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

This is to certify that
TERCHI Smail

N°: **T4 OP 241**/GCAITMD/2025

Has presented ***an Oral*** *communication entitled:*

"Coques de noyaux d'abricot comme biosorbant durable pour l'élimination efficace du colorant violet de cristal"

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

Chairman of the seminar

GCAITMD '25 M'sila The 21 & 22 October 2025

Dr. BOULEGHLEM Hocine

Dean of the Faculty of Sciences

المكلف بتسيير شؤون عمادة
كلية العلوم
رابح بونار

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

(GCAITMD ' 25 M'sila- Algeria)

SEMINAR PROGRAM

Honorary Chairs

Pr. Amar BOUDELLA
Rector
UMB-M'sila

Pr. Rabah BOUNAR
Dean of the Faculty of Sciences,
UMB-M'sila

Seminar Chair
Dr. Hocine BOULEGHLEM

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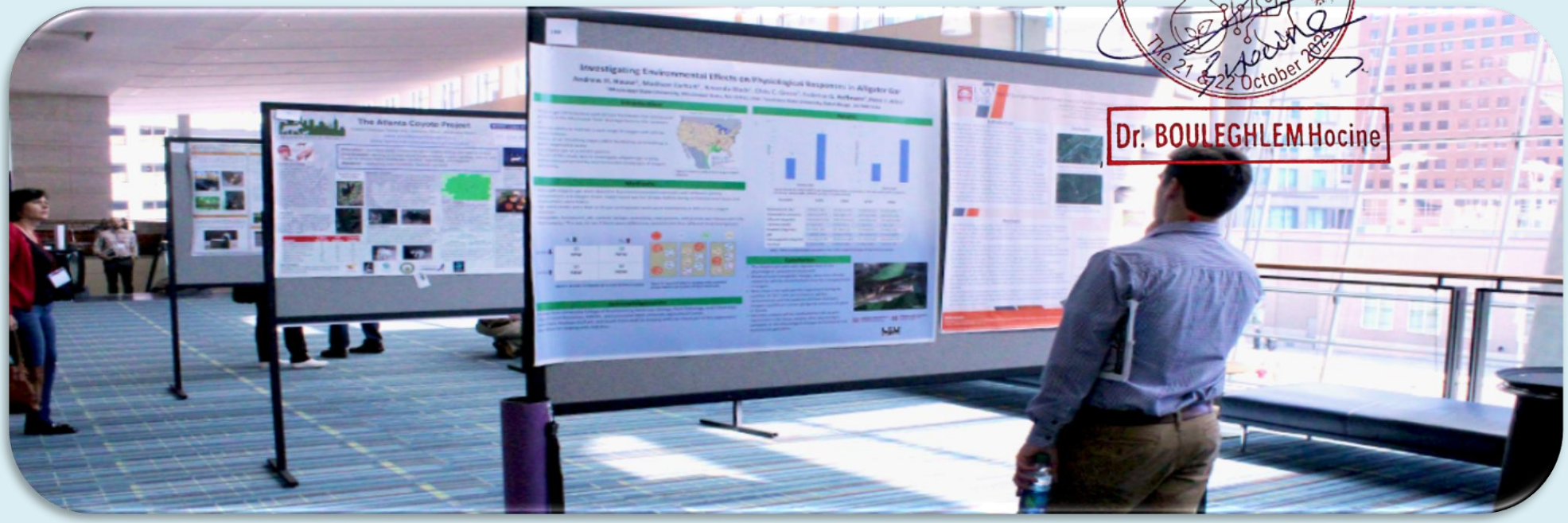
Conference room "Ibn El Haithem university center" Tuesday, October 21st, 2025	
07H30–08H30	Registrations "Guest reception and check-in"
Opening Ceremony	
08H30–09H30	Seminar Chair: Dr. Hocine BOULEGHLEM Dean of the Faculty: Prof. Rabah BOUNAR Speech by the Rector : Prof. Amar BOUDELLA
Opening Conferences	
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 : Dr. Hocine BOULEGHLEM Dr . Abdelhakim KHENICHE
10H10–10H30	Plenary Conference 03 Prof. Wissem HAMDI *Higher Institute of Water Sciences and Techniques, University of Gabes, 6072 Zrig, Gabes, Tunisia* 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. Samir BOUACHA
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 257	Chahrazed ESSEID	Etude phytochimique de l'extrait chloroforme d'une plante endémique saharienne du genre Pituranthos
Poster 3	T1 PP 305	Ahlem HACHELEF	Phytochemical analysis of Ranunculus arvensis L extracts
Poster 4	T1 PP 303	Hanane 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 Teucrium polium L. Extracts and Pistacia lentiscus L. Seeds' Oil
Poster 6	T1 PP 294	Faiza MERITATE	Phytochemical characterization of Eryngium pusillum Extracts
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	Free Radical Scavenging Efficiency of Isatin Schiff Bases(O-H versus N-H). A DFT Study
Poster 9	**T1 PP 60**	FELLAHI Zineb	Synthesis, crystallographic study and molecular modeling of the compound edta chloride monohydrate
Poster 10	**T3 PP 295**	Soumia BENLECHHEB	Structural, optical and electronic properties of Cd0.25Zn0.75S semiconductor for energy and environmental applications
Poster 11	**T1 PP 278**	CHADI Sara	Activité antioxydante, anti-inflammatoire et antibactérienne d'Anthemis pedunculata
Poster 12	**T2 PP 31**	SAIDAT Fatma	Calorimetrie, resistance et microstructure d'un liant active a base de metakaolin
Poster 13	**T1 PP 203**	TAHARCHAOUCHE Djamel	Evaluation of the Hydrolytic Degradation of Triphenylmethane Dyes Using DFT and TD-DFT Methods
Poster 14	**T1 PP 292**	Faiza MERITATE	Assessment of Biological Activities of Medicinal Plant
Poster 15	**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 16	**T3 PP 181**	SIASSI Abderrahim	Investigating the structural and optical properties of manganese oxide nanoparticles synthesized via the sol–gel method
Poster 17	**T3 PP 131**	BEN KOUIDER Tayeb	Enhanced Methylene Blue Adsorption from Water Using Fe_2O_3-Decorated Kaolinite
Poster 18	**T3 PP 2**	OUADAH Mustapha	Amélioration de l'ultrafiltration des margines par couplage aux ultrasons « la sono-ultrafiltration
Poster 19	**T3 PP 251**	TEBERMACINE Ouarda	Physical and chemical properties of nanomaterial spinel oxide doped with magnesium.
Poster 20	**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 21	**T3 PP 271**	GHERBI Khouloud	A DFT study of the 2D nanomaterial -hydrogenated silicene
Poster 22	**T3 PP 108**	MAHI Ahmed	Etude de la Fixation Du Ni $^{2+}$ et Cr^{3+} par la Resine Acide Para-Aminobenzoique-Formol
Poster 23	**T3 PP 84**	AMITOUCHE Dahbia	Iron-Vanadyl based Keggin Polyoxometallates for clean synthesis of Adipic Acid
Poster 24	**T3 PP 273**	BENDEBANE Hawa	Dégradation avancée du bleu de méthylène par un procédé Fenton-like modifié : Application du plan Box–Behnken
Poster 25	**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 26	**T3 P P 281**	REFICE Lamouri	Investigation of structural, mechanical, electronic, optical, and dynamical properties of cubic $MgLiF_3$, MgLiH

Poster 27	**T3 PP 21**	HAMZA Laila	Magnesium Oxide Nanoparticles Synthesized Using Olive Leaf Extract for Environmental Remediation
Poster 28	**T3 PP 297**	Mustapha BOUBATRA	Enhanced Visible Eriochrome Black T Degradation using ZnS/TiO_2 Heterojunction Nanocatalysts
Poster 29	**T3 PP 142**	ASSELI Rabah	Electrolytic synthesis and characterization of Ni-W alloys from a chloride bath and citrate as complexant.
Poster 30	**T3 PP 137**	Djaber SABAH	Removal of Dye Pollutants from Wastewater Using Activated Carbon Supported by Nano-oxides for the Adsorption Process
Poster 31	**T4 PP 83**	BENMAHAMMED Ahmed	Antibacterial,Antidiabetic,and Hepatoprotective Activites of the Polyphenol rich extract from pulicaria odora
Poster 32	**T4 PP 72**	GUETTOUCHI Ahlam	Molecular markers and their applications on the date palm (*Phoenix dactylifera L.*)
Poster 33	**T4 PP 266**	BRIKI Lyamine	Alkaline activation of a geopolymer based on industrial mineral waste
Poster 34	**T4 PP 199**	ZITOUNI Khalida	Enhancing Plant Fiber Properties via Chemical Modification: A Review
Poster 35	**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 36	**T4 PP 25**	DJELLAL Amel	Valorization of Olive Wood Ash for the Debittering Step in Green Table Olive Processing
Poster 37	**T4 PP 239**	BOUCHELKIA Imene	Hydrogen Production from Plastic Waste via Pyro-Gasification: Dynamic Simulation Using Aspen Plus
Poster 38	**T4 PP 189**	ASLOUM Abdelmadjid Yagoub	Toxic activity of the Chemical Components of Coriaria myrtifolia on the Survival of Drosophila melanogaster.
Poster 39	**T1 PP 309**	Abdelhalim SAADI	Health Risks of Consuming Spirulina Grown in Mineral-Enriched Media
Poster 40	**T4 PP104**	ZERROUKI Sara	Phytochemical investigation of an Algerian. Plant: a green approach for bioactive compounds discovery
Poster 41	**T4 PP 33**	CHEBIRI Fatima	Phytochemical Analysis and Evaluation of the Antioxidant Activity of Methanolic and Aqueous Extracts of Cynoglossum creticum
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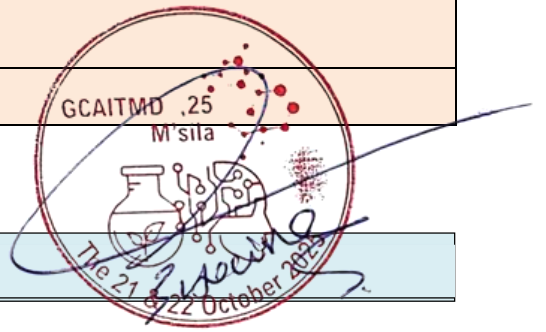
Poster 43	**T5 PP 170**	HENTABLI Mohamed	AI-Driven Modeling of Occupational Exposure Limits for Active Pharmaceutical Ingredients Using Cheminformatics and Machine Learning
Poster 44	**T3 PP 21**	Laila HAMZA,	Magnesium Oxide Nanoparticles Synthesized Using Olive Leaf Extract for Environmental Remediation
Poster 45	**T4 PP 302**	Wassila REMACHE	Solar light-Induced Degradation of Cresol Red in the Presence of the Fe(III)-NTA Complex
Poster 46	**T1 PP 14**	Meriem HAMLA	Formulation and Assessment of an Environmentally Friendly Dishwashing Detergent from Biosourced Surfactants

Poster 47	**T1 PP 99**	BELHADDAD Oum El-Kheir	Qualitative and quantitative phytochemical analysis and biological activities of Fraxinus excelsior L extracts
Poster 48	**T1 PP 9**	AMAMRA Samra	Moringa Oleifera fruit extracts: Phytochemical Screening, Antioxidant and Antibacterial Activities
Poster 49	**T1 PP 103**	MOHAMADI Sabrina	Antimicrobial and antioxidant activities of aqueous extracts of Rhus tripartita species
Poster 50	**T1 PP 215**	CHENNA Malika	Valorization of biofloculants for the Textile dyes by coagulation Flocculation Green chemistry
Poster 51	**T1 PP 303**	Abdelouahab DIAFAT	Zinc tolerance and growth adaptation of malva sylvestris l. In Zinc contaminated soils
Poster 52	**T1 PP 109**	Abdeslem BOUZINA	Microwave-assisted synthesis of imino-acridine derivatives with antioxidant potential, combined in vitro and in silico investigations
Poster 53	**T4 PP 200**	Aida KEMMOUNDJI	In vivo anti-inflammatory and antibacterial activities of n-Butanol Extract from an endemic Algerian Ficus
Poster 54	**T1 PP 9**	AMAMRA Samra	Moringa Oleifera fruit extracts: Phytochemical Screening, Antioxidant and Antibacterial Activities
Poster 55	**T1 PP 103**	MOHAMADI Sabrina	Antimicrobial and antioxidant activities of aqueous extracts of Rhus tripartita species
Poster 56	**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** ***Higher Institute of the Sciences and Techniques of Waters of Gabes, University of Gabes, Tunisia*** **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. Noureddine HAMDI** ***Composite Materials and Clay Minerals Laboratory, National Center for Research in Material Sciences, Technopole Borj Cedria, 8020 Soliman, Tunisia*** ***Higher Institute of Water Sciences and Techniques, University of Gabes, 6072 Zrig, Gabes, Tunisia*** **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 **Dr. Salima ZIDANE**
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**

	Oral session 1	**Afternoon** **Conference room "Business incubator"**	Dr. BOULEGHLEM Hocine

	Conference Room 1 **Animators:** **Dr. Oumelkheir BELHADDAD** **Dr. Kenza BOUCHELOUCHE** **Dr. NESSARK Faiza**	**Conference Room 2** **Animators:** **Dr. Abdelhalim SAADI** **Dr. Fatima Zohra MEZAHI** **Dr. Samra AMMAMRA**	**Conference Room 3** **Animators:** **Dr. Samia Yousfi** **Dr. Meriem HAMLA** **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 7: T3 OP 110 : Imane DJOUABI** Antibacterial Activity of Green Synthesized NiO Nanoparticle and NiO-ZnO Nancomposite using Limon Citrus Extract	**Oral 10: T4 PP 241 : TERCHI Smail** Coques de noyaux d'abricot comme biosorbant durable pour l'élimination efficace du colorant violet de cristal

14H20 – 14H30	**Oral 3: T1 OP 272: Dalila BENCHEIKH** Antibacterial activity of hydroethanolic leaf extract of Ziziphuf spina christi against Gram positive and Gram negative bacteria	**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
14H30 –14H40	**Oral 4: T3 OP 282: Fahima ARAB** 3D Printed Polymer Phononic crystal structures for the Detection and Characterization of Acetic Acid		

14H40–14H50	**Debate**

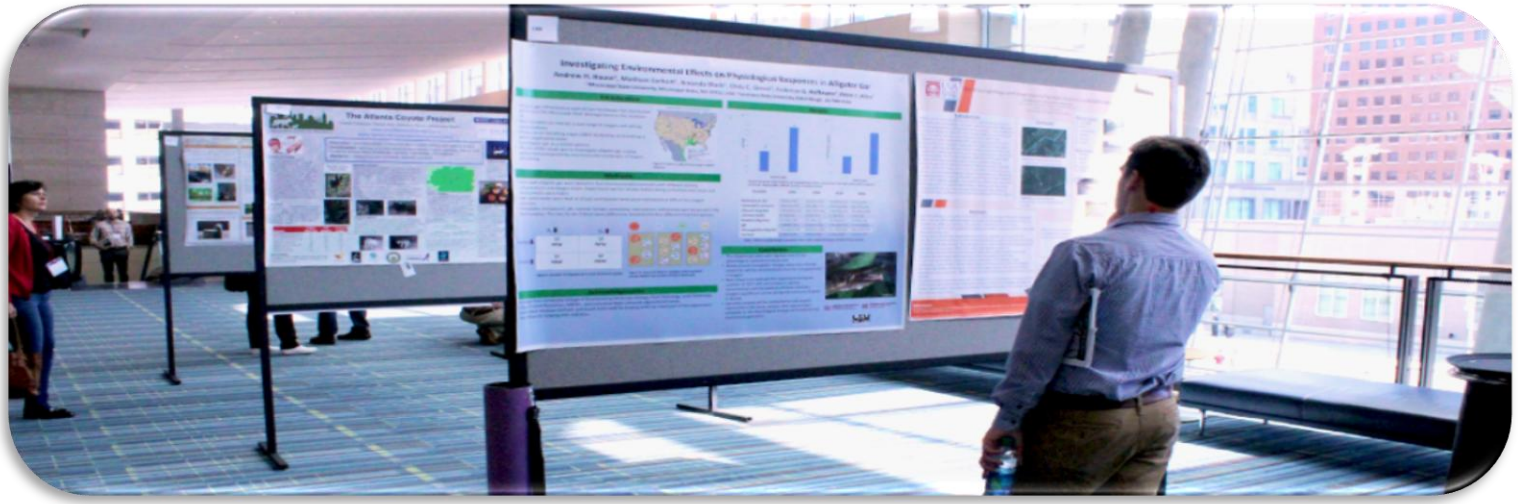
Business incubator

Coffee break 45min

Posters Session 2 14H50–15H35

Animators:

President : Prof. Fatima Zohra MEZAHI
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)



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The 21 & 22 October 2025

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Poster 58	**T1 PP 03**	SAGHIRI Khadijah	Structure-Based Design and Pharmacokinetic Studies of Novel GAC Inhibitors for Triple-Negative Breast Cancer
Poster 59	**T1 PP 106**	BENZEGGOUTA Naïrouz	Plantes Médicinales Anti-inflammatoires Citées dans la Médecine Prophétique
Poster 60	**T1 PP 259**	BOULEGHLEM Hocine	Eco-Responsible Extraction of Collagen from Food Waste: Towards a Green Approach
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Poster 62	**T1 PP 178**	MAKOUF Naouel	Synthesis, Structure and Molecular Docking Studies of a Cobalt(II) Complex Derived from Phthalimide Ligands
Poster 63	**T1 PP 220**	BOUCHELOUCHE Kenza	Phytochemical screening, biological activity and corrosion inhibition of a medicinal plant
Poster 64	**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 65	**T1 PP 163**	SEBAI Ibtissam	Visible light induced hydrogen evolution from water on the hetero-system 10% NiO/γ–Al2O3
Poster 66	**T1PP268**	LACHACHE Sabira	Physicochemical study of Medicinal plants in the region,Algeria
Poster 67	**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 68	**T1 P P 260**	ZIDANE Salima	Evaluation of a Binary Complex for Use in Cosmetics
Poster 69	**T1 PP 245**	BENADEL Zohra	Extraction And Treatment Of Cellulosic Fibers From Date Palm
Poster 60	**T1 PP 300**	Sarra Chabane	Phytochemical Profile and Anticancer Potential of Pituranthos scoparius
Poster 61	**T2 PP 75**	CHETIOUI Souheyla	Cu(II) coordination polymer bearing diazenyl-benzoic ligand: Synthesis, physicochemical and XRD/HSA-interactions
Poster 62	**T2 PP 193**	KADI Souad	The role of Artificial Intelligence in sustainable smart food packaging: Recent advances
Poster 63	**T2 PP 136**	KALOUN Amina	: Optimized PVA-Based Cationic Membranes for Efficient Dual-Electrolyte Water Electrolysis.
Poster 64	**T2 PP 13**	GHERBAOUI Fatima	Contribution to the Study of the Physico-Chemical Quality of Water in the Hodna Basin
Poster 65	**T2 PP 227**	MOKRANE Amira	Thermal Stability of Sol-Gel Derived Hydroxyapatite for Ca/P Molar Ratio 1.67 and 1.5
Poster 66	**T3 PP 64**	MAALMI Mohamed	Experimental study of the effect of nitric acid on wollastonite synthesis via sol-gel method

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Poster 67	**T3 PP 147**	GHARNOUT Zahia	PVA-Based Proton-Exchange Membranes for Energy-Efficient Dual-Electrolyte Water Electrolysis.
Poster 68	**T3 PP 76**	TURQUI Tarik	Eco-Friendly Synthesis of AgNPs Using Asteraceae Extract and Their Comparative Antioxidant Potential
Poster 69	**T3 PP 231**	SAADI Taieb	Electronic structure, mechanical and optical properties of hydrogen storage alkaline amides XNH2 (X = Li, Na) compounds.
Poster 70	**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 71	**T3 PP 117**	Oualid DILMI	Effect of potential on the electrochemical nucleation and growth of the nanostructured indium thin film
Poster 72	**T3 PP150**	LAKHAL Lynda	The effect of physical properties of nanostructural ZnSe quantum Dots
Poster 73	**T3 PP 190**	CHAHLAT Said	Computational Study of a Half-Heusler Alloy Using Ab Initio Methods
Poster 74	**T3 PP 138**	SADEDDINE Sarra	solvothermal syntesis ,characterization and antibacterial activity of undoped and Ag doped ZnO
Poster 75	**T3 PP 212**	MEZRAG Fadila	Band gap energies and optical properties in nanostructured semiconductor InAs: The Effect of Quantum Confinement
Poster 76	**T3 PP 132**	CHENAGUE Hanane	Spray Pyrolysis Deposition of Aluminum- Doped Zinc Oxide(AZO) Thin Films for Energy Applications
Poster 77	**T3 P P133**	TALHI Souaf	Removal of Methyl Orange dyes from water Utilizing Layered Double Hydroxide ($NiFeCO_3$).
Poster 78	**T3 PP 97**	TIAIBA Wafa	Efficient Methylene Blue Adsorption: Experimental & DFT Analysis of H_3PO_4-Activated Date Palm Carbon
Poster 79	**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 80	**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 81	**T3 PP 219**	DILMI Souad	Electron-Phonon Coupling and Superconductivity in YC2 via first principle calculation
Poster 82	**T3 PP 246**	DJERIOUI Ammar	وتفككها الضوئي للملوثات بالاستعمال التقنيات الحديثة. (CuO)جسيمات اكسيد النحاس
Poster 83	**T3 PP 284**	SALMI Somia	Investigation into the photocatalytic degradation of red congo dye using semiconductor
Poster 84	**T3 PP 296**	Abdallah RAHALI	Removal of Nickel(II) in wastewater by nanochitosan
Poster 85	**T4 PP 40**	HERIZI Achwaq	Sustainable Valorization of Wastewater Sludge: Resource Recovery for Energy and Soil Applications
Poster 86	**T4 PP 269**	KOUIDRI Djamila	Physicochemical Characterization of a Natural Fiber Extracted from Kochia indica

Poster 87	**T4 P P 93**	BOUCHAREB Samira	Bioprocessing and structural valorization of natural lignocellulosic fibers for sustainable material development
Poster 88	**T4 PP 145**	HADJ KOUIDER Boubakr	Analyse de la composition chimique du quinoa et perspectives de valorisation pour l'alimentation humaine
Poster 89	**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 90	**T4 PP 186**	YOUSFI Samia	The effect of nitrate ions on the electrochemical behavior of brass.
Poster 91	**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 92	**T4 PP 70**	HADROUG Aldjia	Comparative GC/MS Analysis of Essential Oil Profiles in Origanum glandulosum Desf. from Algeria and Tunisia
Poster 93	**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 94	**T1 PP 312**	Youssra MIHOUNE	Synthesis and Antioxidant Evaluation of Nitrovanillin Derivatives
Poster 95	**T4 PP 62**	MEFTAH Lamya	Development of Activated Carbon from Almond Shells: Physico-Chemical Characterization and Application in Wastewater Treatment.
Poster 96	**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 97	**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 98	**T4 PPOL86**	MERABET Sarra	Effect of Thermal Environmental fluctuations on the corrosion behaviour of low-carbon steel alloy in saline conditions
Poster 99	**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 100	**T4 PP 306**	Malika MERZOUGUI	Effect of Deformation and Annealing on the Microstructure and Mechanical Behavior of a Magnesium Alloy
Poster 101	**T1 PP 310**	Sarra BEKRI	Preparation and application of biomass-derived activated carbon for wastewater remediation.
Poster 102	**T5 PP 311**	Hesna BENSEDDIK	Valorization of biological studies of medicinal plant « thapsia garganica »
Poster 103	**T1 PP 302**	Abdelouahab DIAFAT	In vivo and in vitro anti-inflammatory and anti-arthritic effect of *Peganum harmala*. L
Poster 104	**T1 PP 304**	DRIF Seif Eddine	Synthèse de ZnO nanoparticules dopés Charbon actif à base des grains d'olive pour le traitement des eaux usées par photocatalyse solaire

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Poster 106	**T3 PP 182**	Zoubida HAMMOU	Characterization and modification of an Algerian clay and its application as anadsorbent
Poster 107	**T4 PP 288**	Hamza MEGHERBI	The effect of phosphoric acid on the physiochemical properties of activated carbons made from biomass leaves: porosity characteristics, surface chemistry, and adsorption capacity
Poster 108	**T4 PP 314**	LAIFA Fakhreddine	Effect of Alkaline Treatment on the Crystallinity Index and Crystallite Size of Silybum Marianum Lignocellulosic Fibers
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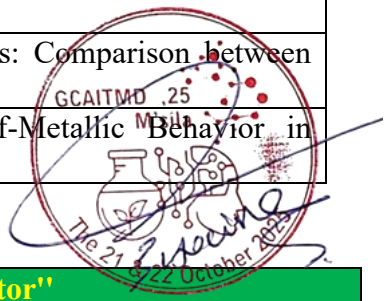
Poster 110	**T4 PP 248**	ABCHICHE Hacina	Energy Recovery and Regeneration of Used Engine Oils: Comparison between Pyrolysis and Combined Treatment Methods
Poster 111	**T3 PP 322**	Walid MENASRI	FP-LAPW and Hybrid Functional Study of the Half-Metallic Behavior in $CuMnInSe_3$



Dr. BOULEGHLEM Hocine

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

	Conference Room 1 **Animators:** **Pr. Mokhtar DJEHICHE** **Dr. Samir MOUFFOK** **Dr. Faiza MERITATE**	**Conference Room 2** **Animators:** **Pr. BENDEBANE Farida** **Dr. Smail TERCHI** **Dr. Samia YOUSFI**	**Conference Room 3** **Animators:** **Dr. Ammar DJERIOUI** **Dr. Salima ZIDANE** **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 22 : T4 O P 89: BENDEBANE Salima** Homogeneous Catalyzed Transesterification of Biodiesel: Application of the Box-Behnken Design
15H50 –16H00	**Oral 15 : T3 OP 232 : KHENICHE Abdelhakim** Plant-Driven Nanotechnology: CuO Nanoparticles and Their Light-Induced Degradation of Pollutants	**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 23 : T4 O P187: NESSARK Faiza** Electrosynthese et analyse des proprietes electrocatalytiques d'electrodes modifiees par des films de polypyrrole fonctionnalise contenant du nickel

16H00 –16H10	**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: Mohamed Rafik BERINIE** Enhanced of flow parameters and modeling of the rheological behavior of crude oil with and without additive

16H20 – 16H30	**Debate**

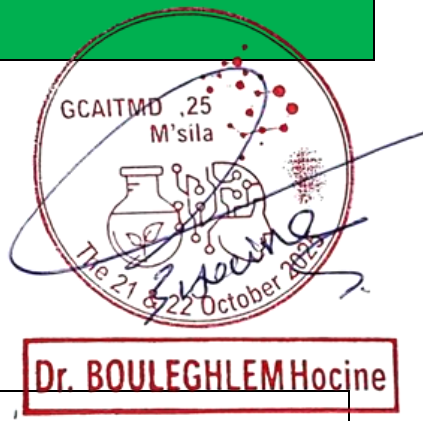
Day 2 – Wednesday, October 22nd, 2025 – Online via *Google Meet*

Opening Ceremony: 08H45-09H00

Seminar Chair: Dr. Hocine BOULEGHLEM

Session 1 - Room 1 09H00-13H00

Animators:
Dr. Salima ZIDANE
Dr. Mohamed Lamine FREIDJA
Dr. Abdelhakim KHENICHE
Dr. Nadjia LATELLI
Dr. Nawel MAAKOUF



Google Meet link for participation – Room 1: https://meet.google.com/fgw-nwuz-nda

N°	Time	Reference	First Name and Last Name	Title of presentation
1	**09H00- 09H10**	T1 O EL74	ARAB Houda	Theoretical study of the interaction between proteins; collagen, keratin and blue indigo dye by molecular docking approach
2	**09H10- 09H20**	T1 O EL 157	CHERAFT-BAHLOUL Nassima	Effet protecteur de l'extrait brut de feuilles de Clematis flammula sur la cicatrisation des ulcères chez la souris.
3	**09H20- 09H30**	T1 O EL 56	ALLAB Yacine	Redox Behavior and Antioxidant Activity of Tetrazole-Based Ni (II) Complexes: A Green Solid-State Synthesis and DFT Study
4	**09H30- 09H40**	T1 O EL 128	YAHLA Sara	Essential Oil of Teucrium aureo-candidum as a Natural Antibacterial Agent against Resistant Pathogens: A Docking-Guided Approach

5	**09H40- 09H50**	T1 O EL 148	MAYOUF Nozha	In vitro anti oxidant capacity , Phytochemical Evaluation and anti inflammatory activity by Bsa of hydro Methanolic Extract from fruit
6	**09H50- 10H00**	T1 O EL 156	BENATTIA Mohamed	Optimisation de la production d'hydrogène vert par électrolyse PEM. Application de plan Box-Behnken
7	**10H00- 10H10**	T1 O EL 107	MERDJA Khedidja	DFT and Molecular Docking Insights into New Thiohydantoin Derivatives with Potential Biological Activity
8	**10H10- 10H20**	T2 O EL 226	ARIS Serine	Development of biocomposites based on palm fiber for sustainable applications
9	**10H20-10H30**	T1 O EL 125	CHERAITIA Amina	Mechano-enzymatic and deep eutectic solvent (DES) mediated sulfoxidation reactions
10	**10H30- 10H40**	T1 O EL 256	CHEHROURI Manel	Palladium (II) complexes of amphiphilic azoles as recoverable catalysts in Suzuki-Miyaura cross-coupling reaction.
11	**10H40- 10H50**	T1 O EL 209	HASNI Ferdaous	Investigation of New Inhibitors as Anti-Alzheimer Agents Through Molecular Modeling Methods
12	**10H50- 11H00**	T1 O EL 242	ZETCHI Amel	Détermination d'une nouvelle voie d' accès aux β-aminocétone et leurs effets thérapeutiques
13	**11H00- 11H10**	T1 O EL 8	HANTOUR Razika	Dosage des composés phénoliques et évaluation de l'activité antioxydante d'une plante de la famille des Malvacées
14	**11H10- 11H20**	T5 O P 26	TOUATI Hana	Comparison of DFT and AI-Predicted IR and NMR Spectra of (R)- and (S)- 1-Fluoroethanol
15	**11H20- 11H30**	T1 O EL 168	GHERZOULI Hiba	Phytochemical study and antioxidant activity evaluation of the methanolic extract of Borago officinalis L.
16	**11H30- 11H40**	T1 O EL 225	MENNANA Imene	Nouvelle voie de synthèse de Naphtoxazinone par un nouveau catalyseur
17	**11H40- 11H50**	T1 O EL 115	AZIZI Nassima	Contribution to the study of the biological effect of Citrullus colocynthis seeds
18	**11H50- 12H00**	T1 O EL 115	CHAHBAOUI Narimene	Combined Pharmacophore Modeling, 3D-QSAR, Molecular Docking, and Molecular Dynamics Simulations for the Identification of Novel Curcumin Derivatives Against Pancreatic Cancer
19	**12H00- 12H10**	T2 O EL 191	DIKES Loubna	Isolation and Characterization of Biocorrosive Bacteria from Industrial Systems: A Step Toward Sustainable Infrastructure Protection
20	**12H10- 12H20**	T2 O EL 160	BAIRA Fayçal	Electronic Characteristics and Deformation of Nanotubes Under Influence of an Electric Field
21	**12H20- 12H30**	T2 O EL 54	Rahla Miloud	Elaboration des matériaux composites renforcés par des fibres Naturelles
22	**12H30- 12H40**	T3 O EL 279	BOUSEMAT Hadjer	Modélisation et investigation expérimentale du processus d'adsorption binaire sur un adsorbant nanostructuré

	Session 1 - Room 2 09H00-13H00

Animators:

Dr. Salima ZIDANE

Dr. Ahlem HACHELAF

Dr. Kenza BOUCHELOUCHE

Dr. Walid DILMI

Dr. Amina RAGHDI

Google Meet link for participation – Room 2: https://meet.google.com/zww-jrpb-zos

N°	Time	Reference	First Name and Last Name	Title of presentation
24	**09H00- 09H10**	T3 O EL 39	BOUIGHI Habib	Simulation of heat dissipation by twisted surface fins
25	**09H10- 09H20**	T3 O EL 258	ELHABCHI Yasmine	Microbial Nanoparticle Synthesis: a sustainable method for Biocorrosion Mitigation in Oil and Gas Pipelines
26	**09H20- 09H30**	T5 OEL 55	BOUDAOUD Asma	Evaluating AI Models for IR Spectral Analysis of Phenol: Accuracy and Limitations in Molecular Characterization
27	**09H30- 09H40**	T4 O EL 66	DELHOUM Hadia	Valorization of natural resources: study of the antimicrobial activity of Plectranthus amboinicus (Cuban oregano) extract
28	**09H40- 09H50**	T3 O EL 35	KHELOUFI Slimane	Influence of Zinc Acetate Concentration on the Photoelectrochemical Performance of Chemically Deposited ZnO Films
29	**09H50- 10H00**	T4 O EL 41	BOUBLATA Nour El Imene	Hyoscyamus albus : Une Plante Médicinale et Agricole à Redécouvrir
30	10H00- 10H10	T4 O EL 291	BOUBRIK Fairouz	Valorisation D'extrait Acétate D'éthyle De Thé Vert (Camellia sinensis L.) Comme Ressource Naturel Renouvelable
31	**10H10- 10H20**	T4 O EL 180	TOUATI Fatima Zohra Batoul	Soil Valorization Strategies in Barley Cropping Systems in Arid Agroecosystems: The Case of Ziban
32	**10H20-10H30**	T4 O EL 243	BOUNOURI Yassine	Valorisation de matériaux naturels pour le traitement d'eaux colorées : cas de l'Orange II
33	**10H30- 10H35**	T4 P EL 210	CHOUIKH Nesrine	Antioxidant properties and preventive effect of aqueous leaf extract of Pistacia lentiscus L. against Oxaliplatin-induced oxidative stress in isolated rat liver mitochondria
34	**10H35- 10H40**	T4 P EL 80	MEBARKI Moubarek	Élimination des colorants bleu de méthylène et rouge Congo dans une solution aqueuse à l'aide de biomasse de férule.
35	**10H40-10H45**	T4 P EL 12	LAKAS Manal	Pharmacological insights into the anti-inflammatory and antioxidant activities of Anvillea radiata
36	**10H45- 10H50**	T4 P EL 51	GUENANE Nesrine	De la plante au potentiel thérapeutique : propriétés antitumorales prédites de Teucrium polium L.
37	**10H50- 10H55**	T4 P EL 69	SAIDI Asma	Pharmacotoxicological study of aqueous and hydro-methanolic extracts of Pergularia tomentosa L.
38	**10H55- 11H00**	T4 P EL 265	Saliha TORCHE	Contribution to an ethnobotanical study on plants with antiseptic and healing properties in the Khenchela and Batna regions
39	**11H00- 11H05**	T4 PEL 255	BADAOUI Fatima Zohra	Quantitative ethnobotanical survey on the cosmetic use of plants in Constantine-Algeria

40	**11H05- 11H10**	T4 P EL 262	ATAOUAT Zana	L'effet de prétraitement chimique sur la production de biogaz à partir des boues de la station d'épuration
41	**11H10- 11H15**	T4 P EL 101	KOUROULOU Zoubida	Extraction and Characterization of a Biopolymer from Biomass Waste
42	**11H15- 11H20**	T1 P EL 113	GUENANE Wissem	Caractérisation Chromatographique et Spectrophotométrique des Composés Phénoliques d'une Plante Médicinale
43	**11H20- 11H25**	T4 P EL 144	BOUTARFA Soumia	Antimicrobial activity of fruit peels extracts cultivated in Algeria.
44	**11H25- 11H30**	T4 P EL 29	HOUITI Kaouthar	Sustainable Biocatalysis Using Yeast-Derived Enzymes: A Green Approach to Molecular Design

	Session 1	**Room 3**	**09H00-13H 00**

Animators:

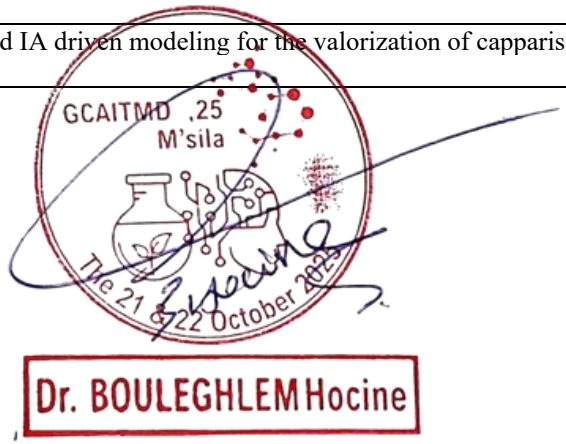
Dr. Salima ZIDANE
Dr. DJEMLI Amer
Dr. BENZEGGOUTA Nairouz
Dr. MEZZAHI Fatima Zohra
Dr. YOUSFI Samia

Google Meet link for participation – Room 3: https://meet.google.com/fjm-vdyb-nbi

N°	Time	Reference	First and last name	Title of presentation
45	**09H00- 09H05**	T4 P EL 202	KHEMKHAM Aicha	Phenolic content, antioxidant activity of essential oils of Teucrium polium and Artemisia herba alba: combination effect
46	**09H05- 09H10**	T4 P EL 140	SAAD Fatima	Valorization of Eggshell-Derived Biosorbent for Efficient Dye Removal from Wastewater
47	**09H10- 09H15**	T4 P EL 285	SAOUDI Soulef	Determination of bioactive compounds, anti-inflammatory and antioxidant properties of hydroealcolic extract of Galuim aparine L
48	**09H15- 09H20**	T4 P EL 73	BELAID Taous	Biosorption of Cu(II) using eggshell-alginate composite beads: kinetic and thermodynamic study
49	**09H20-09H25**	T4 P EL 286	HEDIA Nacera	Valorization of Faba Bean (Vicia faba L.) Residues through FTIR Characterization for Integration into Broiler Chicken Feed
50	**09H25-09H30**	T4 P EL 261	ADDA Messaouda	Characterization, phytochemical and biological activities of essential oils of few spontaneous plants in Tiaret region (Algeria).
51	**09H35-09H40**	T4 P EL 162	MELLAL Hanane	Enzymatic Bioprocesses from Thermal Bacterial Strains: Potential and Perspectives

52	**09H40-09H45**	T1 P EL 94	LAMOURI Abdelmouman	In silico exploring of phytochemistry components and in vitro bioactivity of essential oils: bioinformatics structure and biological prospects
53	**09H45-09H50**	T1 PEL19	ARAB Ouahiba	Phytochemical screening, therapeutic and medicinal virtues of a plant of the Ginkgoaceae family
54	**09H50-09H55**	T1 P EL 205	BOUNAB Souhila	Étude phytochimique et bioactivité des huiles essentielles d'une plante Asteraceae:Artemisia herba-alba provenance de Hassi Behbeh(wilaya de Djelfa, Algérie).
55	**09H55-10H00**	T1 P EL 222	FAR Hadjer	Organic Synthesis of New Proline-Based Metal Complexes: Spectroscopic Characterization and Antibacterial Potential
56	**10H00-10H05**	T1 P EL 45	BENAISSA Mohamed Rafik	Synthèse et Etude Théorique d'un Complexe de Cobalt(II) Incorporant un Triazole Substitué lié à la Phénanthroline
57	**10H05-10H10**	T2 P P02	BACHIR BEY Imene	Influence of Applied Voltage on the Fatigue Performance of Copper-Embedded Multifunctional Composites
58	**10H10-10H15**	T2 P EL 217	ABDELLAOUI Fatiha	Impact de l'antibiothérapie sur l'émergence de la résistance des Entérobactéries aux antibiotiques de la famille des bêta-lactamines
59	**10H15-10H20**	T2 P EL 207	FEKHAR Nassima	Resistance profile of Staphylococcus aureus (MRSA) isolates to antibiotics in infections in the hospital CHU in the West region of Algeria
60	**10H20-10H25**	T1 P EL 167	MAYOUF Nozha	Screening of Plant Extract for Antioxidant Activity and anti inflammatory effect by the method of egg albumin
61	**10H25-10H30**	T1 P EL 81	LAHRECHE Saadia	Removal of polutant by adsorption process using an activated carbon adsorbents prepared from prickly pear fruit seeds
62	**10H30-10H35**	T3 P EL 224	MAKHLOUFI Mohamed Cherif	Green Chemistry for Environmental and Industrial Transformation
63	**10H35-10H40**	T5 P EL 37	GUENDOUZ Djemaa	First principles calculations on structural. mechanical and optical properties of alkaline earth hydride CaH for hydrogen storage applications
64	**10H40-10H45**	T2 P EL 32	AMIRA Aicha	In vitro antibacterial activity of methanolic leaf extract of Eucalyptus citriodora
65	**10H45-10H50**	T5 P EL 11	REZAZI Sarah	Ai And Molecular Design: Harnessing Artificial Neural Networks For High-Fidelity Prediction Of Anti- Inflammatory Compounds
66	**10H50-10H55**	T3 P EL 104	BEKKAR Fadila	Highly Efficient Photocatalytic Degradation of Methylene Blue Dye Using Sodium Alginate/TiO_2 Nanocomposites
67	**10H55-11H00**	T1 P EL 223	RADJA Djamaia Sabiha	Teneur en 5-hydroxyméthylfurfural (HMF) dans les miels de la région de Mostaganem
68	**11H00- 11H05**	T1 P EL 213	GHECHAM Abdelmoudjib	In Silico Molecular Docking of LC-MS-Identified Phytocompounds as Potential α-Amylase Inhibitors
69	**11H05- 11H10**	T3 P EL 277	BELAIDI Ouafa	Organometallic nanostructures for efficient dye removal: Towards greener water treatment technologies
70	**11H10- 11H15**	T3 P EL 263	ZITOUNI Imene	Functionalized Kaolin with Green-Synthesized TiO_2 Nanoparticles for Dye Adsorption"
71	**11H15- 11H20**	T1 P EL 53	BOUNAB Bochra	A novel green synthesis of a nanomaterial using plant extract, optimization of operating parameters
72	**11H20- 11H25**	T1 P EL 150	HEBBACHE Zahida Yasmina	Contribution of Pituranthos Scoparius to green chemistry : extraction and therapeutic valorization
73	**11H25- 11H30**	T1 P EL 96	SADLI Houssam Eddine Mustapha	Polyphenolics Compounds and Antioxidant Activity Using DPPH Assay of Four Thymus Species from Western Algeria

74	**11H35- 11H40**	T1 P EL87	BAKI Samira	Etude théorique de la réaction de cycloaddition dipolaire-1,3 du nitroso oxide avec le fluoroéthylène.
75	**11H40- 11H45**	T1 P EL 208	KHELIFA Sonia	Box-Behnken experimental approach for the removal of cationic dyes via a green emulsified liquid membrane
76	**11H45-11H50**	T1 PEL 183	CHERAIET Zine Laabidine	Synthesis and biological activities α-amino phosphonate derivatives of thiadiazol
77	**11H50- 11H55**	T1 P EL 100	LITIM Sarra	Antidiabetic Activity of Cold-Pressed Linseed and Chia Seed Oils
78	**11H55- 12H00**	T1 PEL 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
79	**12H00- 12H05**	T1 P EL 154	Besma Saoudi	Synthèse de dérivés polycycliques originaux comportant comme structure de base un noyau Pyrazole via une réaction d'arylation directe catalysée par le palladium
80	**12H05- 12H10**	T1 P EL 214	BOUAFIA Waffa	In Silico Evaluation of Plant-Derived Flavonoids Identified by LC-MS as Potential Antibacterial Agents Against Gram-Positive and Gram-Negative Bacteria
81	**12H05- 12H10**	T1 PEL 85	MEKKI Sofiane	Copper triazole complex supported on Fe3O4@SiO2nanoparticles as eco-friendly nanocatalyst in solvent-free Biginelli reaction
82	**12H10- 12H15**	T4 PEL 158	Karim TIGHILET	Impact of Extraction Methods on Phytochemicals and Bioactivity: A Green Chemistry Approach
83	**12H15- 12H20**	T3 P EL 224	MAKHLOUFI ALI	Multiscale Modeling Of Moisture Diffusion In Polymer/Clay Nanocomposites
84	**12H20- 12H25**	T1 P EL 28	KARKOURI ILHAM	Computational Approaches to Screening Plant Phytochemicals: Molecular Docking, ADME Prediction, and Experimental Correlation: A Literature-Based Review
85	**12H25- 12H30**	T4 P EL 122	SADOK Zeyneb	Valorisation of Alfalfa Sprouts as a Source of Antioxidant and Anti-Inflammatory Bioactive Compounds
86	**12H35- 12H40**	T4 P EL 280	LAKHDARI Chafika	Green drying strategies and IA driven modeling for the valorization of capparis Spinoza buds as functional ingredients



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21-22 October 2025

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Coques de noyaux d'abricot comme biosorbant durable pour l'élimination efficace du colorant violet de cristal

TERCHI Smail[1,*], LADJAL Naziha[2] and DEGHFEL Bahri

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[2]Affiliation 2 (centered, italic, Arial font, 14 points)
[n]Affiliation n (centered, italic, Arial font, 14 points)
* Corresponding author. E-mail: smail.terchi@univ-msila.dz

INTRODUCTION

- La contamination des eaux par les colorants synthétiques est un problème environnemental majeur, notamment dans les effluents des industries textiles, papetières, cosmétiques et du cuir. Parmi ces polluants, le cristal violet (CV) est largement utilisé pour la teinture et les applications biologiques. Ce colorant cationique est très toxique, persistant et difficilement biodégradable, représentant ainsi un danger pour les écosystèmes aquatiques et la santé humaine.
- Plusieurs procédés de traitement tels que l'oxydation, la coagulation ou la filtration membranaire ont été utilisés pour éliminer le CV, mais ils restent coûteux, énergivores et génèrent des sous-produits indésirables. L'adsorption apparaît comme une alternative simple, efficace et économique. Le charbon actif est le plus utilisé, mais son coût élevé et la difficulté de régénération limitent son emploi à grande échelle.
- Pour surmonter ces limites, l'utilisation de biosorbants issus de déchets agricoles offre une solution durable et peu coûteuse. Ces matériaux naturels et biodégradables permettent à la fois la dépollution et la valorisation de résidus organiques. Plusieurs sous-produits agricoles, tels que les pelures d'agrumes, les coques d'arachide ou les rafles de maïs, ont montré de bonnes capacités d'adsorption.
- Dans ce contexte, cette étude explore l'utilisation des noyaux d'abricot comme nouveau biosorbant pour l'élimination du cristal violet en solution aqueuse. Abondants, renouvelables et souvent non valorisés, ces noyaux présentent une forte capacité d'adsorption et une bonne régénérabilité après plusieurs cycles.
- Ce travail vise à proposer une approche écologique, économique et durable pour le traitement des eaux usées colorées, tout en promouvant la valorisation d'un déchet agricole local dans une logique d'économie circulaire.

MATERIALS AND METHODS

- Le cristal violet (CV) utilisé a été fourni par la société Biochem Chemopharma (France). Il présente une masse molaire de 407,97 g·mol^{-1}, une solubilité dans l'eau de 9 g·L^{-1} à 20 °C, un pH de 6,8 et un maximum d'absorption à 590 nm.
- Les noyaux d'abricot ont été collectés dans une ferme de Metarfa (wilaya de M'Sila, Algérie). Après séparation de la pulpe, ils ont été lavés à l'eau distillée puis trempés dans une solution de peroxyde d'hydrogène (H_2O_2) afin d'éliminer les impuretés. Les noyaux ont ensuite été rincés, séchés à 80 °C pendant 6 h, broyés et tamisés pour obtenir une poudre fine (< 80 µm), utilisée comme biosorbant.
- L'adsorption du CV sur l'ASS a été étudiée par des essais en Batch. Les effets du temps de contact, du pH, de la dose d'adsorbant, de la concentration initiale et de la température ont été examinés. Les expériences cinétiques ont été réalisées à 20 °C avec des solutions de CV (20–60 mg·L^{-1}) contenant 40 mg d'ASS, pour des durées allant de 2,5 à 360 min.
- L'influence du pH (3–10) et de la dose (1–4 g·L^{-1}) a été évaluée, tandis que les études d'équilibre et de thermodynamique ont été conduites à 20, 30 et 40 °C. Les concentrations résiduelles du colorant ont été mesurées par spectrophotométrie à 590 nm afin de calculer la quantité adsorbée et le rendement d'élimination.

RESULTS AND DISCUSSION

1. Étude cinétique

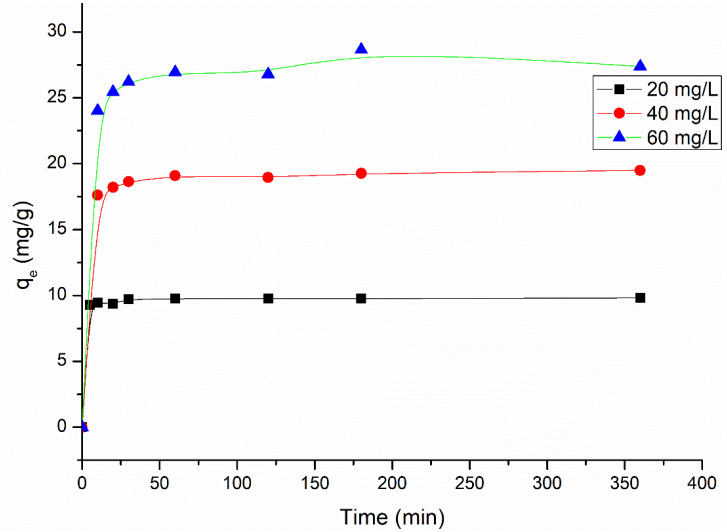

Fig1. Cinétique d'adsorption du cristal violet (CV) sur le biosorbant

Tableau 1. Constantes cinétiques de l'adsorption du colorant cristal violet (CV) sur le biosorbant .

C_0 (mg/L)	qe,exp (mg/g)	Pseudo-first order model			Pseudo-second order model			Elovich equation			Intra-particle diffusion mode	
		$q_{e,the}$	K_1	R^2	$q_{e,the}$	K_2	R^2	α (mg/g.min)	β	R^2	K_d (mg/g·$min^{0.5}$)	R^2
20	9.60	1.64	0.034	0.755	9.90	0.176	0.999	0.0011	8.880	0.617	0.028	0.548
40	19.34	2.46	0.024	0.966	19.60	0.0360	0.999	8.252	2.061	0.871	0.100	0.689
60	28.70	4.68	0.018	0.875	27.80	0.0391	0.999	304.878	0.984	0.728	0.201	0.515

RESULTS AND DISCUSSION

- **2 EffeT de Ph**

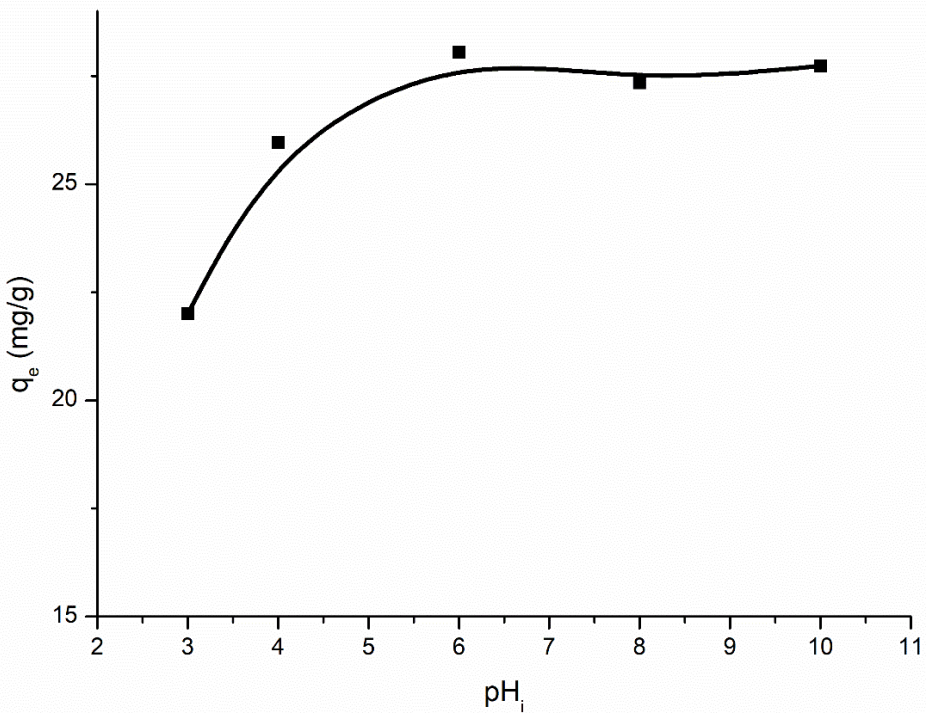

Fig 2. Influence du pH sur l'adsorption du cristal violet (CV) sur le biosorbant .

RESULTS AND DISCUSSION

3 Isothermes d'adsorption

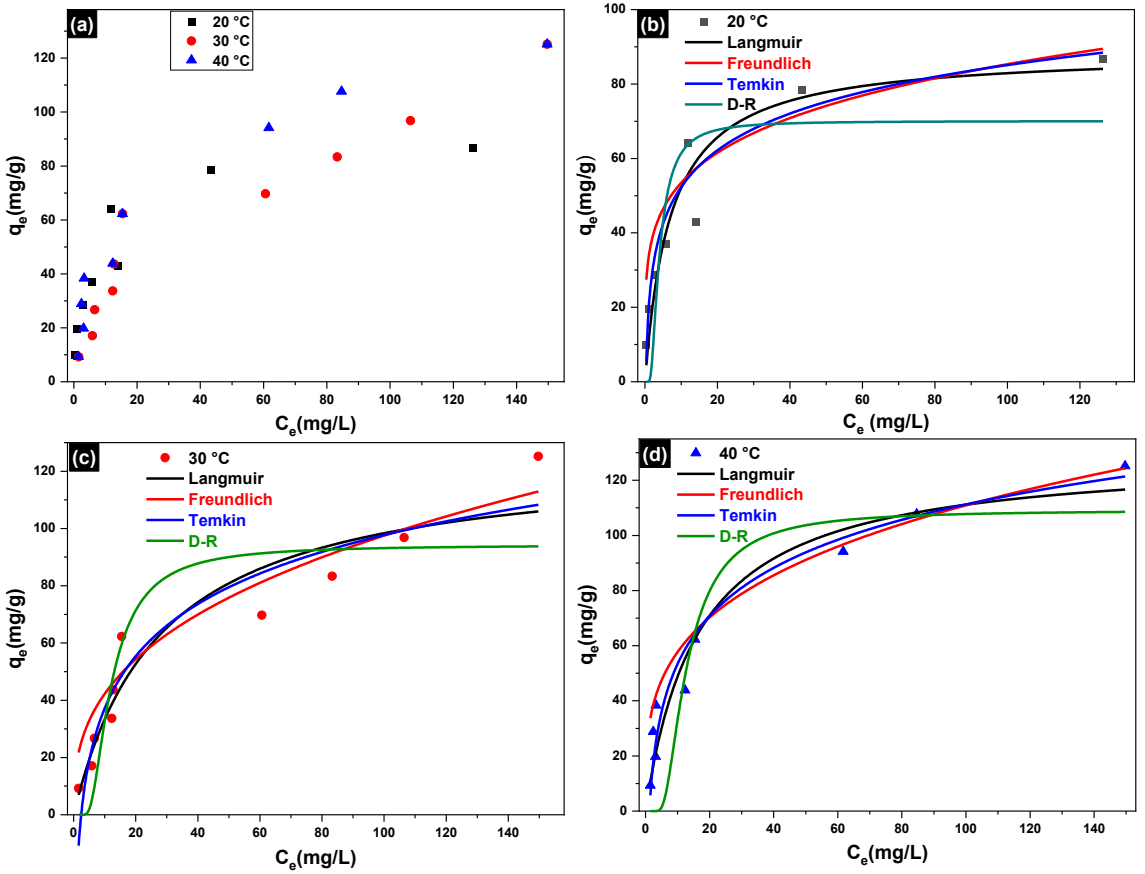

Fig 3. Isothermes expérimentales d'adsorption du colorant cristal violet (CV) sur le biosorbant à différentes températures

RESULTS AND DISCUSSION

Tableau 2. Paramètres des modèles d'isothermes

Model	20 °C	30 °C	40 °C
Langmuir: $\frac{q_e}{q_m} = \frac{k_L C_e}{1+kC_e}$	$q_m = 88.73253$ $k_L = 0.14256$ $R^2 = 91.34\%$	$q_m = 125.53796$ $k_L = 0.03617$ $R^2 = 90.95\%$	$q_m = 129.5272$ $k_L = 0.06043$ $R^2 = 94.74\%$
Freundlich: $q_e = k_f C_e^{\frac{1}{n}}$	$k_f = 33.51751$ $n = 4.92858$ $R^2 = 88.23\%$	$k_f = 18.30757$ $n = 2.75289$ $R^2 = 95.73.23\%$	$k_f = 30.02662$ $n = 2.75289$ $R^2 = 93.10\%$
Temkin: $q_e = \frac{RT}{b} Ln(K_T C_e)$	K_T=3.95787 b=171.29755 $R^2 = 95.26\%$	K_T=0.41188 b=95.9272 $R^2 = 99.23\%$	K_T=0.837 b=103.60889 $R^2 = 98.52\%$
D-R: $q_e = q_m e^{-(B\varepsilon^2)}$ $\varepsilon = RTln\left(1+\frac{1}{C_e}\right)$	$q_m = 70.05277$ $B = 2.43984.10^{-6}$ $R^2 = 70.27\%$	$q_m = 94.2334$ $B = 1.83437.10^{-5}$ $R^2 = 82.14\%$	$q_m = 109.1611$ $B = 1.93963.10^{-5}$ $R^2 = 86.24\%$

RESULTS AND DISCUSSION

- **4. Etude thermodynamique**

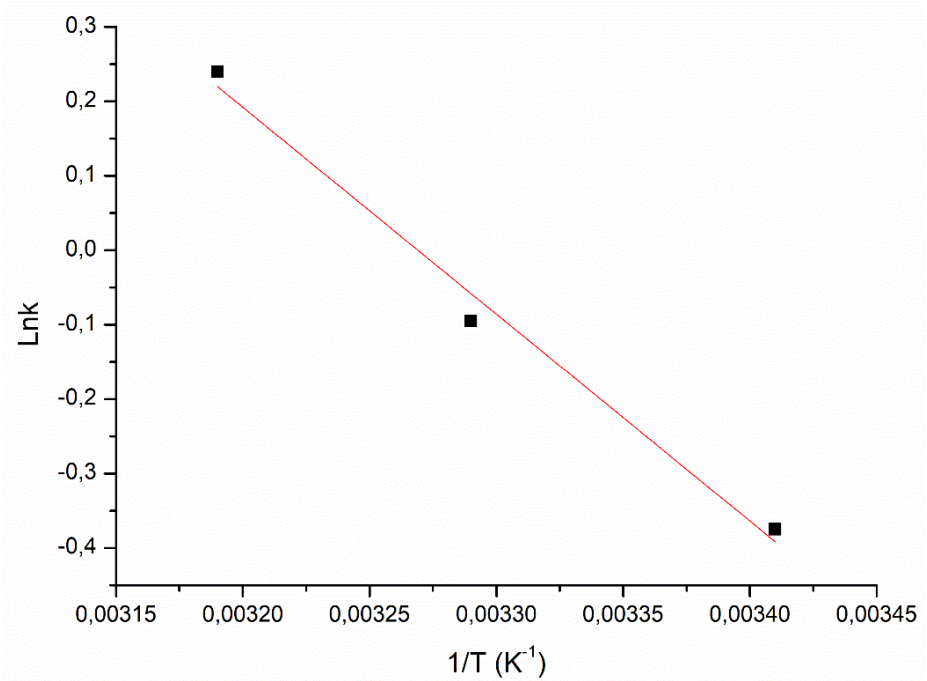

Fig 4. Représentation de ln K_ed en fonction de 1/T pour la détermination des paramètres thermodynamiques de l'adsorption du cristal violet

RESULTS AND DISCUSSION

Tableau 4. Constantes thermodynamiques de l'adsorption du colorant cristal violet (CV)

T (K)	ΔG° (kJ·mol^{-1})	ΔH° (kJ·mol^{-1})	ΔS° (J·mol^{-1}·K^{-1})
293.15	0.92	23.10	75.45
303.15	0.24		
313.15	-0.61		

CONCLUSION

- Cette étude a démontré avec succès le potentiel des coques de noyaux d'abricot comme biosorbant efficace et à faible coût pour l'élimination du colorant cristal violet (CV) des solutions aqueuses.
- Les résultats expérimentaux ont mis en évidence l'influence marquée des paramètres opératoires sur l'efficacité d'adsorption. L'étude cinétique a montré que le processus suit un modèle du pseudo-second ordre, tandis que les données d'équilibre s'ajustent le mieux au modèle d'isotherme de Temkin, suggérant un mécanisme de chimisorption énergétiquement favorable.
- L'analyse thermodynamique a confirmé le caractère endothermique du processus, indiquant que l'adsorption est favorisée par l'augmentation de la température.
- En somme, les coques de noyaux d'abricot apparaissent comme une alternative durable, économique et performante pour l'élimination des colorants, tout en contribuant à la valorisation des déchets agricoles et au développement de technologies écologiques de dépollution des eaux.

REFERENCES

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