfate in a sustainable solar system	Oral 24 : T2 O P 153: DJEMIAT Djamal Eddine Enhanced of flow parameters and modeling of the rheological behavior of crude oil with and without additive
16H20 – 16H30	Debate		

Day 2 – Wednesday, October 22nd, 2025 – Online via Google Meet



Investigating the structural and optical properties of manganese oxide nanoparticles synthesized via the sol–gel method

Abderrahim SIASSI^{1,2, ✉}, Rabie AMARI^{3,4}, Abdelhalim KAHOU^{1,2}, Bahri DEGHEFEL^{3,5}, Noudjoud LEBGAA^{2,6}, Salim DAOUDI^{1,2}

¹Department of Matter Sciences, Faculty of Sciences and Technology, University of Mohamed El bachir El ibrahimi - Bordj Bou Arreridj. 34030, Algeria

²Laboratory of Materials Physics, Radiation and Nanostructures (LPMRN), University of Mohamed El bachir El ibrahimi - Bordj Bou Arreridj 34030, Algeria

³Laboratory of Materials and Renewable Energy, Faculty of Sciences, University of M'sila, Algeria.

⁴Department of Civil Engineering, Faculty of Technology, University of M'sila, Algeria.

⁵Department of Physics, Faculty of Sciences, University of M'sila, Algeria

⁶Department of Physics, Faculty of Sciences, University of Setif 1, Setif 19000, Algeria..

✉Corresponding Author Email: abderrahim.siassi@univ-bba.dz

Abstract

Manganese oxide thin films were prepared using the sol–gel spin-coating method in this work. While numerous synthesis techniques are cited in the literature, this procedure utilized manganese acetate tetrahydrate ((CH₃COO)₂Mn·4H₂O) with ethanol serving as the solvent. The synthesis began by dissolving a measured quantity of manganese acetate in ethanol, followed by the addition of MEA in a 1:1 molar ratio relative to manganese ions. The mixture was stirred continuously at 50 °C for 60 minutes to ensure homogeneity. The resulting sol was deposited onto glass substrates through spin coating at a speed of 2000 rpm for 30 seconds and subsequently annealed at 450 °C. Optical measurements showed that the fabricated films possess an indirect optical band gap of approximately 2.36 eV. Structural analysis by X-ray diffraction (XRD) confirmed the presence of a cubic Mn₂O₃ crystalline phase in the deposited layers.

Keywords: *Manganese oxide; DRX; sol gel; spin coating.*

References:

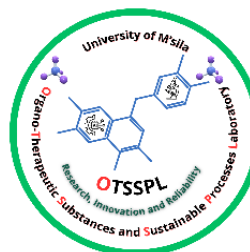
- [1] L. Cheng et al., 'Crystal facet-dependent reactivity of α -Mn₂O₃ microcrystalline catalyst for soot combustion', Appl. Catal. B Environ., vol. 204, pp. 374–384, May 2017, doi: 10.1016/j.apcatb.2016.11.041.
- [2] A. K. Singh, T. K. Dhiman, L. G. B. V.S., and P. R. Solanki, 'Dimanganese trioxide (Mn₂O₃) based label-free electrochemical biosensor for detection of Aflatoxin-B1', Bioelectrochemistry, vol. 137, p. 107684, Feb. 2021, doi: 10.1016/j.bioelechem.2020.107684.



University Mohamed Boudiaf of M'sila - Algeria
Laboratory of Organo-Therapeutic Substances and Sustainable Processes (OTSSPL)
Organize



1st International Hybrid Seminar:
Green Chemistry and Artificial Intelligence: Towards Molecular Design
21st-22nd October 2025



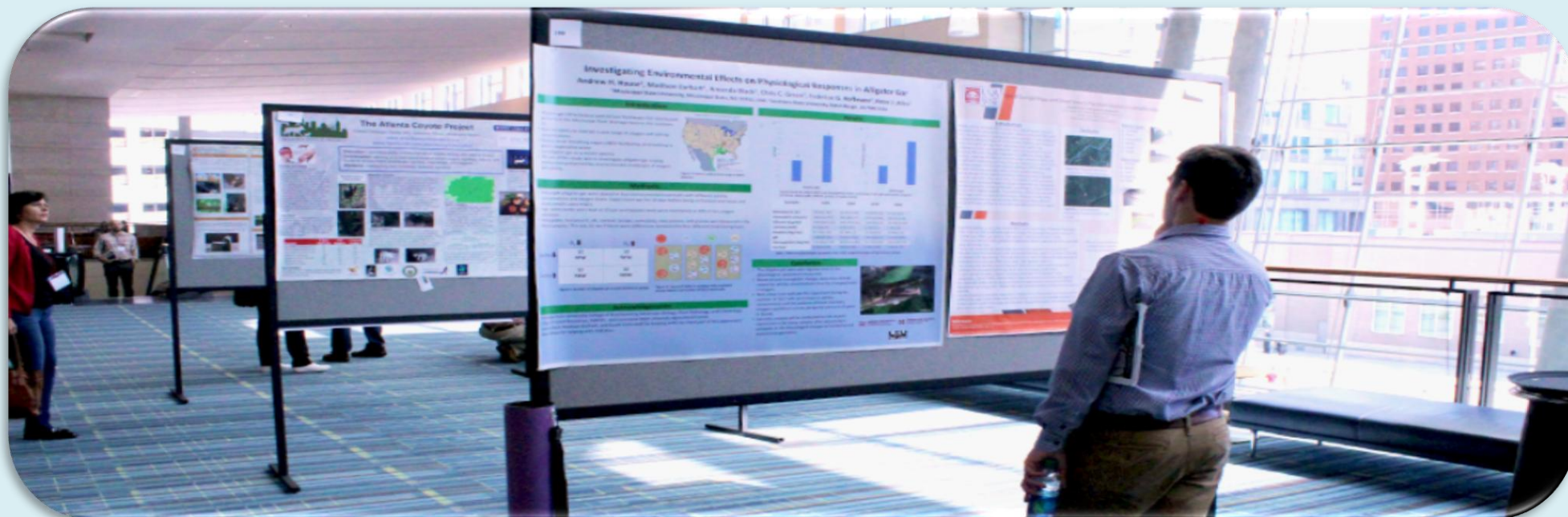
SEMINAR PROGRAM

Conference room "Ibn El Haithem university center"

Tuesday, October 21st, 2025

07H30–08H30	Registrations "Guest reception and check-in"
Opening Ceremony	
08H30–09H30	Seminar Chair: Dr. Hocine BOULEGHLEM Dean of the Faculty: Prof. Rabah BOUNAR Speech by the Rector of M ^{ed} . Boudiaf University - M'sila: Prof. Amar BOUDELLA Seminar opened by Wali Nedjmeddine TIAR
Opening Conferences	
09H30–09H50	Plenary Conference 01 Prof. Mokhtar DJEHICHE Applications de l'énergie solaire thermique à la dépollution de l'eau et des sols President : Prof. Nadjia LATELLI Member : Prof. Abdelbaki REFFAS Dr. Kamel Noufel

09H50–10H10	Plenary Conference 02 Prof. Nour-Eddine AOUF Bio-Organic Chemistry Group, Faculty of Sciences (LCOA), University of Annaba, Algeria Title : Ecocatalysis and Asymmetric Organocatalysis, a New Vision of Green and Sustainable Chemistry President : Prof. Houcine SAADI Member : Pr. Zeghough DJIDEL Dr . Abdelhakim KHENICHE
10H10–10H30	Plenary Conference 03 Prof. Wissem HAMDI <i>Higher Institute of Water Sciences and Techniques, University of Gabes, 6072 Zrig, Gabes, Tunisia</i> Chimie verte et intelligence artificielle pour les agrosystèmes durables: une synergie innovante pour optimiser l’association culturale blé–légumineuse President : Prof. Elhadi DEBIH Member : Dr. Smail TERCHI Dr. Hichem HAFFAR
10H30–10H45	Debate
Conference room "Ibn El Haithem university center" Coffee break 45min Posters Session 1 10H45–11H30 Animators: Presidente : Dr. Salima ZIDANE Member : Dr. Mohamed Lamine FREIDJA and Prof. Sabah FETAH (Topic 1) Dr. Naouel MAKOUF and Dr. Sara BAKRI (Topic 2 and 3) Dr. Saber SAAD ESSAOUD and Dr. Walid DILMI (Topics 4 and 5)	



Poster 1	T1 PP 198	KAABI Ilhem	Molecular Docking Insights into the Dual Antioxidant and Enzyme-Inhibitory Potential of Azomethine SB
Poster 2	T1 PP 301	Safia MERAH	Antimicrobial Activity of <i>Satureja montana</i> L. Extracts from Two Ecotypes
Poster 3	T1 PP 305	Ahlem HACHELEF	Phytochemical analysis of <i>Ranunculus arvensis</i> L extracts
Poster 4	T1 PP 303	H. ZOUAOUI	Développement et caractérisation avancée de membranes composites à base de polyalcool vinylique modifié pour applications énergétiques et environnementales
Poster 5	T4 PP 90	FREIDJA Mohamed Lamine	In vitro Antioxidant and Antimicrobial Activity of <i>Teucrium polium</i> L. Extracts and <i>Pistacia lentiscus</i> L. Seeds' Oil
Poster 6	T4 PP 241	TERCHI Smail	Coques de noyaux d'abricot comme biosorbant durable pour l'élimination efficace du colorant violet de cristal
Poster 7	T5 PP 270	HARRAR Abdenassar	Integrating AI for Metabolite Identification from Mass Spectrometry Data: Challenges in Preprocessing and Neural Network Training
Poster 8	T5 PP 22	LATELLI Nadjia	Title : Free Radical Scavenging Efficiency of Isatin Schiff Bases(O-H versus N-H). A DFT Study
Poster 9	T1PP152	KHALDI Hafsa	Synthesis of arylidene-3H-benzo[4,5]imidazo[1,2-c]thiazole-1-thione and their biological application

Poster 10	T1 PP 60	FELLAHI Zineb	Synthesis, crystallographic study and molecular modeling of the compound edta chloride monohydrate
Poster 11	T1 PP 252	BOUDJEDIR Atidel	Computational design of novel α -glucosidase inhibitors To combat type 2 diabetes
Poster 12	T1 PP 278	CHADI Sara	Activité antioxydante, anti-inflammatoire et antibactérienne d'Anthemis pedunculata
Poster 13	T1 PP 183	CHERAIET Zine Laabidine	Synthesis and biological activities α -amino phosphonate derivatives of thiadiazol
Poster 14	T1 PP 203	TAHARCHAOUICHE Djamel	Evaluation of the Hydrolytic Degradation of Triphenylmethane Dyes Using DFT and TD-DFT Methods
Poster 15	T1 PP 01	BOUYA sara	Développement de plateformes d'intelligence artificielle pour l'optimisation accélérée de catalyseurs en chimie verte : vers des procédés moléculaires plus innovants et performants
Poster 16	T2 PP 173	ZINE Djihane	Evaluation of the antioxidant activity of novel synthetic heterocyclic compounds
Poster 17	T3 PP 50	HENINI Ghania	Evaluation of the biosorption kinetics and thermodynamics for the removal of textile dye from aqueous solutions using calcined opuntia ficus indica
Poster 18	T3 PP 181	SIASSI Abderrahim	Investigating the structural and optical properties of manganese oxide nanoparticles synthesized via the sol-gel method
Poster 19	T3 PP 131	BEN KOUIDER Tayeb	Enhanced Methylene Blue Adsorption from Water Using Fe ₂ O ₃ -Decorated Kaolinite
Poster 20	T3 PP 2	OUADAH Mustapha	Amélioration de l'ultrafiltration des margines par couplage aux ultrasons « la sono-ultrafiltration »
Poster 21	T3 PP 251	TEBERMACINE Ouarda	Physical and chemical properties of nanomaterial spinel oxide doped with magnesium.
Poster 22	T3 P P 230	MECHEHOUD Naima	Comparative Analysis of the Physicochemical and Morpho-Structural Characteristics of a Nanomaterial Synthesized by Sol-Gel, Precipitation, and Hydrothermal Methods
Poster 23	T3 PP 271	GHERBI Khouloud	A DFT study of the 2D nanomaterial -hydrogenated silicene
Poster 24	T3 PP 276	HAMMOUDI Naima	Préparation, propriétés physico-chimiques et activité biologique d'un film nanocomposite multifonctionnel.
Poster 25	T3 PP 108	MAHI Ahmed	Etude de la Fixation Du Ni ²⁺ et Cr ³⁺ par la Resine Acide Para-Aminobenzoïque-Formol
Poster 26	T3 PP 84	AMITOUICHE Dahbia	Iron-Vanadyl based Keggin Polyoxometallates for clean synthesis of Adipic Acid
Poster 27	T3 PP 273	BENDEBANE Hawa	Dégradation avancée du bleu de méthylène par un procédé Fenton-like modifié : Application du plan Box-Behnken
Poster 28	T5 PP171	MOKHTARI Djihad	First principle study on Half metallic properties of MnSb compound in the two structures hexagonal and zinc-blende, by employing Ab initio calculations
Poster 29	T3 PP 276	Naima HAMMOUDI	Préparation, propriétés physico-chimiques et activité biologique d'un film nanocomposite multifonctionnel.

Poster 30	T3 P P 281	REFICE Lamouri	Investigation of structural, mechanical, electronic, optical, and dynamical properties of cubic MgLiF ₃ , MgLiH
Poster 31	T3 PP 271	GHERBI Khouloud	A DFT study of the 2D nanomaterial -hydrogenated silicene
Poster 32	T3 PP 21	HAMZA Laila	Magnesium Oxide Nanoparticles Synthesized Using Olive Leaf Extract for Environmental Remediation
Poster 33	T3 PP 297	Mustapha BOUBATRA	Enhanced Visible Eriochrome Black T Degradation using ZnS/TiO ₂ Heterojunction Nanocatalysts
Poster 34	T3 PP 142	ASSELI Rabah	Electrolytic synthesis and characterization of Ni-W alloys from a chloride bath and citrate as complexant.
Poster 35	T3 PP 137	Djaber SABAH	Removal of Dye Pollutants from Wastewater Using Activated Carbon Supported by Nano-oxides for the Adsorption Process
Poster 36	T4 PP 83	BENMAHAMMED Ahmed	Antibacterial,Antidiabetic,and Hepatoprotective Activites of the Polyphenol rich extract from pulicaria odora
Poster 37	T4 PP 72	GUETTOUCHI Ahlam	Molecular markers and their applications on the date palm (Phoenix dactylifera L.)
Poster 38	T4 P P 92	HOUICHAIR Aicha	Optmization of date syrup valorized by using response surface methodology
Poster 39	T4 PP 266	BRIKI Lyamine	Alkaline activation of a geopolymer based on industrial mineral waste
Poster 40	T4 PP 199	ZITOUNI Khalida	Enhancing Plant Fiber Properties via Chemical Modification: A Review
Poster 41	T4 PP 211	KEMEL Hadjer	Alkaloid Profiling of Peganum harmala Extract by LC-ESI-QTOF-MS/MS and Evaluation of Its Pharmacological Activity Against Cancer Cell Lines
Poster 42	T4 PP 25	DJELLAL Amel	Valorization of Olive Wood Ash for the Debittering Step in Green Table Olive Processing
Poster 43	T4 PP 247	HAKMI Abdellatif	Sustainable Valorization of Bio-Amendments for the Stabilization of Heavy Metals in Polluted Soils
Poster 44	T4 PP 239	BOUCHELKIA Imene	Hydrogen Production from Plastic Waste via Pyro-Gasification: Dynamic Simulation Using Aspen Plus
Poster 45	T4 PP 189	ASLOUM Abdelmadjid Yagoub	Toxic activity of the Chemical Components of Coriaria myrtifolia on the Survival of Drosophila melanogaster.
Poster 46	T1 PP 309	Abdelhalim SAADI	Health Risks of Consuming Spirulina Grown in Mineral-Enriched Media
Poster 47	T4 PP 266	BRIKI Lyamine	Alkaline activation of a geopolymer based on industrial mineral waste
Poster 48	T4 PP104	ZERROUKI Sara	Phytochemical investigation of an Algerian. Plant: a green approach for bioactive compounds discovery

Poster 49	T4 PP 33	CHEBIRI Fatima	Phytochemical Analysis and Evaluation of the Antioxidant Activity of Methanolic and Aqueous Extracts of <i>Cynoglossum creticum</i>
Poster 50	T4 PP 91	MEZHOUD Bilel	<i>Punica Granatum</i> derived compounds as green corrosion inhibitors for zinc in acidic environments
Poster 51	T5 PP 308	Salima HAMADOUCHE	Mechanistic and Molecular Interaction Perspectives on the Enhanced Antioxidant Activity of Copper–Tetrahydroxystilbene Complexes: A Theoretical Approach
Poster 52	T5 PP 119	SAIHI Youcef	Virtual Screening of Natural Compounds Targeting Tyrosinase: Toward Novel Anti-Browning Agents for the Agri-Food Industry
Poster 53	T5 PP 170	HENTABLI Mohamed	AI-Driven Modeling of Occupational Exposure Limits for Active Pharmaceutical Ingredients Using Cheminformatics and Machine Learning
Poster 54	T5 PP 254	BENOUIS Sabrina	Molecular Docking Studies on Analogues of Lupeol from “ <i>Lupinus</i> ” with Human tyrosinase.
Poster 55	T4 PP 302	Wassila REMACHE	Solar light-Induced Degradation of Cresol Red in the Presence of the Fe(III)-NTA Complex
Poster 56	T1 PP 14	Meriem HAMLIA	Formulation and Assessment of an Environmentally Friendly Dishwashing Detergent from Biosourced Surfactants
Poster 57	T1 PP 99	BELHADDAD Oum El-Kheir	Qualitative and quantitative phytochemical analysis and biological activities of <i>Fraxinus excelsior</i> L extracts
Poster 58	T1 PP 124	MAHI Fatima Imane	Potent In Vitro Anti-inflammatory Activity and Molecular Docking of Two Cis-Clerodane Derivatives
Poster 59	T1 PP 274	BERKANE Aya	Extraction of Essential Oils from <i>Ephedra</i> Species Using Clevenger-Type Hydrodistillation: A Standardized Approach for Isolating Volatile Bioactive Compounds
Poster 60	T1 PP 155	BARBECHE Zakaria	Screening phytochimique et activité antioxydante de l'extrait méthanolique d'une plante de la famille des Ranunculacées
Poster 61	T1 PP 9	AMAMRA Samra	<i>Moringa Oleifera</i> fruit extracts: Phytochemical Screening, Antioxidant and Antibacterial Activities
Poster 62	T1 PP 103	MOHAMADI Sabrina	Antimicrobial and antioxidant activities of aqueous extracts of <i>Rhus tripartita</i> species
Poster 63	T1 PP 215	CHENNA Malika	Valorization of biofloculants for the Textile dyes by coagulation Flocculation Green chemistry

11H30–11H50	Plenary Conference 04 Prof. Boulbaba LOUHICHI <i>Higher Institute of the Sciences and Techniques of Waters of Gabes, University of Gabes, Tunisia</i> Title : Development of a prototype for hydrogen production and industrial and/or urban wastewater treatment using various electrochemical techniques based on solar energy President : Pr. Ahmed BAHLOUL Member : Pr . Laid TELLI Pr Abdellah MERROUCHE Dr Khadidja BERARMA
11H50–12H10	Plenary Conference 05 Prof. Nouredine HAMDI <i>Composite Materials and Clay Minerals Laboratory, National Center for Research in Material Sciences, Technopole Borj Cedria, 8020 Soliman, Tunisia</i> <i>Higher Institute of Water Sciences and Techniques, University of Gabes, 6072 Zrig, Gabes, Tunisia</i> Title : Synthesis of new green composite zeolite/activated carbon: adsorption of Non-Steroidal drug and volatile organic compounds President : Prof. Abdellah MERROUCHE Member : Prof. Mokhtar DJEHICHE Dr. Samir MOUFFOK
12H10–12H30	Plenary Conference 06 Prof. Ahmed BAHLOUL Supercondensateurs : la révolution énergétique au service des technologies de demain. President : Prof. Elhadi DEBIH Member : Prof. Laid TELLI Dr. Mohamed Lamine FREIDJA Dr. Samir BOUAACHA
12H30–12H45	Debate

12H45 –13H50	Lunch
--------------	--------------

	Afternoon Conference room "Business incubator"
--	---

	Conference Room 1 Animators: Dr. Oumelkheir BELHADDAD Dr. Kenza BOUCHELOUCHE Dr. NESSARK Faiza	Conference Room 2 Animators: Dr. Abdelhalim SAADI Dr. Fatima Zohra MEZAH Dr. Samra AMMAMRA	Conference Room 3 Animators: Dr. Samia Yousfi Dr. Meriem HAML Dr. Saber SAAD ESSAOUD
14H00 – 14H10	Oral 1: T3 OP 47 : LAIDANI Ykhlef Equilibrium, kinetic and thermodynamic studies of the biosorption of textile dye from aqueous solutions onto opuntia ficus indica Cords	Oral 5: T4 OP 59: ATMANI-KILANI Dina Revealing the bioavailability and gastroprotective activity of polyphenols from Clematis flammula extract by in vitro digestion	Oral 9: T2 OP 67: MOUFFOK Samir Sustainable Recovery of a Synthetic Polymer Waste Via a Bio-Based Polymer System
14H10– 14H20	Oral 2: T1 OP 146: MAGHRAOUI Nadjah Characterization and Electrochemical behavior of new synthesized zinc (II) tetradentate Schiff base complex	Oral 6: T1 OP 244: BEN AMARA Nail-El-Mebrouk Decontamination of soil contaminated by heavy metals.	Oral 10: T4 O P 204: MAZOUZ Ouisam Enzymatic valorization of renewable plant resources: catalytic conversion of ficus carica ficin into sustainable cheese coagulant
14H20 – 14H30	Oral 3: T1 OP 221: KRAIM Khairedine Integrating machine learning and molecular docking to identify natural product inhibitors of Broton's tyrosinase kinase	Oral 7: T3 OP 110 : Imane DJOUABI Antibacterial Activity of Green Synthesized NiO Nanoparticle and NiO-ZnO Nanocomposite using Limon Citrus Extract	Oral 11: T3 OP 304 Ahmed BAHLOUL Optimisation du prétraitement électrochimique de l'aluminium
14H30 –14H40	Oral 4: T3 OP 282: Fahima ARAB 3D Printed Polymer Phononic crystal structures for the Detection and Characterization of Acetic Acid	Oral 8: T3 OP 79 : BENDEBANE Farida Electrodeposition and Characterization of Zn–Cu Alloy Thin Films	Oral 12: T4 OP 34: ATMANI Djebbar Valorization of Algerian medicinal plants in medicine and cosmetology

Business incubator

Coffee break 45min

Posters Session 2 14H50–15H35

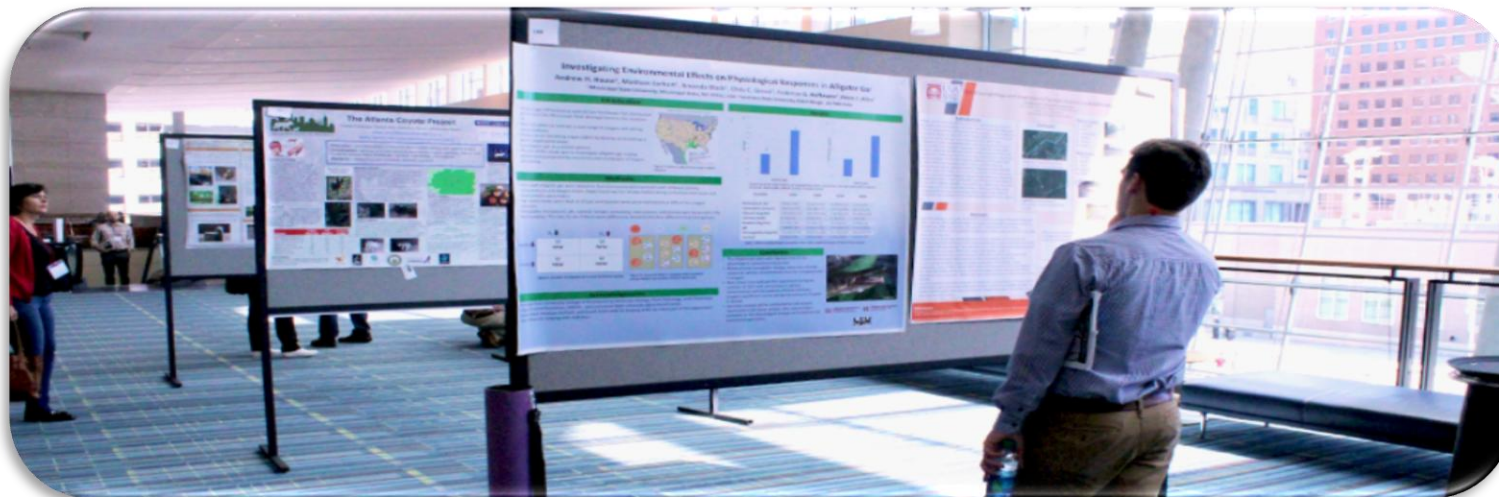
Animators:

President : Prof. Fatima Zohra MEZAH

Members : Dr. Malika CHENNA and Dr. Samir MOUFFOK (Topics 1)

Dr. Ammar DJERIOUI and Dr. Nairouz BENZEGGOUTA (Topics 2 and 3)

Dr Fahima Arab and Dr. Faiza MERITETE (Topics 4 and 5)



Poster 64	T1 PP 114	BOUAZZA Fatma	Integrated Experimental and Computational Approach for Enantiomeric Separation of Profens Using Vancomycin as Chiral Selector
Poster 65	T1 PP 216	BOUDJELAL Amel	On Vivo wound healing and molecular docking studies support traditional use of Arisarum vulgare aqueous extract
Poster 66	T1 PP 03	SAGHIRI Khadijah	Structure-Based Design and Pharmacokinetic Studies of Novel GAC Inhibitors for Triple-Negative Breast Cancer
Poster 67	T1 PP 114	BOUAZZA Fatma	Numerical Simulation and Kinetic Modeling of Bioactive Compound Extraction Processes
Poster 68	T1 PP 106	BENZEGGOUTA Naïrouz	Plantes Médicinales Anti-inflammatoires Citées dans la Médecine Prophétique
Poster 69	T1 PP 259	BOULEGHLEM Hocine	Eco-Responsible Extraction of Collagen from Food Waste: Towards a Green Approach
Poster 70	T1 PP 197	ADOUI Nabila	Etude phytochimique d'une plante utile en médecine traditionnelle Hertia Cheirifolia
Poster 71	T1 PP 24	BENABILA Nabila	Theoretical Study of Excess Molar Volumes in Binary Mixtures of Alkoxyethanols and Selected Amines Using DFT
Poster 72	T1 PP 178	MAKOUF Naouel	Synthesis, Structure and Molecular Docking Studies of a Cobalt(II) Complex Derived from Phthalimide Ligands
Poster 73	T1 PP 220	BOUCHELOUCHE Kenza	Phytochemical screening, biological activity and corrosion inhibition of a medicinal plant
Poster 74	T1 PP 121	SAHKI Feriel Aouatef	Synthesis, Crystal Structures, Antioxidant Activity and Molecular Docking Studies of a Thiomethylbenzimidazole Ligand and Its Mononuclear Zn(II) Complex
Poster 75	T1 PP 163	SEBAI Ibtissam	Visible light induced hydrogen evolution from water on the hetero-system 10% NiO/ γ -Al ₂ O ₃
Poster 76	T1PP268	LACHACHE Sabira	Physicochemical study of Medicinal plants in the region,Algeria
Poster 77	T1 PP 78	HADJI Maroua	LC-MS/MS Characterization of Phenolics and Green Synthesis of Antibacterial Silver Nanoparticles from the Acetonic Extract of Algerian Daucus carota
Poster 78	T1 P P 260	ZIDANE Salima	Evaluation of a Binary Complex for Use in Cosmetics
Poster 79	T1 PP 176	KHADRAOUI Soheyb	Application of Cation Exchange Membranes for the Removal of Ammonium from Water
Poster 80	T1 PP 245	BENADEL Zohra	Extraction And Treatment Of Cellulosic Fibers From Date Palm
Poster 81	T1 PP 300	Sarra Chabane	Phytochemical Profile and Anticancer Potential of Pituranthos scoparius
Poster 82	T1 PP 301	Safia MERAH	Antimicrobial Activity of Satureja montana L. Extracts from Two Ecotypes
Poster 83	T2 PP 75	CHETIOUI Souheyla	Cu(II) coordination polymer bearing diazenyl-benzoic ligand: Synthesis, physicochemical and XRD/HSA-interactions
Poster 84	T2 PP 193	KADI Souad	The role of Artificial Intelligence in sustainable smart food packaging: Recent advances

Poster 85	T2 PP 136	KALOUN Amina	: Optimized PVA-Based Cationic Membranes for Efficient Dual-Electrolyte Water Electrolysis.
Poster 86	T2 PP 13	GHERBAOUI Fatima	Contribution to the Study of the Physico-Chemical Quality of Water in the Hodna Basin
Poster 87	T2 PP 227	MOKRANE Amira	Thermal Stability of Sol-Gel Derived Hydroxyapatite for Ca/P Molar Ratio 1.67 and 1.5
Poster 88	T3 P P 18	SAIGA Amira	Enhancement of Polystyrene Nanocomposites with THDACL-Modified Montmorillonite via Melt Compounding
Poster 89	T3 PP 64	MAALMI Mohamed	Experimental study of the effect of nitric acid on wollastonite synthesis via sol-gel method
Poster 90	T3 PP 147	GHARNOUT Zahia	PVA-Based Proton-Exchange Membranes for Energy-Efficient Dual-Electrolyte Water Electrolysis.
Poster 91	T3 PP 76	TURQUI Tarik	Eco-Friendly Synthesis of AgNPs Using Asteraceae Extract and Their Comparative Antioxidant Potential
Poster 92	T3 PP 231	SAADI Taieb	Electronic structure, mechanical and optical properties of hydrogen storage alkaline amides XNH_2 ($X = Li, Na$) compounds.
Poster 93	T3 PP 233	REDAOUI Samiha	The morphology ,electro chemical performance and characterization of nanostructured α -PbO prepared from spent lead acid battery negative plate
Poster 94	T3 PP 120	BENKOUIDER Imen	Theoretical Study of Electronic Transport Properties in Platinum-Based Organometallic Molecular Wires
Poster 95	T3 PP 117	Oualid DILMI	Effect of potential on the electrochemical nucleation and growth of the nanostructured indium thin film
Poster 96	T3 PP150	LAKHAL Lynda	The effect of physical properties of nanostructural ZnSe quantum Dots
Poster 97	T3 PP 190	CHAHLAT Said	Computational Study of a Half-Heusler Alloy Using Ab Initio Methods
Poster 98	T3 PP 138	SADEDDINE Sarra	solvothermal sythesis ,characterization and antibacterial activity of undoped and Ag doped ZnO
Poster 99	T3 PP 212	MEZRAG Fadila	Band gap energies and optical properties in nanostructured semiconductor InAs: The Effect of Quantum Confinement
Poster 100	T3 PP 132	CHENAGUE Hanane	Spray Pyrolysis Deposition of Aluminum- Doped Zinc Oxide(AZO) Thin Films for Energy Applications
Poster 101	T3 P P133	TALHI Souaf	Removal of Methyl Orange dyes from water Utilizing Layered Double Hydroxide ($NiFeCO_3$).
Poster 102	T3 PP 97	TIAIBA Wafa	Efficient Methylene Blue Adsorption: Experimental & DFT Analysis of H_3PO_4 -Activated Date Palm Carbon
Poster 103	T3 PP 236	KHENICHE Abdelhakim	Optimisation des membranes protoniques à base de PVA sulfoné : effet des agents de réticulation sur les propriétés électrochimiques et thermomécaniques

Poster 104	T3 PP 192	DJELLALI Brahim Said	A Theoretical Framework for Modeling the Nonlocal Mechanical Behavior of Protein Networks in Biomolecular Resonant Sensors: Integrating Hydrogen Bonding and van der Waals Interactions
Poster 105	T3 PP 219	DILMI Souad	Electron-Phonon Coupling and Superconductivity in YC2 via first principle calculation
Poster 106	T3 PP 246	DJERIOUI Ammar	وتفككها الضوئي للملوثات بالاستعمال التقنيات الحديثة. (CuO) جسيمات اكسيد النحاس)
Poster 107	T3 PP 284	SALMI Somia	Investigation into the photocatalytic degradation of red congo dye using semiconductor
Poster 108	T3 PP 296	Abdallah RAHALI	Removal of Nickel(II) in wastewater by nanochitosan
Poster 109	T3 PP 195	BOUAFIA Sihem	Étude expérimentale du refroidissement d'un panneau solaire photovoltaïque à l'aide
Poster 110	T4 PP 40	HERIZI Achwaq	Sustainable Valorization of Wastewater Sludge: Resource Recovery for Energy and Soil Applications
Poster 111	T4 PP 269	KOUIDRI Djamilia	Physicochemical Characterization of a Natural Fiber Extracted from Kochia indica
Poster 112	T4 P P 93	BOUCHAREB Samira	Bioprocessing and structural valorization of natural lignocellulosic fibers for sustainable material development
Poster 113	T4 PP 145	HADJ KOUIDER Boubakr	Analyse de la composition chimique du quinoa et perspectives de valorisation pour l'alimentation humaine
Poster 114	T4 PP 149	LALLOUCHE Bahia	Évaluation de la valeur nutritionnelle et de la composition chimique de plants de blé destinés à la fabrication de chlorophylle alimentaire
Poster 115	T4 PP 186	YOUSFI Samia	The effect of nitrate ions on the electrochemical behavior of brass.
Poster 116	T4 PP 58	ATTOUI Warda	Elaboration et caractérisation d'un matériau composite à base de caoutchouc naturel renforcé par des fibres de verres, fibres végétales et hybrides.
Poster 117	T4 PP 70	HADROUG Aldjia	Comparative GC/MS Analysis of Essential Oil Profiles in Origanum glandulosum Desf. from Algeria and Tunisia
Poster 118	T4 P P 283	BOUCHAREB Khaled	Climatic Impact on the Performance of a Parabolic Trough Solar Power Plant: Case of the Semi-Arid Northern Region of Algeria and Southern Spain
Poster 119	T4 PP 264	SAIB Cherif	Manufacture and charecterisation of a tube made from sand and plastique waste
Poster 120	T4 PP 62	MEFTAH Lamya	Development of Activated Carbon from Almond Shells: Physico-Chemical Characterization and Application in Wastewater Treatment.
Poster 121	T4 PP 238	BELAMRI Kenza	Développement des batteries Zn/MnO ₂ pour le stockage des énergies renouvelables : une alternative écologique basée sur la valorisation des ressources minérales abondantes.
Poster 122	T4 P P188	NESSARK Faiza	Etude de la tenue a la corrosion d'un acier a304 modifie par un materiau composite : polypyrrole/TiO ₂

Poster 123	T4 PPOL86	MERABET Sarra	Effect of Thermal Environmental fluctuations on the corrosion behaviour of low-carbon steel alloy in saline conditions
Poster 124	T1 PP 307	Samir BOUACHA	Pharmacophore Generation, 3D QSAR model, Molecular Docking studies and in silico ADMET Screening of Benzimidazole Derivatives as HCV NS5B RNA-dependent RNA Polymerase In
Poster 125	T4 PP 306	Malika MERZOUGUI	Effect of Deformation and Annealing on the Microstructure and Mechanical Behavior of a Magnesium Alloy
Poster 126	T1 PP 310	Sarra BEKRI	Preparation and application of biomass-derived activated carbon for wastewater remediation.
Poster 127	T5 PP 311	Hesna BENSEDDIK	VALORIZATION OF BIOLOGICAL STUDIES OF MEDICINAL PLANT « Thapsia garganica »

15H40 –16H30	Oral session 2	Conference room "Business incubator"
---------------------	-----------------------	---

	<u>Conference Room 1</u> Animators: Pr. Mokhtar DJEHICHE Dr. Samir MOUFFOK Dr. Faiza MERITATE	<u>Conference Room 2</u> Animators: Pr. BENDEBANE Farida Dr. Smail TERCHI Dr. Samia YOUSFI	<u>Conference Room 3</u> Animators: Dr. Ammar DJERIOUI Dr. KRAIM Khairedine Dr. Abdeslam BOUZINA
15H40 –15H50	Oral 13: T3 OP 35: BOUDERBALA Ibrahim Yaacoub Influence of Zinc Acetate Concentration on the Photoelectrochemical Performance of Chemically Deposited ZnO Films	Oral 17: T4 OP 139: LARKAT Karima Caractérisation physico-chimique et composition minérale d'une argile naturelle (Région de Soubella, M'Sila, Algérie)	Oral 21: T4 OP 248 : ABCHICHE Hacina Energy Recovery and Regeneration of Used Engine Oils: Comparison between Pyrolysis and Combined Treatment Methods
15H50 –16H00	Oral 14: T1 OP 88: MESSAOUDI Noura Analysis and Evaluation of the in vitro Antioxidant, Anti-enzymatic, Anti-mold and Cytotoxicity activities of Erodium trifolium (Cav.)	Oral 18: T4 OP 194: BENDJELLOUL Sara Co-detection de l'eugenol et du butylhydroxytoluene par hydrodistillation verte et selective d'heliotropium tenuiflorum (L.) utilisant de nouveaux solvants verts	Oral 22: T4 O P 89: BENDEBANE Salima Homogeneous Catalyzed Transesterification of Biodiesel: Application of the Box-Behnken Design

16H00 –16H10	Oral 15 : T3 OP 232 : KHENICHE Abdelhakim Plant-Driven Nanotechnology: CuO Nanoparticles and Their Light-Induced Degradation of Pollutants	Oral 19 : T4 OP 237 : YAHYAOUI Zouhaira Characterization of effluent from the paper industry of Kasserine in west central Tunisia	Oral 23 : T4 O P187: NESSARK Faiza Electrosynthese et analyse des proprietes electrocatalytiques d'electrodes modifiees par des films de polypyrrole fonctionnalise contenant du nickel
16H10–16H20	Oral 16 : T3 OP 82 : KABOUYA Imane Valorisation nanoformulée des extraits d'Artemisia herba-alba pour la protection pré-récolte du blé contre les ravageurs	Oral 20 : T4 OP 38: BACHIRI Marwa The optimization of experimental conditions using Design Expert to enhance the oxidation of rhodamine B with persulfate in a sustainable solar system	Oral 24 : T2 O P 153: DJEMIAT Djamal Eddine Enhanced of flow parameters and modeling of the rheological behavior of crude oil with and without additive
16H20 – 16H30	Debate		

Day 2 – Wednesday, October 22nd, 2025 – Online via Google Meet