

# INTERNATIONAL Conference On Materials & Environmental Science & Exhibition for Science

« Health, Sustainability, & Resiliency Through  
Research & Innovation »



*Hôtel Oasis Atlantico Saidia Palace & Blue Pearl*



## Scientific Program

**JUNE  
07 -11  
2023**

**ICMES**

**OUJDA  
BERKANE  
SAÏDIA  
MOROCCO**



✉ [icmes2023saidia@gmail.com](mailto:icmes2023saidia@gmail.com)

🌐 <http://www.mocedes.org/icmes2023/>

# Scientific Program

## and

### Useful information



Participating Countries . Pays Participants . البلدان المشاركة



**6<sup>th</sup>** International Conference on **Materials & Environmental Science**

**& Exhibition for Science**

**ICMES2023**

**June 7 – 11, 2023, Saidia, Morocco**

**Under the Theme:**

**« *Health, Sustainability, & Resiliency Through Research & Innovation* »**

**Hôtel Oasis Atlantico Saidia Palace & Blue Pearl All Inclusive**

<http://www.mocedes.org/icmes2023/>

## WELCOME MESSAGE FROM GENERAL CHAIRS

Dear Colleagues and Friends,

On behalf of the organizing committee, I am delighted to welcome you to *the Sixth International Conference on Materials and Environmental Science (ICMES2023), & Exhibition for Science, which will be held under the theme " Health, Sustainability, & Resiliency Through Research & Innovation."* For more than 7 years, **ICMES** has served as an international forum for the dissemination of current and emerging materials in environmental science and health.

This year, **ICMES2023** will be held as an onsite event from *June 9 to June 11, 2023* in Saïdia, Blue Pearl of the Mediterranean Sea, Morocco.

**ICMES2023** keeps its scientific edge to share the most important and latest developments in the fields of materials science, energy development, environmental science and health, to exchange research ideas and future trends, and to explore potential collaboration opportunities in all regions of the world.

At this event, a dozen world-renowned plenary speakers will provide outstanding insights on materials and devices research at this event, along with a couple of comprehensive tutorial lectures and more than a hundred renowned speakers. In addition, several workshops will be hosted, and bilateral symposia organized by leading research groups.

It will be a great pleasure to meet you in such a beautiful city as Saïdia the blue pearl of the Mediterranean Sea.

Finally, we wish all the participants in **ICMES'23** a very successful and fruitful conference and a wonderful and enjoyable stay in Saïdia, Morocco.



**ICMES2023**

**6<sup>th</sup> International Conference on Materials & Environmental Science  
& Exhibition for Science**

**June 7 – 11, 2023, Saïdia, Morocco**

**“Hôtel Oasis Atlantico Saïdia Palace & Blue Pearl All Inclusive”**

<http://www.mocedes.org/icmes2023/>

**ICMES'23 VENUE: Hôtel Oasis Atlantico Saidia Palace & Blue Pearl  
All Inclusive, Saidia, Morocco**



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## TOPICS ICMES2023

Session 1)	<b>HEALTH AND NUTRITION SCIENCES</b>
Session 2)	<b>WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ISSUES</b>
Session 3)	<b>THE POWER OF DIFFERENT ENERGY SOURCES TO EFFECTIVELY MEET ENERGY NEEDS</b>
Session 4)	<b>ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, ENGINEERING AND SIMULATIONS</b>
Session 5)	<b>ADVANCED MATERIALS FROM ORGANIC AND INORGANIC DEVICES</b>
Session 6)	<b>NATURAL PRODUCTS AND THEIR VALORISATIONS</b>

### ACRONYM OF CONFERENCE THEMES

**KSp**  
**ISp**

**Keynote Speakers**  
**Invited Speakers**

**CO**  
**CP**

**Oral Session**  
**Poster Session**

### PRESENTATION GUIDELINES

- All presentations are in English.
- Each presentation is eight **(08) minutes** long with three (3) minutes for Q/As.
- Arrive 10 minutes before the session start time to upload your power point presentation. Please, start and end your presentation on time and keep the time schedule.
- For poster presentations, the posters should be displayed one hour before the beginning of the poster session and any explanation required should be provided to session chairs and visitors.

### ICMES2023

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## Detailed Program of the ICMES2023 Conference

**Thursday, June 08, 2023**

### *Speakers ICMES2023*

*Visit Mohammed First University, Oujda, Morocco*

10:00 - 12:00



**Friday, June 09, 2023**

### Welcome and Registration of participants

“Hôtel Oasis Atlantico Saidia Palace & Blue Pearl All Inclusive”

07:00 - 09:00

Moderators & Rapporteurs: *Prof. Rachid TOUZANI, Mme. Latifa ELFARISSI & Prof. Brahim ELBHIRI*

Introductory Presentation & Start of the Scientific Program of ICMES'23

### General-Chairs ICMES2023

09:00 – 09:30

*Prof. Belkheir HAMMOUTI, Morocco / Prof. Mohammed EDDAOUDI, Saudi-Arabia  
Prof. Faouaz JEFFALI, Morocco / Prof. Mohamed SIAJ, Canada*

Moderators & Rapporteurs: *Prof. Mohamed ESSAAIDI & Mme. Latifa ELFARISSI*

#### Plenary Conference (1)

**Prof. MARIA AMPARO F FAUSTINO, Portugal**

*“Porphyrin@nanomagnetic particles in advanced oxidation process and their impact on wheat exposure.”*

09:30 – 10:05

Moderators & Rapporteurs: *Prof. Brahim ELBHIRI & Prof. Mostafa EL OUARIACHI*

#### Plenary Conference (2)

**Prof. KAMEL BOUKHEDDADEN, France**

*“Imaging and modelling the Spatio-temporal Dynamics of First-Order Spin Transitions in Spin-Crossover Single Crystals.”*

10:05 – 10:40

Moderators & Rapporteurs: *Prof. Rim AMRANI & Prof. Loubna BOUSELHAM*

#### Plenary Conference (3)

**Prof. YANN GARCIA, Belgium**

*“New iron sensors for the detection of toxic industrial chemicals.”*

10:40 – 11:15

11:15 – 11:30

Poster Session / Stands

## ROOM I

### Session 1): HEALTH AND NUTRITION SCIENCES

#### Moderators & Rapporteurs:

*Prof. Abdelmajid SOULAYMANI, Prof. Rim AMRANI, Dr. Faissal TARRASS & Prof. Guillaume MAURIN*

11:30– 13:00

- CO1. ID-101:** M. Ramdani, S. Bekaoui, Fz. Berkchi, H. Boujakhrou, Y. Bentata, N. Abda, Epidemiological status of diabetic ESRD patients on chronic hemodialysis and their preferences on renal replacement therapy
- CO2. ID-105:** N. El Kouartey, K. Edou, H. Koubri, O. Chemaou, A. Sulaymani, Epidemiological profile of migrants admitted to Rabat University Hospital
- CO3. ID-112:** H. Koubri, N. El Kouartey, A. Soulaymani, H. Hami, Place of the “person-centred health services” approach in the improvement of primary health care in Morocco
- CO4. ID-122:** H. Guider, M.A. Lafraxo, Y. El Madhi, A. Soulaymani, H. Hami, Prevalence of stress among science teachers: results of a cross-sectional study
- CO5. ID-165:** Idrissi Yahyaoui M., Bentouhami N. E., Moumnassi S., Bellaouchi R., Eddabbeh F.-E., El Guerrouj B., Saalaoui E., Jaouadi B., Abousalham A., Capanoglu E., Asehrou A. BIODEGRADATION OF XYLO-OLIGOSACCHARIDES BY LACTIC ACID BACTERIA: A short review
- CO6. ID-02:** W. Mrabti, M. Emharraf, Artificial Intelligence in medical diagnostic: Advancements and challenges
- CO7. ID-178:** Hasnaa Sadik, Chadia Ouazzani, Samira El Ghammarti, Abdellah Moustaghfir, Issam Essebahi, Abdellah Dami, Lhoussein Ballouch, Study of the nutritional proprieties of commercial strawberries, red and black raspberry consumed in Morocco
- CO8. ID-231:** Dihmane Asmaa, Aniba Rafik, Raqraq Habiba, Ressmi Amina, Nayme Kaotar, Timinouni Mohammed, Barguigua Abouddihaj, Antimicrobial Susceptibility and risk factors of Extended-Spectrum  $\beta$ -Lactamases producing Gram-Negative bacilli recovered from patients admitted to Beni Mellal Regional Hospital
- CO9. ID-232:** Fz. Smaili, K. Zerrouki, Fz. Aouni, A. Ghanam, A. Babakhouya, M. Tajir, Contribution of Sanger sequencing in the detection of the recurrent Maghrebian c.525delT mutation at the *SGCG* gene in limb-girdle muscular dystrophy with gamma-sarcoglycan deficiency
- CO10. ID-265:** N. El Kouartey, H. Koubri, H. Hami, A. Soulaymani, NGOs’ rules in the improvement of the migrants’ financial access to healthcare in the Rabat Salé Kénitra region
- CO11. ID-273:** Saida Rahmani, Abdelilah Berhili, Mohammed Bensalah, Mehdi Najjar, Rachid Seddik, Makram Merimi, Impact of T-Lymphocytes Number and Quality in B Acute Lymphoblastic Leukemia’s Prognosis
- CO12. ID-349:** M. Zraidi, the basics of eliminating the precancerous lesions and cervical cancer in Morocco
- CO13. ID-372:** Abdelhamid Bitari, Abdelkhaleq Legssyer, Presentation and Study of the Manuscript Book Entitled "Mark of Happiness in Usual Foods" علامة السعادة في الاغذية المعتادة by doctor Abou Alī Al-Hasan Ibn Ali Al-Marrakushi
- CO14. ID-394:** N, Abda, M Fourtassi, Y, Bentata, what profile of type 2 diabetic patients followed at a secondary care referral center: data from a Moroccan cohort study.
- CO15. ID-09:** A. Bouhoudan, J. Bakkach, N. Mourabit, M. Khaddor, Can the mycotoxins become the future treatment for cancer?
- CO16. ID-174:** o rahhab, a belbachir, h sebbar, m choukri, Verification of quantitative analytical methods of 11 routine biochemistry parameters in the Alinity analyzer

## ROOM II

### Session 2) : WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ISSUES

11:30– 13:00

#### Moderators & Rapporteurs:

*Prof. Mama ELGHAZI, Dr. Samah KARIM & Prof. Abdelouahad AOUINTI*

- CO17. ID-28:** JABRI Abdelkarim, Does FDI hurt environment quality in Morocco? Nonlinear cointegration and nonlinear causality

	<p><b>CO18. ID-24:</b> F. Zulkifli, Jiyaul Haque, M.S.M. Ghazali, S.M. Zulaikha, Walid Daoudi, W.B. Wan Nik, Alocasia Odora Extract as Environmentally Benign Corrosion Inhibitor for Aluminium in HCl: Electrochemical and Surface Study</p> <p><b>CO19. ID-55:</b> F. Baragh, K. Draoui, B. El Bali, A. Kherbeche, M. Agunaou, H. Gallard, Removal of organic pollutants from wastewater by catalytic wet peroxide oxidation</p> <p><b>CO20. ID-56:</b> C. Merimi, B. Hammouti, R. Touzani, M. A. Mehdi, M. Neffa, <sup>R</sup>. Quesada-Cabrera, J. M. Doña-Rodriguez, Study of the degradation of an organic pollutant using a raw clay extracted from the magma of Cumbre Vieja volcano</p> <p><b>CO21. ID-57:</b> El Assaoui Naïma, Sadok Abdelaziz, Merini Imane, Assessment of future climate change effects on groundwater resources in dry area: case of Berrechid aquifer (Morocco)</p> <p><b>CO22. ID-64:</b> Abdelali El Mekkaoui, Rachid Moussadek, Rachid Mrabet, Ahmed Douaik, Rachid El Haddadi, Saïd Chakiri and Abdelmjid Zouahri, The impact of no-till and conventional tillage systems on soil physical properties in a semi-arid region of Morocco</p> <p><b>CO23. ID-84:</b> Abdelhak Saidi, Lhoussaine Jait, Abdelkader Chahlaoui, Youssef Ouballouk, Moulay Lafdil Belghiti, Mohcine Sadki, Chadia Sekkat, Assessment of the parasitic load of the surface waters of Khoumane wadi (city of moulay idriss zerhoun-morocco)</p> <p><b>CO24. ID-100:</b> Youssef Bounakhla, Abdelfettah Benchrif, Mounia Tahri, Fatiha Zahry, Moussa Bounakhla, El Hassan El Kafssaoui, Levels and patterns of Black carbon at an Urban Site in Kenitra, Morocco</p> <p><b>CO25. ID-129:</b> Fatima Tayi, Adil Akil, Younes Essamlali, Mohamed Zahouily, Exploring the Potential of Fish Protein Hydrolysates from Sardine for Agricultural Applications</p> <p><b>CO26. ID-134:</b> Assia Jebli, Abdelhay El Amri, Basma Zarrik, Lamiae Alami, Hicham ElAouani, Ali Oumirdine, El Housseine Rifi, Ahmed Lebki, Elimination of a cationic dye from aqueous solution: adsorption on a hybrid biosorbent based on chitosan</p> <p><b>CO27. ID-140:</b> A. Bagayou, A. Hamdache, Y. Diane and M. Ezziyyani, Risk assessment of pesticides in groundwater in the Loukkos area</p> <p><b>CO28. ID-425:</b> Hichame SABAR, Mostafa OUIJIDI, Farid BOUSHABA, Mimoun CHOURAK, Aboubakr CHAARAOU, Urban flood hazard assessment by 2D hydraulic modelling: the case of the tirakaa catchment.</p> <p><b>CO29. ID-390:</b> Kaoutare Amini Alaoui, Hassan Radoine, A new rural establishment planning towards the sustainability of integration: The development potential for rural communes in the Rehamna province of Morocco</p>
<b>11:30– 13:00</b>	<b>ROOM III</b>
	<b>Session 3): THE POWER OF DIFFERENT ENERGY SOURCES TO EFFECTIVELY MEET ENERGY NEEDS</b>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Mohammed BENHADDOU, Prof. Ismael SAADOUNE &amp; Prof. Ricardo IZQUIERDO</i>
	<p><b>CO30. ID-25:</b> S.A. Gastev, I.V. Baranov, S.I. Burtsev, M. TAHIRI, A.A. Nikitin, System of comfortable air conditioning for football field and amphitheatres</p> <p><b>CO31. ID-07:</b> M. Morsli, R. Addou. M. Tahiri, Eco-Friendly Sustainable Materials Based on Construction Waste</p> <p><b>CO32. ID-29:</b> Loubna AZIZI and Nouredine Kouddane, Green City: towards a new urban sustainability in Morocco</p> <p><b>CO33. ID-72:</b> M. Amou, B. Larhrib, N. Sabi, I. Saadoun, Novel Nasicon-typed porous Ni<sub>1.5</sub>V<sub>2</sub>(PO<sub>4</sub>)<sub>3</sub>/C and Mn<sub>1.5</sub>V<sub>2</sub>(PO<sub>4</sub>)<sub>3</sub>/C as anode materials for lithium-ion batteries: Crystal structure and electrochemical lithiation/delithiation reaction mechanism</p> <p><b>CO34. ID-127:</b> Gari Meryem, Guetbach Yassmina, Zoheir Cifallah, Characterization of ionic flux and ionic energy in several plasma discharge reactors</p>



- CO35. ID-133:** A. Ait Ali, H. Hihi, Cooling of photovoltaic panels by using groundwater with quality analysis
- CO36. ID-153:** Oumayema El Ghali, Abdelwahed Chari, Marwa Tayoury, Zakaria Chchiyai, Youssef Tamraoui, Bouchaib Manoun, Mouad Dahbi, Structural and Electrochemical properties of new spinel oxides  $MgFe_{2-x}Mn_xO_4$  as anode materials for Li-Ion Batteries
- CO37. ID-157:** Rita Azerhouni, Youssef Benmoussa, Ahmed Khallaayoun, Feasibility Study on the Production of Green Hydrogen using Floating PV in the Moroccan Framework
- CO38. ID-163:** Youness Bouhaj, Meriem Saadouni, Mohamed Tahiri, Abdeslam El Bouari, Thermal and mechanical proprieties of PES fabric-CMC composite panel for thermal insulation in building
- CO39. ID-193:** Ahmed Bazzi, Hamza El Hafdaoui, Ahmed Khallaayoun, Energy and Environmental Assessment of Alternative Fuel Rails in Morocco
- CO40. ID-257:** H. Chadli, K. Salmi, S. Chadli, R. Malek, O. Deblecker, K. Kassmi, N. Bachiri, Autonomous solar cooker (Heating plate) using both PV panels and batteries
- CO41. ID-428:** M. Baazizi, S. Sayah, M. Karbak, M. Aqil, M. Dahbi, F. Ghamouss, the effect of electrolyte additives in reducing the heat generation of high voltage lithium-ion batteries
- CO42. ID-397:** Mustapha Salihi, Maryam El Fiti, Kenza Charafeddine, Younes Chhiti, Ahmed Chebak, Charafeddine Jama, Effect of tilt angles on the PCM melting behaviour in a rectangular cavity: A numerical study
- CO43. ID-224:** Hassan ZAHBOUNE, Rania HAJJI, Mohammed BOUKABOUS, Sizing of a photovoltaic system with the Pinch Power Analysis method.
- CO44. ID-431:** Marwa Tayoury, Abdelwahed Chari, Mohammed Aqil, Adil Sghouri Idrissi, Jones Alami, Youssef Tamraoui, Mouad Dahbi, Investigating the Electrochemical Intercalation Activity of  $Na_3NiZr(PO_4)_3$  Material for Sodium-ion Batteries.

## ROOM IV

### Session 6): NATURAL PRODUCTS AND THEIR VALORISATIONS

#### Moderators & Rapporteurs:

*Prof. Asmae KHALDOUNE, Prof. Ahmed CHETOUANI, Prof. Khadija HABOUBI & Prof. Mohamed TAHIRI*

- CO45. ID-235:** Yahia El Habib, Jarosław Serafin, Mohamed Saidi, Mohammed Ouzzine, promising porous carbons derived from argan waste and their application in CO<sub>2</sub> storage
- CO46. ID-241:** A. Krid, A. Ennoury, N. Nhhala, K. Aberkani, B. Bouhcain, M. Nhiri, M.H. Zerrouk, Utilization of seaweeds extracts as an eco-friendly alternative of agrochemicals for sustainable agriculture
- CO47. ID-401:** I. Mariouch, R. Mariouch, M. Belfaquir, M. S. Elyouibi, Study on the removal of cobalt and chromium heavy metals by adsorption using a natural clay from Morocco: modeling and optimization using response surface methodology (RSM)
- CO48. ID-246:** Oumayma Sayah, Hamza Bouakline, Imane Ziani, Abdesselam Tahani, Abdelmonaem Talhaoui, Ali El Bachiri, The effect of extraction processes of biomolecules from Prunus dulcis fruit kernels in the eastern region of Morocco and characterization of physico-chemical and bioactive properties of almonds oil
- CO49. ID-253:** H. Mesbahi, I. Saibari, M. Ezziyyani, A. Hamim, The role of gamma irradiation to induce genetic variability and improve the yield of groundnut (*Arachis hypogaea* L)
- CO50. ID-285:** Ayoub Abarkan, Nafea Achalhi, Ridouan El Yousfi, Abdessamade Benahmed, Abderrahmane El Idrissi, Green Chemistry Approach to Cellulose Modification: Homogeneous esterification using anhydride and acyl chloride reagents
- CO51. ID-286:** M. Belfaquir, M. Loutfi, A Hmimou, M. S. Elyoubi, Equilibrium and kinetic studies on the adsorption of Zn<sup>2+</sup> from an aqueous solution using natural Moroccan clay
- CO52. ID-302:** Jazi Omaima, Bahije Loubna, Moustaghfir Abdellah, Zaoui Fatima, New Chitosan based biomaterials and their application in dentistry

11:30– 13:00

	<p><b>CO53. ID-308:</b> Safae Ouahabi, El Hassania Loukili, Mohamed Ramdani, Marie-Laure Fauconnier, Chemical Composition and Antioxidant Activity of Gracilaria bursa-pastoris red seaweed extracts</p> <p><b>CO54. ID-325:</b> Sara Moussaoui, Ahmad Dermaj, Najat Hajjaji, Hamid Erramli, Study of the steel corrosion inhibition in an acid medium by the Centaurium erythraea plant extracts</p> <p><b>CO55. ID-338:</b> Moumnassi S., Lmimouni M., Bentouhami N. E., Idrissi Yahyaoui M., Brahmi M., Bellaouchi R., Eddabbeh F.-E., Hasnaoui I., Abousalham A., Jaouadi B., Saalaoui E., Asehraou A., A novel biotechnological valorization approach of shrimp shells based on fermentation by <i>Lactiplantibacillus plantarum</i> S61 and ultrasound treatment</p> <p><b>CO56. ID-345:</b> Leila Azaryouh, Mohamed Jaouahar, Zineb Kassab, Mounir El Achaby, Adil Aboulkas, Extraction and characterization of Cellulose and Lignin from Two-phase olive mill waste</p> <p><b>CO57. ID-362:</b> Bensalem EL JEDDAOUI, Imane FIKRI, Abdelmajid El Bakkali, Saadia Ait Lyazidi, Ali Amechrouq, Mustapha Haddad, Stefano LEGNAIOLI and Marina BICCHIERI, Rubia tinctorum Madder: Towards an ecofriendly dyeing of the traditional Moroccan carpet</p> <p><b>CO58. ID-378:</b> D. Mhanni, A. Habsaoui, O. Boussalem, G. Doumane, M. Ebn Touhami, Characterization, phytochemical study and evaluation of the antioxidant power of certain polar and apolar extracts of <i>Chamaerops humilis</i> L fruit (pericarp, seed and mixture) from western Morocco</p>
<b>13:00 – 14:30</b>	<b>Lunch</b>
<b>Moderators &amp; Rapporteurs: Prof. Kamal KASMI &amp; Prof. Asmae KHALDOUNE</b>	
<b>15:00 – 15:35</b>	<p><b>Plenary Conference (4)</b>  <b>Prof. ISMAEL SAADOUNE, Morocco</b>  <i>“Chemistries of Lithium-ion Batteries: A state of the art”</i></p>
<b>Moderators &amp; Rapporteurs: Prof. Abdelouahad AOUINTI &amp; Prof. Yasmina ED-DARIY</b>	
<b>15:35 – 16:10</b>	<p><b>Plenary Conference (5)</b>  <b>Prof. CHARAFEDDINE JAMA, France</b>  <i>“Cold Plasma Processes for Surface Modification of Materials”</i></p>
<b>Moderators &amp; Rapporteurs: Prof. Jamal BOUCHNAIF &amp; Prof. Farid FALYOUNI</b>	
<b>16:10 – 16:45</b>	<p><b>Plenary Conference (6)</b>  <b>Prof. RAFIK NACCACHE, Canada</b>  <i>“Sustainable Nanomaterials as Drivers for Application Development in Sensing and Clean Energy Applications”</i></p>
<b>Poster Session / Stands</b>	
<b>Moderators &amp; Rapporteurs: Prof. Jamal HADADI, Mme. Latifa ELFARISSI &amp; M. Rachid MAHA</b>	
<b><i>Kaoutar ZAIDI / Safae OUAHABI / Smaili FATIMAZAHRA / Chaimae MERIMI / Aida SOULAYMANI</i></b>	
<b>18:30 – 19:30</b>	<b>Official Opening Ceremony ICMES'23</b>
<b>Moderators &amp; Rapporteurs: Prof. Mohamed SIAJ &amp; Prof. Faouaz JEFFALI</b>	
<b>19:30 – 20:00</b>	<p><b>Plenary Conference (7)</b>  <b>Prof. MOHAMED CHAKER, Canada</b>  <i>“Plasma synthesis of oxide materials for photonics, energy and water treatment applications.”</i></p>
<b>20:30 – 21:00</b>	<b>A TROPHY AND AWARD TO BE RECEIVED BY THE SPEAKERS</b>
<b>21:00 – 21:30</b>	<b>Stands / Poster</b>

**Saturday, June 10, 2023**

**Moderators & Rapporteurs: Prof. Mohammed EDDAOUDI & Prof. Imane MERIMI**

09:00 – 09:35

**Plenary Conference (8)**

**Prof. GUILLAUME MAURIN, France**

*“Computational-aided development of MOF Mixed Matrix Membranes”*

**Moderators & Rapporteurs: Prof. Elmostafa ZIANI & Prof. Fatimazahra ZAHRAOUI**

09:35 – 10:10

**Plenary Conference (9)**

**Prof. VETRONE FIORENZO, Canada**

*“Rare Earth Doped Nanoparticles: Towards Theranostics with Light”*

**Moderators & Rapporteurs: Prof. Driss BRIA & Prof. Wafae EL HAMDANI**

10:10 – 10:45

**Plenary Conference (10)**

**Prof. ASMAE KHALDOUNE, Morocco**

*“Application of Rheology in the Enhancement of Mechanical and Thermal Properties of red Clay Bricks”*

**Moderators & Rapporteurs: Prof. Wan Mohd Norsani BIN WAN NIK & Prof. Alae-eddine BARKAOUI**

10:45 – 11:10

**Plenary Conference (11)**

**Prof. WILSON AGGERICO DIÑO, Japan**

*“Defluorination and Adsorption of Tetrafluoroethylene (TFE) on TiO<sub>2</sub>(110) and Cr<sub>3</sub>O<sub>3</sub>(0001)”*

**Poster Session / Stands**

**ROOM I**

**Session 2): WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ISSUES**

**Moderators & Rapporteurs:**

*Prof. M. Salahdine ELYOUBI, Prof. Nouredine ABIDI & Prof. Mohamed ABOU-SALAMA*

11:15 – 13:00

**CO59. ID-155:** Intissar Abounki, Ahmed Fekri, Aziz Ait Sliman, Flood risk assessment and mapping in a semi-arid watershed of the High Atlas Mountains, Morocco

**CO60. ID-160:** Z. Bediouri, H. Hami, A. Soulaymani, M. Boughriba, Liquid sanitation system of Talsint center: a case study in Figuig province

**CO61. ID-186:** Chaouki, K. El Maalam, K. Aouadi, S. Naamane, M. Ben Ali, The effect of zinc bath formulation on the corrosion resistance of galvanized steel: a short review

**CO62. ID-197:** Dounia Azzouni, Rajae Salim, Elhachmia Ech-Chihbi, Soukaina Alaoui Mrani, Zakia Rais, Mustapha Taleb, Electrochemical investigation by novel ecological corrosion inhibitors applied to mild steel in a molar hydrochloric acid medium

**CO63. ID-243:** KHALID Krami, AHMED Benamara, MOHAMMAD Ettayeb, TARIK Lhoussaine, Study of Asphalt Pavement Cracking Under Climatic Variations in Different Regions of Morocco Using Electrical Tomography Method

**CO64. ID-333:** Badr Bouhcain, Yassine Ez Zoubi, Antonio Morán, Mohammed Hassani Zerrouk, Application of Response Surface Methodology to optimize the removal of caffeine and diclofenac from water using biochar produced from argan nutshells

**CO65. ID-104:** Y. El Idrissi, M. Benabbou, Z. Rais, M. El Haji, Brackish and seawater pretreatment processes: A systematic literature review

	<p><b>CO66. ID-408:</b> Imane Merimi, Belkheir Hammouti, Mohamed Ebn Touhami, Charafeddine Jama, Tadeusz Szumiata, Corrosion-Inhibiting Powder Protects Bridge Cables During Construction</p> <p><b>CO67. ID-131:</b> Wafaa Zriouel, Aziz Bentis, Sanaa Majid, Belkheir Hammouti, Said Gmouh, The Blue Tansy essential oil: Electrochemical measurement, computational study and prediction of its corrosion inhibition efficiency based on chemical composition</p> <p><b>CO68. ID-151:</b> A. El Amri, N. El-Aouni, R. Sayed, S. Sadaoui, N. Dkhireche, M. Ebn Touhami, Experimental and theoretical study of new epoxy resin synthesized as corrosion inhibitor of mild steel 1 M HCl</p> <p><b>CO69. ID-403:</b> A. Belkheiri, M. Khatibi, K. Dahmani, M. Galai, N. Dkhireche, R.a. Belakhmima, M. Rbaa, M. Ebn Touhami, B. Lakhri, Comparative Study of MeSQX and BrSQX as Corrosion Inhibitors for Mild Steel in HCl Solution: Experimental and Theoretical Insights</p> <p><b>CO70. ID-15:</b> T. Alfredy, M. Dahbi, J. Elisadiki, Y. Jande, Electrosorption of paraquat pesticide on activated carbon modified by aluminium oxide (Al<sub>2</sub>O<sub>3</sub>) in capacitive deionization</p> <p><b>CO71. ID-22:</b> Taj Eddine Manssouri, Imad Manssouri, Abdellah El Hmaidi, Hassane Sahbi, Prediction of surface water quality indicators via extreme learning machine neural networks: Case of the Moulouya Wadi's Surface Waters (NE, Morocco).</p> <p><b>CO72. ID-423:</b> Mohamed Taibi, Amine Elbouzidi, Elhassania loukili, Mohamed Addi, Bouchra El Guerrouj, Khalid Chaabane, Investigating the biological properties of <i>Ptychotis verticillata</i> Duby essential oil from Eastern Morocco through in vitro and in silico analysis.</p> <p><b>CO73. ID-103:</b> S. Karim, A. Aouniti, C. Belbachir, I. Rahhou, Human health impact assessment of contamination of fishery products and prevention of food risks</p> <p><b>CO74. ID-119:</b> A. Malah, A. Sabri, H. Bahi, Remote sensing of urban thermal environment's quality assessment</p>
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## ROOM II

### Session 3): THE POWER OF DIFFERENT ENERGY SOURCES TO EFFECTIVELY MEET ENERGY NEEDS

#### Moderators & Rapporteurs:

*Prof. Jamal BOUCHNAIF, Prof. Elmostafa ZIANI & Prof. Vetrone FIORENZO*

11:00 – 13:00	<p><b>CO75. ID-346:</b> Khaoula Benaomar, Abdelkader Outzourhit, Hicham Mastouri, Mohamed El Mankibi, Karim Limam, Climate Change and Building Materials: Implications for Durability and Performance- A case study of Morocco</p> <p><b>CO76. ID-347:</b> Ait Khouya Oumaima, Jammoukh Mustapha, Zamma Abdellah, El Farissi Latifa, Recycling red brick waste into aerogel for thermal insulation applications</p> <p><b>CO77. ID-367:</b> H. Jebbouri, A. Chafi, Additive manufacturing, Literature review</p> <p><b>CO78. ID-205:</b> Ghizlane Elomari, Loubna HDIDOU, Hicham LARHLIMI, Mohamed MAKHA, Jones ALAMI and Mouad DAHBI, Safe and fast charging and anode material for lithium-ion batteries</p> <p><b>CO79. ID-277:</b> Abdellatif BOUAICHI, Understanding PV module durability in desert climate conditions for a new durable module</p> <p><b>CO80. ID-409:</b> hiba elfallah, mohamed aqil, anass ait benhamou, amina amarray, mounir elachaby, foud ghamous, mouad dahbi, houssine shehqui, Battery Separators Based on Phosphate-Functionalized Cellulose</p> <p><b>CO81. ID-418:</b> Hamza Afaryate, Yassin.Zoizou, Mehdi Karbak, Mohamed Aqil, Youssef Tamraoui, Fouad Ghamouss, A Facile Preparation of spinel-type <math>\lambda</math>-MnO<sub>2</sub> as Cathode Material for High-Performance Zinc-Ion Battery</p> <p><b>CO82. ID-299:</b> A. Garni, A. El Barkany, F. Jeffali, Supply chain &amp; Building industry</p> <p><b>CO83. ID-420:</b> Yassine SEFFAR, Jones ALAMI, Mouad DAHBI, Graphite surface modification for Improving VO<sup>2+</sup>/VO<sup>2+</sup>Redox Kinetics in Zinc-Vanadium Redox Flow Batteries</p> <p><b>CO84. ID-417:</b> Mohamed KERROUMI, Fatima El BACHRAOUI, Mariam BAAZIZI, Said MANSOURI, Bouchaib MANOUN, Youssef TAMRAOUI, Fouad GHAMOISS, Valorization of low-grade pyrolusite and the preparation of LiMn<sub>2</sub>O<sub>4</sub> materials for lithium-ion batteries</p>
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	<p><b>CO85. ID-159:</b> Khadija KOUCHI, Mohamed AQIL, Abdelwahed ChARI, Ayoub EL BENDALI, Jones Alami, and Mouad Dahbi, PVP additive-assisted synthesis and Ti doping: a dual-modification strategy for improving the electrochemical performance of NMC cathode materials for rechargeable lithium-ion batteries</p> <p><b>CO86. ID-422:</b> Elhoucine Elmaataouy, Abdelwahed Chari, Ayoub El Bendali, Marwa Tayoury, Rachid Amine, Mohamed Aqil, Gui-Liang Xu, Tongchao Liu, Jones Alami, and Mouad Dahbi, LiNi0.8Fe0.1Al0.1O2 as Cobalt-free Cathode material with High-Capacity for Lithium-Ion Batteries</p> <p><b>CO87. ID-300:</b> M. El Mesellek, K. Hirech, A. Bouaichi, A. Azouzoute, M. Abraim, A. Ghennioui, In-situ performance and degradation of three different photovoltaic module technologies installed in semi-arid climate of Morocco.</p> <p><b>CO88. ID-301:</b> A. Azouzoute, A. Bouaichi, M. El Ydrissi, M. El Mesellek, M. Benhaddou, C. Hajjaj, F. Jeffali, Techno-econo-environmental study of the integration of renewable energy in a desalination plant: case study of Laayoune, Morocco</p> <p><b>CO89. ID-432:</b> Adil SGHIOURI IDRISSE, Yassine SEFFAR, Jones ALAMI, Mouad DAHBI, Enhanced salt removal in capacitive deionization cell using Moroccan anthracite as carbon-based electrodes materials.</p>
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	<b>ROOM III</b>
	<b>Session 4): ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, ENGINEERING AND SIMULATIONS</b>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Loubna BOUSELHAM, Prof. Rafik NACCACHE &amp; Prof. Younes CHHITI</i>
<b>11:00 – 13:00</b>	<p><b>CO90. ID-262:</b> A. Baidri, F. Z. Elamri, M. Hbib, A. Ouariach, F. Falyouni, J. Youssfi, M. Himmi, A. Anakkari And D. Bria, Innovative Teaching Method for Thermodynamics: Real-Time Verification with Pressure and Temperature Sensors</p> <p><b>CO91. ID-275:</b> Y. Errouas, I. Antraoui, A. Bria, D. Bahia, S. Amraoui, M. Gharbi, S. Rihab and D. Bria, Analysis of the movement of a spring with a piezoelectric sensor connected to a MicroLab interface</p> <p><b>CO92. ID-278:</b> N. El Biyari, M. Zekriti, Surface Plasmon Resonance in Bilayer Structures: Modeling and Applications</p> <p><b>CO93. ID-287:</b> Kamal ANOUNE, Anas El Maliki, Abdessamad Benlafkih and Abdelkader Hadjoudja, Assessing Lithium-ion Battery State of Charge Estimation for Drones Operation using an Extended Kalman Filter Algorithm</p> <p><b>CO94. ID-292:</b> Moulay Said Khatab, Tarik Touiss, Ilyass El Kadmiri, Driss Bria, Optimization of propagation acoustic waves in one-dimensional via a waveguide tube with a local copper patch resonator</p> <p><b>CO95. ID-294:</b> Wafae El Hamdani, Imane Halkhams, Terahertz applications and integrated circuits for communication systems</p> <p><b>CO96. ID-304:</b> M Khala, N Elyanboiy, I Elabbassi, M Halimi, O Eloutassi, Y Elhassouani, C Messaoudi, Moroccan Sub-Saharan areas hourly air temperature prediction model using Deep Learning methods</p> <p><b>CO97. ID-327:</b> S. Machichi, F. Z. El Amri, M. El Malki, F. Falyouni, A. Ouariach, M. Himmi, R. El Houssaine, D. Bria, Experimental study of an oscillatory motion of a simple and heavy pendulum using a distance sensor with the MicroLabExAO interface</p> <p><b>CO98. ID-330:</b> Hamza El Hafdaoui, Ahmed Khallaayoun, Machine learning for embodied carbon life cycle assessment of buildings</p> <p><b>CO99. ID-371:</b> Ilham El-Atmani, Ilyass El Kadmiri, Aissam Khaled, Driss Bria, Mounsi Ech Cherif El Kettani, Pierre Marechal, Acoustic Splitter Waves Based on Ramified System Made Of Waveguides and Resonators</p> <p><b>CO100. ID-373:</b> Hamza Ennadafy, Mustapha Jammoukh, Naoual Belouaggadia, Numerical simulation of the thermal behavior of a new bio-composite with a durable charge</p> <p><b>CO101. ID-381:</b> Badr-Eddine BENAHMED, Faouaz JEFFALI, Abdallah BARKANY, "IoT-enabled Maintenance 4.0: Optimizing Maintenance Processes and Equipment Performance"</p>

	<p><b>CO102. ID-402:</b> Zahaf Toufik, Sabar Hichame, Boushaba Farid, Mimoun Chourak, Numerical simulation of the risk of flooding of the national road N°2 at the crossing of the Sefrou wadi south of the city of Bni Drar</p> <p><b>CO103. ID-352:</b> M. Zekriti, N. El biyari, Predicting the optical response of Metal-Insulator-Metal structures using FDTD simulations: A comprehensive study</p>
	<b>ROOM IV</b>
	<b>Session 5): ADVANCED MATERIALS FROM ORGANIC AND INORGANIC DEVICES</b>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Ahmed CHEBAK, Prof. Imane MERIMI &amp; Prof. Charafeddine JAMA</i>
11:00 – 13:00	<p><b>CO104. ID-39:</b> H. Messaoudi, A. Koukouch, I. Bakhattar, M. Asbik, Combustion of sewage sludge in a counter-current fixed bed: an experimental study</p> <p><b>CO105. ID-40:</b> Meriem Saadouni, Ayoub Nadi, Yosra RAJI, Omar Cherkaoui and Mohamed Tahiri, A new chelating support based on PAN fibre waste; synthesis, experimental design and characterization</p> <p><b>CO106. ID-43:</b> EL Hassan Boutriouia, Taha El Assimi, Mustapha Raihane, Redouane Beniazza, Hicham Ben Youcef, Mehdi Khouloud, Mohamed Hassen V Baouab, Abdelkrim El Kadib, Mohammed Lahcini, Polymethyl methacrylate-g-carboxy-methylcellulose material: from synthesis to slow-release fertilizer application</p> <p><b>CO107. ID-47:</b> Ettayeb Mohammad, Chaouni Abdel-Ali, Khalid Krami, Reuse Correlation between P-wave velocity and Schmidt rebound hardness with unconfined compressive strength of Taza marl-limestone in Morocco</p> <p><b>CO108. ID-67:</b> Aziz El-Yahyaoui, Imad Manssouri, Taj Eddine Manssouri, Hassane Sahbi, Houssame Limami, Effect of Aluminum Sawdust Waste on the Technological Properties of Unfired Clay Bricks as a Construction Material</p> <p><b>CO109. ID-96:</b> N. Alanssari, L. Elfarissi, L. Goudali, N. Akkouri, Y. Haddaji, Accelerated and ultra-accelerated photoaging of polyethylene films used as greenhouse cover</p> <p><b>CO110. ID-109:</b> Ahlam Oulous, Nour Elhouda Daoudi, Mounir Cherfi, Tarik Harit, Mohamed Bnouham, Fouad Malek, New pyrazole-tetrazole compounds: synthesis, characterization and in-vitro <math>\alpha</math>-amylase inhibition</p> <p><b>CO111. ID-145:</b> Yasmina ED DARIY, Reinforcement of concrete by using the composites materials: A review</p> <p><b>CO112. ID-152:</b> Y. Ou Hassan, S. Bri, M. Habibi, Microwave absorption properties of WC / Al<sub>2</sub>O<sub>3</sub> ceramic composite at X-band frequencies</p> <p><b>CO113. ID-183:</b> K. Lamayny, O. El Abouti, M. Amrani and E. H. El Boudouti, Surface states in one-dimensional Graphene-Dielectric photonic crystal</p> <p><b>CO114. ID-184:</b> K. Lamayny, O. El Abouti, T. Mrabti, M. Amrani, S. Khattou, Z. Labdouti, A. Mouadili, E.H. El Boudouti, Fabry-Perot bound states in the continuum in a mesoscopic loop connected to two resonators</p> <p><b>CO115. ID-395:</b> Hasna Nait M'Barek, Soukaina Arif, Benaziz Mohamed4, Patrick Perré, Mycelium-based materials: tuning properties through knowledge and engineering</p>
13:00 – 14h30	<b>Lunch</b>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Ahmed CHETOUANI &amp; Prof. Naïma EL ASSAOUI</i>
15:00 – 15:35	<p><b>Plenary Conference (12)</b> <b>Prof. MAMA ELGHAZI, Morocco</b> <i>“New strategy for designing new materials based on conducting polymers and metal oxide: from sensing to energy application”</i></p>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Mohamed TAHIRI &amp; Prof. Abdelouahed BERRICHI</i>
15:35 – 16:10	<p><b>Plenary Conference (13)</b> <b>Prof. NOUREDDINE ABIDI, USA</b> <i>“Guar-based composites as alternatives for petroleum-based materials”</i></p>

	<i>“FTIR microspectroscopy imaging promising tool to study biomacromolecular distribution in biological samples”</i>
<b>Moderators &amp; Rapporteurs: Prof. Souad HAIDA &amp; Prof. Mustapha BELFAQUIR</b>	
16:10 – 16:45	<b>Plenary Conference (14)</b> <b>Prof. ABDENACER IDRISI, France</b> <i>“Local structure in mixtures of ionic liquid with molecular solvent: vibration spectroscopy, NMR and molecular dynamics simulation”</i>
<b>Moderators &amp; Rapporteurs: Prof. Lounès CHELGHOUM &amp; Prof. Mohamed ABOU-SALAMA</b>	
16:45 – 17:10	<b>Plenary Conference (15)</b> <b>Prof. MOHAMED SIAJ, Canada</b> <i>“Electroactive low dimensional materials for advanced electrocatalysis and sensors applications”</i>
<b>Poster Session / Stands</b>	
	<b>ROOM I</b>
	<b>Session 5): ADVANCED MATERIALS FROM ORGANIC AND INORGANIC DEVICES</b>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Ossama EL ABOUTI, Pr. Mohammed BENSITEL &amp; Prof. Farid FALYOUNI</i>
17:30 – 19:00	<p><b>CO116. ID-188:</b> R. Chattahy, M. Bakkas, K. El Maalam, M. Ben Ali, S. Boukheir, A. Chbihi, A. Eljersifi, S. Naamane, Investigation of coal fly ash and electric furnace slag as potential local materials for sensitive thermal storage of industrial waste heat</p> <p><b>CO117. ID-189:</b> Mohamed El Ghafiani, Adnane Noual, Mohammed Moutaouekkil and El Houssaine El Boudouti, Surface acoustic waves interaction with confined phonons in a single layered ridge set on top of a multilayer design</p> <p><b>CO118. ID-191:</b> Loubna Bazzi, Samir El Hankari, Green and sustainable synthesis of metal-organic frameworks for the adsorption of phosphate</p> <p><b>CO119. ID-206:</b> Manar Derhy, Yassine Taha, Asmae El Bahi, Yassine Ait Khouia, Mostafa Benzaazoua, Rachid Hakkou, Green froth flotation for a selective separation of calcium-bearing minerals: exploring the potential of bio-based alternatives to conventional collectors</p> <p><b>CO120. ID-221:</b> Moussa Ouakki, Zakaria Benzekri, Mouhsine Galai, Elhachmia Ech-Chihbi, Khadija Dahmani, Said Boukhris, Mohamed Ebn Touhami, Mohammed Cherkaoui, Insights into corrosion inhibition mechanism of mild steel in 1M HCl solution by quinoxaline derivatives: electrochemical, SEM/EDAX, UV-visible</p> <p><b>CO121. ID-234:</b> Issam Saber, Khadija Dahmani, Moussa Ouakki, Mouhsine Galai, Mustapha Belfaquir, Mohammed Cherkaoui, Salaheddin El Youbi, Elaboration and characterization of new bismuth-borate glasses for corrosion inhibition of copper in 1M H<sub>2</sub>SO<sub>4</sub> 0.5M medium</p> <p><b>CO122. ID-263:</b> Chaymae Bahloul, Adil Eddiai, Mounir El Achaby, Flexible Piezoelectric Nanocomposite films based on PVDF doped with CoLa<sub>0.2</sub>Fe<sub>1.8</sub>O<sub>4</sub> For Energy Harvesting Applications</p> <p><b>CO123. ID-272:</b> Soukaina Bouhmaid, Redi Kristian Pingak, Larbi Setti, First-principles investigation of electronic, elastic, optical and thermoelectric properties of strontium-based anti-perovskite Sr<sub>3</sub>MN (M= P and As) for potential applications in optoelectronic and thermoelectric devices</p> <p><b>CO124. ID-281:</b> M.R. Qasem, S. Machichi, T. Touis, F. Falyouni and D. Bria, Electronic states in GaAs/AlGaAs/GaAs Core/shell Cylindrical Quantum Wires</p> <p><b>CO125. ID-284:</b> Guetbach Yassmina, Grari Meryem, Zoheir Cifallah, Influence of secondary electron emission on the plasma characteristics in an argon inductively coupled discharge</p> <p><b>CO126. ID-289:</b> M. Koudad, S. Dadou, K. Chourti, M. El Farkhani, O. El Amari and M. Abou-Salama, Encapsulation of therapeutic molecules by starch-cellulose nanocomposites for controlled release</p> <p><b>CO127. ID-295:</b> Zaidi K., Aouiniti A., Merimi C., Daoudi W., Dagdag O., Berisha A., Oussaid A., Touzani R., Hammouti B., Experimental and theoretical correlation of inhibitory efficacy of L-Serine and L-Tyrosine on carbon steel in 1M HCl</p>
	<b>ROOM II</b>

	<p><b>Session 6): NATURAL PRODUCTS AND THEIR VALORISATIONS</b></p> <p><b>Moderators &amp; Rapporteurs:</b>  <i>Prof. Mustapha BELFAQUIR, Prof. Mouhsine GALAI Prof. Asmae CHAIK &amp; Prof. Rachid BENKADDOUR</i></p> <p><b>CO128. ID-396:</b> Soukaina Arifl, Hasna Nait M'barek, Geert Haesaert, Hassan Hajjaj, Mining biocatalysts for local biorefineries: lignocellulolytic enzymes production by four filamentous fungi under different fermentation systems for olive stones valorization</p> <p><b>CO129. ID-214:</b> A. Chergui, E. Ajal, I. Zakariya, R. Nejjari, A Comparative Study of the Biometric, Germinative, and Physicochemical Characteristics of Fruits and Oils of Three Cannabis Strains (<i>Cannabis sativa</i> L.var indica) Cultivated in the Rif Region of Morocco</p> <p><b>CO130. ID-18:</b> Beraich Abdessamad, Bouakline Hamza, El Farissi Hammadi, Makaoui Abderrahman, Neffa Mounsef, El Bachiri Ali, and Talhaoui Abdelmoneam, Comparative study of antioxidant and antibacterial activity from the essential oil obtained from Pistacia Lentiscus stems and leaves via different extraction methods: Hydrodistillation, Microwave, Ultrasounds, and Supercritical fluid extraction</p> <p><b>CO131. ID-23:</b> Yousra Lehleh, Imad Manssouri, Houssame Limami, Taj Eddine Manssouri, Hassane Sahbi, Abdessitir Deraoui, Asmae Khaldoun, Thermal study of unfired clay bricks with pretreated wheat straw.</p> <p><b>CO132. ID-26:</b> Insaf Nori, Salah Touil, Kaoutar Khallaki, Study of the conversion of the waste of <i>Opuntia Ficus-Indica</i> (L.) Miller into reducing sugars using dilute acid hydrolysis and autohydrolysis</p> <p><b>CO133. ID-120:</b> Nouhaila AJBLI, Fouzia KZAIBER, Abdelkhalek OUSSAMA, Khalid BOUTOIAL, Mohammed BENBATI and Kaoutar ELFAZAZI, Antioxidant proprieties and polyphenols content of quinoa cultivated in Morocco in the region of Béni Mellal Khénifra</p> <p><b>CO134. ID-171:</b> Rachid EL HADDADI, Amina OUZZANI TOUHAMI, Abdelali EL MEKKAOUI and Allal DOUIRA, EFFECT of initial morphological traits on field performance of <i>Tetraclinis articulata</i> seedlings in a semi-arid Mediterranean area</p> <p><b>CO135. ID-182:</b> H. Zejli, Fz. Bousseraf, A. Fitat, M. Taleb, A. Abdellaoui, Comparative assessment of total phenolics content and in vitro antioxidant capacity variations of leaf extracts of <i>Origanum grossii</i> and <i>Thymus pallidus</i></p> <p><b>CO136. ID-309:</b> O. Boussetta, E. Loukili, A. El Youssfi, S. Ouahabi, M. Ramdani, the effect of drying mode on the chemical composition of Cannabis L Sativa seeds harvested from Morocco</p> <p><b>CO137. ID-210:</b> O. Belhadj, A. Idrissi, A. El Amri, M. Ouakki, S. Bouzakraoui, A. Lebkiri, M. Cherkaoui, Brassicaceae methanolic extract for mild steel protection in HCl IM</p> <p><b>CO138. ID-226:</b> J. Chaouay, F. Bentiss, M. Zbair, Z. Belattmania, B. Sabour, C. Jama, Biochar from brown seaweed <i>Sargassum muticum</i> as a potential biosorbent for wastewater treatment</p> <p><b>CO139. ID-233:</b> Naji Majoudi, El-Houssaine Ablouh, Fatima Zahra Semlali, Houssine Sehaqu, Abou El Kacem Qaiss, Rachid Bouhfid, Mounir El Achaby, Phosphorylated cellulose nanofibers-based films: tailored thermal, optical, structural and mechanical properties</p> <p><b>CO140. ID-399:</b> A. Azghar, M. Dalli, S. Azizi, E. Benaissa, Y. Lahlou, M. Elouennass, A. Maleb, Chemical composition and antibacterial activity of <i>Salvia officinalis</i> essential oil against multidrug-resistant bacteria</p> <p><b>CO141. ID-379:</b> A. Sellam, Y. Zerrouki, N. Hamdaoui, I. Khalid, M. Meziane, In Vitro Characterization of Lactic Acid Bacteria from Moroccan fermented milk product "Lben" as Probiotics with Cholesterol-Lowering Effect</p> <p><b>CO142. ID-158:</b> Houmy Nadia, Noutfia Younes, Elfazazi Kaoutar, Elamrani Ahmed, Valorization of pressed almond oil's cake for the preparation of naturally lactose free beverage for lactose intolerant people.</p> <p><b>CO143. ID-52:</b> Noutfia Y, Ibnelbachyr M, Benali A, Misbah A, Houmy N, Elfazazi K, Quality characteristics and viscosity profile of yogurt made from goat milk and fortified with date (<i>Phoenix dactylifera</i> L.) fruits</p> <p><b>CO144. ID-53:</b> Elfazazi K, Azzouzi H, Laaraj S, Houmy N, Noutfia Y, Application of Carob pods (<i>Ceratonia siliqua</i> L) as a functional ingredient in cake formulation: Towards novel food products for a sustainable and healthy diet</p>
17:35 – 19:00	<p style="text-align: center;"><b>ROOM III</b></p> <p><b>Session 5): ADVANCED MATERIALS FROM ORGANIC AND INORGANIC DEVICES</b></p> <p><b>Moderators &amp; Rapporteurs:</b>  <i>Prof. Adnane NOUAL, Prof. WILSON AGGERICO DIÑO &amp; Prof. Abdelhak CHERGUI</i></p>



	<p><b>CO145. ID-368:</b> Xiaochun Li, Yann Garcia, Schiff base ligand MIII (M = Fe, Mn) mononuclear complexes with psca as an anion</p> <p><b>CO146. ID-311:</b> M. Galai, K. Dahmani, O. Kharbouch, M. Rbaa, M. Khattabi, I. Saber, A. Belkheiri, M. Ebn Touhami, B. Lakhri, Surface Analysis and Interface Properties of a Newly Synthesized Quinoline-Derivative Corrosion Inhibitor for Mild Steel in Acid Pickling Bath: Mechanistic Exploration through Electrochemical, XPS, AFM, Contact Angle, SEM/EDS, and Computational Studies</p> <p><b>CO147. ID-314:</b> Sarah Baayad, Youssef Eshouba, Tarik Mahfoud, Mounir El Achaby, Hassan El Moussaoui, Structural, morphological, optical and magnetical properties of NiFe<sub>2</sub>O<sub>4</sub> micro particles and nanoparticles and their effect on thermoplastic matrix</p> <p><b>CO148. ID-329:</b> F.E. Morchid, L. Elfarissi, A. Zamma, M. Idiri, M. Jammoukh, Enhancing Thermal Properties of Wood flour/High-Density Polyethylene Composites through Incorporation of Phase Change Materials</p> <p><b>CO149. ID-342:</b> F-Z. El Bouchtaoui, E-H. Ablouh, M. Mhada, I. Kassem, Z. Hanani, M. El Achaby, A novel green lignin modification for designing slow-release fertilizers using coating technology</p> <p><b>CO150. ID-343:</b> Yousra Bahjou, Smail Radi, Mohamed El Massaoudi, Youssef Draoui, Marilena Ferbinteanu, Haralampos N. Miras, Yann Garcia, Toxic trace metals extracted from aqueous solutions using a new ecologic hybrid material created by grafting tetrazole and bi-pyrazole CN junction entities onto the surface of silica</p> <p><b>CO151. ID-351:</b> Youssef Eshouba, Sarah Baayad, Tarik Mahfoud, Mounir El Achaby, Hassan El Moussaoui, Magnetic Polymeric Composites based on Magnetic Nano and microparticles for Industrial Applications</p> <p><b>CO152. ID-374:</b> Hamza Outar, Mustapha Jammoukh, Mohamed El Khaili, Comparative study of the mechanical properties of innovative materials for wind turbines</p> <p><b>CO153. ID-389:</b> A. El Aatiaoui, W. Daoudi, E. Hanan, M. El Mahamdi, S. Lamghafri, N. Benchat and M. Abou-Salama, Inhibition of Corrosion of Mild Steel by Oxazole and Isoxazole Derivatives in 1M HCl Medium</p> <p><b>CO154. ID-391:</b> Mohamed El Miz, Abdelilah Elhaddar, Marie-Laure Fauconnier, M. Abou-Salama, Characterization and Adsorption Study of cationic dye on purified and hydrophobic modified diatomaceous earth</p> <p><b>CO155. ID-398:</b> Abdelillah Shaim, Omar Doughmi, Reda El-Bardai 1, Driss Rair, Touria Jermoumi, Abdelkrim Chahine, Abdelghani Hsini, The development of a new polyaniline@oak acorn biocomposite for the efficient removal of Orange G dye from aqueous solutions</p> <p><b>CO156. ID-426:</b> Kamal Essifi, Mohamed Brahmi, Abdelghani Boussetta, Hassan Charri, Abderrahim Ed-Daoui, Anass Ait Benhamou, M'hammed Benelmostafa, Mohammed Dahmani, Samira Salhi, Amine Moubarik, Ali El Bachiri, Abdesselam Tahani, Elaboration of calcium alginate-based hybrid bio-capsules: Insight into the effect of clay content on the mechanical performance</p> <p><b>CO157. ID-58:</b> H. LACHHAB, A. Titi, S. ECHIHI, M. E. BELGHITI, Y. KARZAZI, A. ZARROUK, R. TOUZANI, C. JAMA, F. BENTISS, Anti-corrosion performance of novel pyrimidine-pyrazole derivatives for mild steel corrosion in 1.0 molar Hydrolytic acid solution: Computational and theoretical approach</p>
17:35 – 19:00	<b>ROOM IV</b>
	<b>Session 4): ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, ENGINEERING AND SIMULATIONS</b>
	<b>Moderators &amp; Rapporteurs:</b> <i>Prof. Kamal KASMI, Prof. Wafae MRABTI &amp; Prof. Khalid SALMI</i>
	<p><b>CO158. ID-38:</b> H. Foulah, A. Hamdaoui, N. Damil, E. El Alami, A. Boukamel, M. El Bouchti, M. Oumam, Comparison between experimental testing and numerical simulation of polyester matrix composites reinforced with silica glass fibers</p> <p><b>CO159. ID-59:</b> Sabri Anas, Malah Anass, Bahi Hicham, Spatio-temporal analysis of land use land cover changes (LULCC) for detecting urban sprawl using support vector machine (SVM): A Case Study of Casablanca</p>

- CO160. ID-88:** I. Sree, L. Elfarissi, M. Jammoukh, A. Zamma, Prediction of the mechanical behaviour of HDPE pipes: Using the Finite Element Method (FEM) and Artificial Neural Network technique (ANN)
- CO161. ID-99:** Mohamed El Ghafiani, Mohammed Elaoui, Soufyane Khattou, Yamina Rezzouk, Madiha Amrani, El Houssaine El Boudouti, Inverse design of topological properties of photonic systems using deep learning
- CO162. ID-123:** Siham Malki, El Farh Larbi, Darhi Zakaria, Guesmi Ibtissam, Challioui Allal, Modeling structural, electronic and optical properties of Vanadium silicide compound based on Density Functional Theory
- CO163. ID-172:** Fz. Zahraoui, M. Et-Taoussi, He Chakir, B. Elbhiri, H. Ouadi, A Hybrid Genetic Algorithmic Approach for Energy Management in a Multi-Source Smart Grid : A Case Study in LAMHIRIZ, Morocco
- CO164. ID-173:** Ssadiq Charadi, Abdelbari Redouane, Abdennebi El Hasnaoui, an energy management system of hybrid microgrid using metaheuristic strategy
- CO165. ID-200:** S. Haida, S. El Mrissani, J-L. Probst, L. Misane, A. Benmohammadi, H. Sibari, Long-term and high frequency hydrochemical monitoring in the Sebou catchment: Hydrosystem dynamic and modeling
- CO166. ID-217:** Y. Rezzouk, S. Khattou, M. Amrani, M. El Ghafiani, E. H. El Boudouti, A. Talbi, B. Djafari-Rouhani, Observation of FW-BIC in a stub with two lateral branches
- CO167. ID-249:** I. Antraoui, S. Machichi, Y. Errouas, M. Gharbi, R. Bousseta, M. Serrhini, D. Bahia and D. Bria, Study of the oscillatory motion of a coupled pendulum and the flapping phenomenon using the MicroLab ExAO interface with an electronic sensor
- CO168. ID-250:** S. Machichi, T. Touiss, M.R. Qasem, F. Z. El amri, F. Falyouni, D. Bria, Electron transport analysis through a GaAs and AlGaAs based cylindrical nanowire cell using the transfer matrix method
- CO169. ID-251:** M. El Malki, A. Bria, A. Baidri, J. Yousfi, M. Serrhini, S. Amraqui R. El Houssaine, D. Bria, Hall effect sensors Based Experiment to Study the viscosity of a fluid in Real-time
- CO170. ID-276:** H. Boubcheur, A. Bouhaba, Y. El Madhi, H. Sfouli, Education in the era of artificial intelligence, a literature review

**Sunday, June 11, 2023**

**Moderators & Rapporteurs: Prof. Abdelmalek AZIZI & Prof. Adnane NOUAL**

09:00-09:35

**Plenary Conference (16)**

**Prof. RICARDO IZQUIERDO, Canada**

*“Green Graphene Inks Printed by Aerosol-Jet for Sensing Applications”*

**Moderators & Rapporteurs: Prof. Mohamed SIAJ & Prof. Faouaz JEFFALI**

09:35-10:10

**Plenary Conference (17) “VIA ZOOM”**

**Prof. ALBERTO VOMIERO, Sweden**

*“Interfacial Properties in Composite Nanosystems for Energy Harvesting”*

**Moderators & Rapporteurs: Prof. Fatiha HAMMOUTI & Prof. Abdelkarim JABRI**

10:10-10:45

**Plenary Conference (18)**

**Prof. INTISAR HADDIYA, Morocco**

*“Perspectives and strategic steps to sustainability in healthcare”*

**Moderators & Rapporteurs: Prof. Mohamed Rachid EL MAHFOUDI & Prof. Abdelhak CHERGUI**

10:45-11:10

**Plenary Conference (19)**

**Prof. MOSTAFA EZZIYYANI, Morocco**

*“Smart system for predicting climate degradation for monitoring the adaptation of agriculture to climate change”*

**Moderators & Rapporteurs:***Prof. Jamal HADADI, Prof. Intissar HADDIYA, Prof. Asmae CHAIK & M. Rachid MAHA***Closing Ceremony****11:00-13:00****Reception / Participant certificate****09-10 June 2023****Poster Session: June 09-10, 2023***Chair: Prof. Hassan ZAHBOUNE, Dr. Samah KARIM, Mme. Amjad RAILLANI, Dr. Alae AZOUZOUTE &**Dr. Kamal ESSIFI***09-11 June 2023****CP1. ID-106:** M. Legmouz, A. El Elouahabi, S. Boulbaroud, F. Azzaoui, Epydemiology of pituitary adenomas in the region of rabat-sale-kenitra, Morocco.**CP2. ID-113:** H. Koubri, N. El Kouartey, A. Soulaymani, H. Hami, Health care security in primary healthcare context**CP3. ID-34:** M. Zarri, S. Ait Benichou, A. Fahde, F. Amraoui, M. Tahiri, Comparative study of the quality of treated water and sludge from wastewater treatment plants in the peri-urban area of Casablanca**CP4. ID-361:** O. Taoussi, H. Ba-Haddou, S. Foudeil, A. El Bakkali, S. Ait Lyazidi, M. Haddad, H. Cabana, M. Christelle, Long-term impact of treated wastewater irrigation on organic matter in agricultural soils: Case of the locality of Ain Taoujdate in the region of Fez-Meknes**CP5. ID-17:** Ghizlane El Hajoui, Imad Manssouri, Tajeddine Manssouri, Hassane Sahbi, Asmae Kaldoun, Houssame Limami, Thermal inertia performance of recycled wastewater treatment plant sludge with lightweight earth bricks**09-10 June 2023****Friday,****June 09, 2023****Saturday,****June 10, 2023****CP6. ID-20:** H. El Baraka, A. Fadlallah, the Energy Efficiency Measures and Economic Performance: Empirical Evidence from Morocco Using a Computable General Equilibrium Model**CP7. ID-68:** R. El-Bouayady, H. Radoine, S. Tayi, Urban energy system modeling: a district-scale approach applied to Moroccan city**CP8. ID-179:** S. Tayi, H. Radoine, R. El-Bouayady, Radar remote sensing indices for extracting impervious surfaces: a comprehensive review and analysis**CP9. ID-229:** M. Ouachekradi, M. Elkabous, Y. Karzazi, Theoretical study on the efficiency of new organic dyes based on (E)-2-(2-(thiophen-3-yl) vinyl)-1,1'-bipyrrole as DSSC sensitizers**CP10. ID-267:** N. Ettaloui, S. Arezki, T. Gadi, an analysis of blockchain-based electronic health record and compliance with GDPR and HIPAA**CP11. ID-317:** H. Boudine, M. Bentaleb, M. Tayebi, Digital education in Morocco: The impact of the digital classrooms project on science subject teachers**CP12. ID-348:** A. Elammari, J. Arif, The impact of implementation of an AGV in supply chain management: a systematic literature review**CP13. ID-382:** B.-E. Benahmed, F. Jeffali, A. Barkany, The use of infrared thermography in Industry 4.0 maintenance**CP14. ID-21:** B. Bouabdellaoui, Z. Abbaoui, M. El Kodadi, S. Chetioui, A. Atlamsani, R. Touzani, Six Diaza Benzene Ligands Complexed with Cu(II), Co(II), Mn(II) and Ni(II) Metals: An Excellent in-situ phenoxazinone synthase Catalysts**CP15. ID-74:** K. Blyid, O. Sadiki, R.A. Belakhmima, M. Ebn Touhami, Electrodeposition of Zn-Ni alloy coating to enhance the corrosion resistance in automotive industry**CP16. ID-170:** Y. Tajmout, S. Merzouk, B. Elbhiri, O. Jamal Eddine, A. Moumen, A bibliometric review of research on construction materials durability, 1990-2023

- CP17. ID-222:** M. Ouakki, M. Galai, Z. Aribou, Zakaria Benzekri, E. Ech-Chihbi, K. Dahmani, B. Srhir, S. Boukhris, M. Cherkaoui, Detailed experimental and computational explorations of pyran derivatives as corrosion inhibitors for mild steel in 1 M HCl: Electrochemical/surface studies
- CP18. ID-247:** S. Benhaiba, O. Salhi, A. El Attar, A. Ezzahi, M. El Rhazi, Simple and fast electrochemical detection of nitrate ions using a poly 1,8 diamionaphthalene and copper oxide film on carbon paste electrode
- CP19. ID-30:** A. Laksir, H. Bouammali, R. Touzani, *Solanum elaeagnifolium* Cav fruits: Studies and Applications.
- CP20. ID-41:** A. M'harzi, I. Oualdi, E.B. Yousfi, M. El Kodadi, R. Touzani, Ecofriendly materials for catecholase reaction: naturel products and metals
- CP21. ID-124:** Hamza Bouakline, Soumia Taibi Imane Ziani, Oumayma Sayah, Abderrahman Makaoui, Neffa Mounsef, Hammadi El Farissi, Abdesselam Tahani, Abdelmonaem Talhaoui, Ali EL Bachiri, Comparison of various *Pistacia lentiscus* leaves essential oil extraction methods: yield, chemical composition and antioxidant activity
- CP22. ID-125:** I. Oualdi, R. Benabbes, S. Ouahhoud, B. Adedoyin, K. Elfazazi, H. Azzouzi, R. Touzani, Chemical Composition and Biological Activities of Cedar Essential Oil.
- CP23. ID-177:** H. Bouammali, L. Zraibi, M. Merzouki, L. Bourassi, I. Oualdi, E. Fraj, H. Meziane, C. Bourhou, B. Bouammali, A. Challioui, R. Touzani, Exploring the medicinal properties of rosemary: potential for the development of antioxidant and anti-cancer drugs through docking analysis
- CP24. ID-405:** Cherriet S., Merzouki M., Soulaymani A., Hammouti B., Ibriz M., Elbekkaye K., Ouasghir A, Phytochemical Screening and Antioxidant Activity of *Aristolochia longa*: molecular docking, DFT studies and POM analysis
- CP25. ID-258:** R. EL-BOUAYADY, H. Radoine, S. Tayi, Sustainability assessment framework for green infrastructure
- CP26. ID-411:** AMESLEK Oumaima, ZAHIR Hafida, El BACHAOUI Mostafa, Smart Cities: Mapping an Urban Environment by Decision Tree Method
- CP27. ID-414:** Amal El Mahdaoui, Smaail Radi, Abderrahmane El Idriss, M.G.P.M. Silva Neve, M. Amparo F. Faustin, Nuno Mour, Mohamed El-Massaoudi, using materials derived from cellulose to remove heavy metals from wastewater through adsorption
- CP28. ID-424:** Kamal Essifi, Mohamed Brahmi, Abdelghani Boussetta, Hassan Charii, Abderrahim Ed-Daoui, Anass Ait Benhamou, M'hammed Benelmostafa, Mohammed Dahmani, Samira Salhi, Amine Moubarik, Ali El Bachiri, Abdesselam Tahani, Characteristics of alginate@clay-based hybrid capsules reinforced with different loading and clay types
- CP29. ID-115:** H. Meziane, I. Oualdi, M. El Kodadi, S. El Kadiri, I. Ozdemir and R. Touzani, Synthesis of selenium-N-heterocyclic carbene compounds: Investigation of antimicrobial and anticancer potential
- CP30. ID-42:** Z. Abboui, H. Meziane, M. El Kodadi, E.B. Yousfi, T. Salima, A. Djedouani, R. Touzani, Symmetrical azine ligand-based evaluation of their phenoxazinone activities
- CP31. ID-48:** Abdessamad Benabbou, Mohamed El Boutaybi, Youssef Draoui, Mohamed El Kodadi, Rachid Touzani, Zahra Bahari, New materials based on pyrazole and metals: synthesis, characterization, application and the kinetic study
- CP32. ID-305:** A. Bekkouch, H. El Mostafi, M. Merzouki. E. Aboubaker, A. Mesfioui, Potential inhibition of ALDH by argan oil compounds, computational approach by docking, ADMET and molecular dynamics
- CP33. ID-427:** Benhamza Noussaiba; Imane Rahaoui; Marouane Kaabouchi; Adil Maleb; Aziza Hami, Hospital environment and healthcare associated fungal infections
- CP34. ID-175:** O RAHHAB, H SEBBAR, M CHOUKRI, Risk management in a medical biology laboratory: experience of the Central Laboratory of the Medical University Center Mohammed VI Oujda
- CP35. ID-227:** I. Rhzali, H. Khalki, S. Boulbaroud And F-Z. Azzaoui, Perceived stress and coping strategies in Beni Mellal nursing students



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**June 07 -11, 2023**

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