IMDPEH 2026

The International Conference on Innovations in Materials Design and Processes for Environment and Health Protection-*Towards a Circular and Digital Transition*

November 18–19, 2026, Sidi Bel Abbes, Algeria
Hybrid · On-site & On-line: www.univ-sba.dz/IMDPEH-2026

Scientific Program

Day 1: Nov, 18, 2026

Central Library "Pr. B. ABOUNI", University Campus Conference Hall "Dr. Y. GAFFOUR"	
Time	**Activity**
09:00–09:50	**Opening ceremony and official addresses**
10:00–10:30	**Awards**
10:30–11:00	**Coffee break**
***Chair session:* Prof. Zohra BENGHAREZ and Prof. Azzedine BENDOUNAN**	
11:00–11:30	**Plenary 1: Prof. Adlane SAYEDE,** *University of Artois, France* «Accelerating Materials Design with Artificial Intelligence: From Computational Discovery to Environmental Impact »
11:30–12:00	**Plenary 2: Prof. Salah JELLALI,** *Sultan Qaboos University (SQU), Oman* « Biochar and circular economy: Insights from ten years of research »
12:00–12:30	**Shuttle to the EDEN Hotel**
12:30–14:00	**Lunch break**

Day 1: Nov, 18, 2026

Conference Room 1	
Time	**Activity**
Chair session: **Prof. Majda RAHAL and Prof. Salah JELLALI**	
14:30–15:00	**Plenary 3- Visio: Prof. Abdeltif AMRANE,** *University of Rennes, France* «The coupling of an electrochemical process and a biological treatment for the removal of recalcitrant organic compounds – Case study: nitroimidazole antibiotics family »
15:00–15:30	**Plenary 4: Prof. Michael SPRINGBORG,** *Saarlands University, Germany* « On the Theoretical Optimization of Properties »
Chair session: **Prof. Zahia ZIZI and Prof. Mohsen MAHMOUD MOSTAFA**	
15:30–16:00	**Plenary 5**: **Prof. Abdelkrim CHERITI,** *UTMB – University of Bechar* « Harnessing Saharan Phytomaterial to Tackle Parasitic Diseases: Focus on Molluscicides »
16:00–16:30 **Coffee break**	**Chair Session Poster : P-01 to P-21** **Prof. Houaria MERINE, Prof. Smain BOUSALEM and Dr. Narimane NOREDINE**
Chair Session : **Prof. Kaddour GUEMRA and Prof. Abdekrim CHERITI**	
16:30-16:45	**Oral Communication OP-1: Prof. Imadeddine AZZOUZ** “Sustainable Regeneration of Transformer Insulating Oils and Environmental Management of Bauxite Reactivation”

16:45–17:00	**Oral Communication OP-2: Dr. Ahlem LAISSOUF** “Phytochemical Characterization and Antioxidant Potential of Pomegranate Peel and Propolis for Health Protection”
17:00 – 17:15	**Oral Communication OP-3: Dr. Karima FARAHI** “Green Valorization of Fruit Processing By-Products through Microwave-Assisted Extraction of Bioactive Compounds”
17:15– 17:30	Communication **OL-1: Dr. Nadjet DEHOUCHE** “Surface Functionalization of ZnO Nanoparticles for Enhanced Mechanical and Functional Performance of PHBHHx-Based Nanocomposites for Antimicrobial Food Packaging”

Day 1: Nov, 18, 2026

Conference Room 2	
Time	**Activity**
Chairman session: **Prof. Ilham TALEB and Prof. Michael SPRINGBORG,**	
16:30–16:45	**Oral Communication OP-4: Dr. Anisse CHIALI** “Predicting Growth and Mechanical Behavior of Cellulosic Biomaterials Using Machine Learning“
16:45–17:00	**Oral Communication OP-5: Dr. Karima BAGHDAD** “New cream synthesis based on chlorophyll for skin irritations”
17:00–17:15	**Oral Communication OP-6: Dr. Abdelkader El Amir RAFFAR** “Digitally Enabled Circular Economy and Waste Valorization: A Critical Comparative Analysis of Economic Value Creation, Environmental Protection and Public-Health Outcomes”
17:15–17:30	**Oral Communication OP-7 : Mme LAMRAOUI Hamoudi** “Structural, Morphological, and Mechanical Stability of Polysulfone Hollow Fiber Hemodialysis Membranes under Gamma and Electron-Beam Sterilization”

Day 1: Nov, 18, 2026

Conference Room 3	
Time	**Activity**
Chairman session: ***Prof. Houaria MERINE and Dr. Nourddine YOUSFI***	
16:30–16:40	Communication **OL-2: Dr. Nor El Houda LAMECHE** “Preparation and Characterization of α-Fe_2O_3 Thin Films for Photocatalytic Water Treatment”
16:40–16:50	Communication **OL-3: Mme Zahia OUKALI** “Fungal-MediatedBiosynthesis of ZnO Nanoparticles and Their Application in Microbial Decontamination of Well Water Contaminated Water”
17:00–17:10	Communication **OL-4: Mme Soumaya ATTOUT** “Assessment of the antibacterial activity of Equisetum arvense Essential Oil”
17:10–17:20	Communication **OL-5: Mme Narimane TEMDI** “Schiff Base Ligand as a Molecular Platform for Heavy Metal Removal from Aqueous Solutions”.
17:20– 17:30	Communication **OL-6: Mme Wissam MEBARAKOU** “Reverse Engineering-Based Development of New Formulations for Spunbond and Meltblown Nonwovens”.
17:30– 17:40	Communication **OL-7**: **Mme Bouchra YADOUN** “SBA-15 vs. SBA-16: Influence of 2D-Hexagonal and 3D-Cubic Pore Architectures on the Amine-Functionalized Adsorption of Crystal Violet”.
17:40– 17:50	Communication **OL-8: Mme Lamouri REFICE** “Influence of Crystal Symmetry on the Physical Properties of A2SnX6 Double Perovskites: A DFT Study”.

Day 2: Nov, 19, 2026

Conference Room 1	
Time	**Activity**
Chair session: **Prof. Adlane SAYAD and Prof. Hanene AKROUT**	
08:30–09:00	**Plenary 6-Visio: Prof. Seda DEMIREL TOPEL,** *Antalya Bilim University, Antalya* « Enhanced Rare Earth Element Recovery Using Functionalized Electrospun Nanofiber Membranes »
09:00–09:30	**Plenary 7- Visio: Prof. Charalampos DOULGERIS,** *Soil & Water Resources Institute, Greece* « Digital Twins and Decision Support Systems for Adaptive and Participatory Water Resources Management»
09:30–10:00	**Plenary 8: Prof. Azzedine BENDOUNAN,** *Synchrotron SOLEIL, France* « Advanced Materials: From Synthesis to Electronic Structure and Fonctional Properties »
10:00-1030 ***Coffee break***	**Chair Session Posters: P-22 to P- 42** **Dr. Nasséra BENBRAHIM, Dr. Samir BENYEKHLEF and Dr. Ahmed Amine BENDAOUDI**
Chair session: **Prof. Zohra BENGHAREZ and Prof. Imadeddine AZZOUZ**	
10:30-11:00	**Plenary 9: Prof. Hanene AKROUT,** *Center of Water Researches and Technologies (CERTE), Tunisia* « Electrochemistry for Water Autonomy in Water-Stressed Industrial Sectors»

11:00-11:30	**Plenary 10: Prof. Mohsen MAHMOUD MOSTAFA,** *University of Mansoura, Egypt.* « Novel derivatives synthesized from oxalic acid dihydrazide and applications of its metal complexes in biology»
Chair session: **Prof. Malika BENDAHMANE and Prof. *Smain BOUSALEM***	
11:30–11:45	**Oral Communication OP-8: Prof. Zineb ELBAHRI** DOE modeling for the evaluation of some process variables effects on 2,4-D loaded ethylcellulose formulations characteristics.
11:45–12:00	**Oral Communication OP-9**: **Dr. Khadidja ABBOU-KÉBIR** **"**Urban Agriculture and Circular Economy in Algiers: Material Reuse, Biowaste Valorization and Local Loop Closure from a Regenerative Perspective"
12:00–12:15	**Oral Communication OP-10**: **Dr. Ibtissam BENYAHIA** "Chemical profiling, in silico prediction of PARP-1 binding, and preliminary cytotoxicity of *Anvillea radiata* fractions against HCT-116 cells: an integrative exploratory study"
12:15–12:25	Communication **OL 9: Zeyneb BELHI** Phytochemical Characterization, Antioxidant Potency, and Antimicrobial Activity of *Acacia raddiana* Extracts from Southwest Algeria
12:25–12:35	Communication **OL-10 : Dr. Noura NAILI** "Theoretical Investigation of Boron Nitride Nanotubes as Nanosensing Platforms for the Detection of Organophosphorus Pesticides"
12:30–14:00	**Lunch break**

Day 2: Nov, 19, 2026

Conference Room 2	
Time	**Activity**
Chairman session: **Prof. Benali MOUFFOK and Prof. Smain BOUSALEM**	

11:30–11:45	**Oral Communication OP-11: Dr. Amina HADDOU** "Unfavorable Outcomes in Pulmonary Tuberculosis: What Are the Contributing Factors?
11:45–12:00	**Oral Communication OP-12: Dr. LAIDI A.** "Overview Of Bronchial Cancer In The Pulmonology Department Of CHU Dr Hassani Abdelkader, Sidi Bel Abbes, Algeria"
12:00–12:15	**Oral Communication OP-13**: **Dr. Awatif Amaria MOULAY** "Polymeric Encapsulation of Turmeric Extract for Controlled Release: Formulation, Characterization and Kinetic Modeling"
12:15–12:30	**Oral Communication OP-14: Dr. Nadia TADJEDDINE** "Phytochemical properties of *Schinus molle L.* fruit in Mascara Region"
12:30–14:00	**Lunch break**

Day 2: Nov, 19, 2026

Conference Room 3	
Time	**Activity**
***Chair session*:** **Prof. Zahia ZIZI and Prof. Faiza DEBBAB**	
11:30– 11:40	Communication **OL-11**: **Dr. *Nawel EL HANAFI*** "Efficient Degradation of Ibuprofen by UV/H_2O_2-Based Advanced Oxidation Process"
11:40– 11:50	Communication **OL-12: Dr. Ryme TERBECHE** « Évaluation de la qualité physicochimique et minérale des eaux de différentes origines dans la wilaya d'Oran, Algérie ».
11:50– 12:00	Communication **OL-13: Dr. Ahmed KADIRI** "Inertial and bias effects in magnetization relaxation in biaxial nanomagnets with thermal noise".

12:00–12:10	Communication **OL-14: Mme Hayet LALLALI** "Coupled UV–Visible spectroscopy and FT-IR analyses to evaluate the interaction between Rovamycin and raw olive pomace during adsorption kinetics".
12:10– 12:20	Communication **OL-15: Mme Kahina AIT CHEBIB** "Broadband Dielectric Characterization of Epoxy–Anhydrite Composites"
12:20– 12:30	Communication **OL-16**: **Mme Chaima KAHOUADJI** « Simultaneous Removal of Methylene Blue and Turbidity by New Copolymer »
12:30–14:20	**Lunch break**

Day 2: Nov, 19, 2026

Conference Room 1	
Time	**Activity**
Chairman session: **Prof. Salah JELLALI and Dr. Nacer BOUDOUAIA**	
14:30–14:45	**Oral Communication O-15: Dr. Farid Brahim HOUTI** "Valorisation of post-consumer plastic waste in gypsum composites: A pathway to sustainable and friendly construction materials"
14:45–15:00	**Oral Communication O-16**: **Dr. Djamila BOUKRAA** **"** Effect Of Drying Temperature On Garlicprotein Content"
15:00–15:15	**Oral Communication O-17**: **Mr. Kheir Eddine KHODJA** "Sustainable Bio-composite Beads for Methylene Blue Removal: Adsorption Performance and Mechanistic Insights"
15:30–15:45	Communication **OL-17** : **Dr. Meriem OUCHENANE** "AI-Driven Structural Behavior Prediction of Reinforced Concrete Beams Using Artificial Neural Network"
15:45–16:00	Communication **OL-18 : Dr. Fatima SAAD** "Engineering High-Performance Bio-Based Adsorbents for Sustainable Water Treatment**"**

16:00–16:30 Coffee break	**Chair Session Posters: O-43 to O-70** **Prof. Redouane CHADLI and Dr. Ahcene AIT AMER**
Chairman session: **Prof. Houaria MERINE, Prof. MORSLI Amine and Prof. MOHSEN Mahmoud Mostafa**	
16:30-16:45	**Oral Communication O-18: Dr. Samir BENYKHLEF** "Green-Synthesized Silver Nanoparticle – Alginate/Chitosan Bio-Nanocomposite Films for pH-Responsive Methylene Blue Removal: Characterization, Swelling, and Response Surface Optimization"
16:45–17:00	**Oral communication O-19: Dr. Nacer BOUDOUAIA** "From Natural Polysaccharides to Sustainable Biomaterials: An Eco-Design Approach to Pectin/Chitosan Hybrid Hydrogels Crosslinked with STMP for Antioxidant Applications"
17:00 –17:15	Communication **OL-19: Dr. Haithem Amine DAGHMOUM** "Valorizing Waste Tire Steel Fibers in Dune Sand Mortars with Low-Carbon Cement: Mechanical Durability and Thermal Performance in Aggressive Environments"
17:15– 17:30	Communication **OL-20** : **Mme Firdaws BELHADJ** "Bioactive Compounds from the Algerian Medicinal Plant *Launaea arborescens*: LC-MS Profiling, Anti-Inflammatory Activity and *In Silico* study"

Day 2: Nov, 19, 2026

Conference Room 2

Time	Activity
Chairman session: **Prof. Zineb EL BAHRI and Prof. Ilham TALEB**	
14:30–14:45	**Oral Communication OP-20 : Dr. Nassera BENBRAHIM** « DFT-Based Non-Covalent Interaction Analysis of Imidacloprid Complexes with Thymol and Menthol: From Monomers to Mixed Molecular Clusters »

14:45–15:00	**Oral Communication OP-21 : Dr. Rachida FODIL** "Theoretical investigation on the improper Hydrogen bond in κ-carrabiose···Y(Y=HF, HCl, HBr, NH_3, $H_2O$and H_2S) complexes"
15:00–15:15	**Oral Communication OP-22 : Mr. Mahdi HAMMAR** "Molecular Insights into Imidacloprid Interactions with Thymol and Menthol Monomers and the Thymol–Menthol Dimer: Hydrogen Bonding, Stability, and Electronic Properties"
15:30–15:45	**Oral Communication OP-23 : Mme Farah BENGHAREZ** "An Integrated Speech Processing Pipeline Using Mel-Filter bank Analysis and Discrete Cosine Transform-Based MFCCs for Automatic Speaker Recognition"
15:45–16:00	**Oral Communication O-24: Dr. Leila BENDEIDA** "Material Innovation And Surface Water Treatment Challenges And Prospects"
16:00–16:30 ***Coffee break***	**Chair Session Posters: O-43 to O-70** **Prof. Redouane CHADLI and Dr. Ahcene AIT AMER**
Chair session : **Prof. Kelthoum ABDI and Prof. Smain BOUSALEM**	
16:30–16:45	**Oral Communication OP-25: Mounir Zerroukhat** Advancing Circular Economy in Algeria's Municipal Solid Waste System: An Integrated Framework for Participation, Recovery, and Financial Sustainability
16:45–17:00	**Oral Communication OP-26: Dr. Noureddine YOUSFI** "Phytochemical Screening, Bioactivities of Leaf Extracts and Seed Oil of Moringa oleifera from Southern Algeria (Oued Souf)"
17:00–17:15	**Oral Communication OP-27: Dr Ahmed Amine BENDAOUDI** « An Eco-Friendly and Sustainable Approach using Innovative Alginate-Based biomaterials for Cationic Dye Removal »

Day 2: Nov, 19, 2026

Conference Room 3	
Time	**Activity**
***Chair session*: Prof. Faiza DEBBAB and Dr. Awatif Amaria MOULAY**	
14:30–14:40	Communication **OL-21**: **Dr. Anfal BELLEBCIR** “Solvent-dependent polyphenol recovery from olive mill wastewater: Comparative performance of conventional and sequential extraction processes”.
14:40–14:50	“Communication **OL-22: Dr. Imane BENKECHKACHE** Urban Ecodesign and Flood Risk: The Case of Ali Mendjeli New Town, Constantine, Algeria”
14:50–15:00	Communication **OL-23: Dr. Yamina BOUDINAR** “Corrosion Behaviour of Oilfield Flowlines: An Electrochemical Comparison of C1020 Carbon Steel and AISI 310 Stainless Steel in 3 % NaCl Solution”.
15:00–15:10	Communication **OL-24**: **Mme Nawel Nadji** “Design of Experiments Approach for Optimizing Direct Red 89 Degradation by Thermally Activated Persulfate”
15:10– 15:20	Communication **OL-25: Mme Zakia KADID** “Advanced characterization of green-synthesized silver nanoparticles and their catalytic performance in methylene blue degradation”.
15:20– 15:30	Communication **OL-26** : **Mme Yasmine CHERADI** “UV-assisted persulfate oxidation for the post-treatment of olive mill wastewater supernatant pretreated by electrocoagulation”.
15:20– 15:30	Communication **OL-27: Mr. Marzak ZROUKI** “Short-Term UV Aging of Polyamide 6 under Predominantly Compressive Loading: Experimental Characterization, Correlation Analysis, and Numerical Validation”.
15:20– 15:30	Communication **OL-28**: **Mme Messaouda ADDA** “From essential oils to bio-based fertilizers: soil improvers and controlled release materials”.
15:30– 15:40	Communication **OL-29: Mme Saliha GACEM** “Computational Exploration of Surfactant–Mitoxantrone Interactions for Improved Solubility and Permeability: Insights from Molecular Docking, QSPR-GIC Predictions, and ADMET Evaluation”

15:40– 15:50	Communication **OL-30**: **Mme Inas BOUZATEUR** “A Novel Hybrid Intelligent Method for Electronic Property Prediction”
15:50– 16:00	Communication **OL-31: Mme Asmaa BELMIMOUN** “Seed-Derived Activated Carbon for Water Remediation: Dechlorination, Metal Adsorption, and Refinery Effluent Treatment”
16:00–16:30 Coffee break	**Chair Session Poster : P-43 to P-70** **Prof. Redouane CHADLI and Dr. Ahcene AIT AMEUR**
	***Chair session*:** **Dr. Nasséra BENBRAHIM and Dr. Radia FERTTOUT**
16:30–16:40	Communication **OL-32 : Walid ZARZOUR** “Comparative Evaluation of Machine Learning Models for Imbalanced Voice Pathology Detection: A Case Study on Spasmodic Dysphonia Using the SVD Database”.
16:40–16:50	*Communication **OL-33:*** **Aida ZAABAR** “Comparative Biosorption of Inorganic and Organic Contaminants Using Cistus albidus L. Biomass for Sustainable Wastewater Treatment”.
17:00–17:10	Communication **OL-34**: **Naima HADDADOU** “Influence of the Fineness (Blaine Specific Surface) of Marble Waste Powder on the Rheological and Mechanical Properties of Self-Compacting Concrete”.
17:10–17:20	Communication **OL-35: Dalila BENSBA** « κ-Carrageenan/Dolomite biocomposite hydrogels for crystal violet removal from aqueous solutions ».
17:20– 17:30	Communication **OL-36: Abdellatif HAKMI** “Organic Bio-Amendments as Innovative Soil Conditioners for Heavy Metal Immobilization and Sustainable Soil Restoration”.
17:30– 17:40	Communication **OL-37: Amina HADADI** *« Composition biochimique et empreinte FTIR de trois biocoagulants végétaux algériens : vers une sélection raisonnée des matériaux pour le traitement de l'eau ».*
17:40– 17:50	Communication **OL-38**: **Mme Lamia MANSOURI** “Urban Agriculture and Circular Economy in Algiers: Material Reuse, Biowaste Valorization and Local Loop Closure from a Regenerative Perspective”.

17:50-18:00	Communication **OL -39 : ROUCHAM Zahira** Bioguided phytochemical study of flavanones extracts plants of some Asteraceae from the traditional pharmacopoeia of Southwest Algeria.
18:00-:18:10	Communication **OL -40** : **Abdelbasset Berriah** Microstructural Characteristics and Corrosion Behavior of CMT-WAAM AISI 308LSi Stainless Steel in Simulated Seawater
18:10:18:20	Communication **OL-41 Amina Belhadji** Research into Plant-Derived Biomolecules for the Control of the Honey Bee Parasite *Varroa destructor*
18:20-18:30	Communication **OL-42 : Rima BENHAMAID** Multi-response optimization of amoxicillin removal by a ZVI/H_2O_2 Fenton-like process: balancing treatment efficiency and discharge pH
18:30-18:40	Communication **OL 43: Mustapha FERDJAOUI** Vibrational–Rotational Spectral Analysis of Diatomic Molecules Using a Combined Potential
18:40-18:50	Communication **OL 44 : Amina KAIDARI** Evaluation of the catalytic performance of hydrotalcite-type material supported on ceria (HDL/CeO_2) in advanced oxidation processes for the degradation of an azo dye
18:50-19:00	Communication **OL 45 : Manel TERBECHE** Volatile Fingerprinting of *Smyrnium olusatrum* fruits by HS-SPME–GC–MS: An Advanced Approach to Chemical Characterization
18:50-19:00	Communication **OL 46 :Malika BOURREK** Synergistic effect of a cationic surfactant and iodide ions for carbon steel corrosion in NaCl solution
18:50-19:10	Communication **OL 47: Amina BENAÏSSA** Carbon versus Boron Nitride Nanotubes as Nanosensors for Paraquat and Chlorpyrifos: A Dispersion-Corrected DFT Study in Vacuum and Water
1910-19:20	*Communication **OL 48:*** **Safia TAIBAOU** Unveiling the Potential of Carob and Chia Seed Powders for Violet Gentian Removal: Biocoagulation Performance and RSM-Based Process Optimization
1910-19:20	
19:00–19:30	**Scientific summary and recommendations** **Closing ceremony and certificate presentation**

The List of posters:

Posters	Participants
P-01	ABBAD Sarra
P-02	HAMIDI Fatiha
P-03	NADJI Aïda
P-04	BENAISSA Nouria
P-05	HADDOUM Monia
P-06	ZENASNI Mounya
P-07	METAHRI Nawal
P-08	GHAZI Redhwane
P-09	BOUZID Mohamed El Khallil
P-10	CHIALI Fatima zohra
P-11	BENATTOU Nadia
P-12	ABOURA Wassila
P-13	PBENADEM Wassila
P-14	BENKADDOUR Amina
P-15	BENKABOU Rim
P-16	BELLBAH Hayet
P-17	MIDOUN Nacima
P-18	ABDELLI Bouthaina
P-19	ATTOU Asmaa
P-20	KERROUCHA Ikram
P-21	BACHIR DAHMANI Nadia
P-22	GUEFAI Fatima
P-23	TAIBI Iliès
P-24	BADIS Karima
P-25	GUETTAF Hadjer
P-26	FTOUH Soumia
P-27	BELHOUMA Hayat
P-28	KERROUCHA Ikram
P-29	TABTI Soumia
P-30	FERTOUT Radia
P-31	ALAOUI Chakib
P-32	TAYBOUN fatima
P-33	DALI Youcef Sihem
P-34	MAGHNI Asmaa
P-35	BELKAFOUF Ikram

Posters	Participants
P-36	REKKAB Ilhem
P-37	BOUCIF Noureddine
P-38	ZEMIRLI Souhir
P-39	ARROUSSI Abdelaziz
P-40	BENDAIDA Lila
P-41	ARBOUZ Imane
P-42	BERREKHCHI Cherifa
P-43	BOUIGHI Slimane
P-44	DJEBBAR Ahmed Abdelhammid
P-45	DJERADJI Houria
P-46	BENTAHAR Mimouna
P-47	BELABBES Rania
P-48	MEZIANE Dalila
P-49	KAZITANI Noreddine
P-50	DRA Rafik El Arslene
P-51	RAHAL Fouzia
P-52	LAKSACI Fatma
P-53	FEZZAZI Amina
P-54	NOREDINE Narimane
P-55	TOUAHRIA Mounir
P-56	RADJA Houcine
P-57	BLAHA Chahinaze
P-58	BOUDOUAIA Nacer
P-59	HAMMOU Bakhta
P-60	MEHTOUGUI Esma
P-61	YOUSFI Norreddine
P-62	BENDAOUDI Ahmed Amine
P-63	BENKADDOUR Yousra
P-64	SOUFI Sabrina
P-65	MERADI Abdelhafid
P-66	MEKKAOUI Asmaa
P-67	BELGHOUL Aya
P-68	EMMIMOUN Naziha
P-69	SOLTANI Amina
P-70	NAIMI Oussama