



جامعة الملك عبدالله
للعلوم والتقنية
King Abdullah University of
Science and Technology



5TH
ICMES
2022

International

Conference On Materials & Environmental Science

June 09 -12, 2022, SAÏDIA, MOROCCO

“ Health, Environment, Materials
Research & Innovation ”

SCIENTIFIC PROGRAM

ICMES 2022

Papers will be indexed through Scopus

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Scientific Program
and
Useful information

**The Fifth International Conference on Materials & Environmental Science,
ICMES-2022
June 09-12, 2022,
Radisson Blu Resort Saïdia Beach, Saïdia, Morocco**

<http://www.mocedes.org/icmes2022/>

WELCOME MESSAGE FROM GENERAL CHAIRS

Dear Colleagues and Friends,

On behalf of the organizing committee, I am delighted to welcome you to the Fifth International Conference on Materials and Environmental Science (ICMES2022), which will be held under the theme "Health, Environment, Materials Research and Innovation." For more than 6 years, **ICMES** has served as an international forum for the dissemination of current and emerging materials in environmental science and health.

This year, **ICMES2022** will be held as an onsite event from June 9 to June 12, 2022 in Saïdia, Blue Pearl of the Mediterranean Sea, Morocco.

ICMES 2022 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'22 a very successful and fruitful conference and a wonderful and enjoyable stay in Saïdia, Morocco.

Prof. Belkheir HAMMOUTI

MOHAMMED FIRST UNIVERSITY
OUJDA – MOROCCO

Prof. Faouaz JEFFALI

MOHAMMED FIRST UNIVERSITY
OUJDA – MOROCCO

Prof. Mohammed EDDAOUDI

DIRECTOR, AMPMRC
KAUST, SAUDI ARABIA

Prof. Mohammed CHOUKRI

MOHAMMED FIRST UNIVERSITY
OUJDA – MOROCCO

ICMES'22 VENUE: Radisson Blu Resort Saidia Beach, Saidia, Morocco



**The Fifth International Conference on Materials & Environmental Science,
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June 09-12, 2022,
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TOPICS ICMES2022

Session 1)	HEALTH: BIOCHEMISTRY, NUTRITION AND PHARMACOLOGY
Session 2)	WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ANALYSIS
Session 3)	GREEN ENERGY, RENEWABLE, STORAGE AND SUSTAINABLE DEVELOPMENT
Session 4)	ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, ELECTRICAL ENGINEERING AND SIMULATION
Session 5)	INNOVATIVE DEVICES, CHEMISTRY AND MATERIAL PHYSICS
Session 6)	NANOSCIENCE, ORGANIC AND INORGANIC ADVANCED MATERIALS
Session 7)	NATURAL PRODUCTS AND THEIR BIOTECHNOLOGICAL APPLICATIONS

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.

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Detailed Program of the ICMES2022 Conference

Thursday, June 09, 2022

11:00 - 14:30	Welcome and Registration of participants
PLENARY HALL	
Workshop: Quality in Medical Biology	
Moderators & Rapporteurs: Pr. Rachid SEDDIK and Pr. Adil MALEB	
14:30 - 15:10	Dr. Jamal BELHACHMI, Morocco <i>“Ethical guidelines for the medical biologist”</i>
15:10 – 15:50	Pr. Jalila EL BAKKOURI, Morocco <i>“Quality assurance in medical biology laboratories”</i>
15:50 – 16:30	Pr. Youness EL JAHIRI, Morocco <i>“The preanalytical phase in medical biology: Management and regulatory and normative aspects”</i>
16:30 - 17:00	Coffee break
17:00 - 18:00	Pr. Abdelkader BELMMEKI, Morocco <i>“The quality of peanalytics in hematology”</i>
18:00 - 18:40	Pr. Mohammed CHOUKRI, Morocco <i>“Quality Management System: feedback from the central laboratory service of the Mohammed VI University Hospital of Oujda”</i>

Friday, June 10, 2022

07:00 - 09:00	Welcome and Registration of participants
09:00 – 09:15	Introductory Presentation & Start of the Scientific Program of ICMES’22
Symposium Health, Environment and Hereditary Diseases	
Moderators & Rapporteurs: Pr. Zahra OUZZIF, Pr. Abdelkader BELMEKKI and Dr. Mohammed TOUIMI BENJELLOUN	
08:30 – 09:00	Plenary Conference (1) Prof. MOHAMED BENAHMED, France <i>“Environment, lifestyles and epigenetics: from good health to chronic diseases”</i>
09:30 – 10:00	Plenary Conference (2) Prof. LAYACHI CHABRAOUI, Morocco <i>“Hereditary metabolic diseases: neither rare nor orphan pathologies”</i>
10:00 – 10:30	Plenary Conference (3) Prof. INTISSAR HADDIYA, Morocco <i>“Application of the concepts of sustainability and social responsibility to healthcare organizations”</i>
10:30 – 11:00	Plenary Conference (4) Prof. MOHAMMED CHOUKRI, Morocco <i>“Hospital information system and big data: Feedback from the central laboratory of the CHU Mohammed VI in Oujda”</i>

11:00 – 11:30	Poster Session / Stands
11:30-12:45 14:30-17:15	ROOM V
	SPONSOR WORKSHOPS I
11:30-12:45	SYMPOSIUM MASTERLAB Clinical chemistry, Sequencing, Oncogenetics, Environment, Anatomopathology
	ROOM VI
	SPONSOR WORKSHOPS II Symposium Mégaflex / Siemens Clinical chemistry, Hematology, Hemostasis
11:30– 13:00	ROOM I
	Session 1): HEALTH: BIOCHEMISTRY, NUTRITION AND PHARMACOLOGY
	Moderators & Rapporteurs: Prof. Abdelmajid SOULAYMANI and Prof. SOUAD NAIMI
	CO1. ID-354: Mouad Harandou, Amjad Idrissi, Oumayma Hamdani, Abir Yahyaoui, Youssra Sbibih, Wissam Azizi, Hajar Zerouri, Doha Berraouan, El-houcine Sebbar, and Mohammed Choukri, Biomedical waste management in the Central Laboratory of the University Hospital Mohammed VI Oujda
	CO2. ID-355: Yousra Sbibih, Amjad Idrissi, Abir Yahyaoui, Oumayma Hamdani, Wissam Azizi, Hajar Zrouri, Oussama Rahhab, Mouad Harandou, El-houcine Sebbar, and Mohammed Choukri, Interest of water quality in the laboratory: Experience of the Central Laboratory of CHU Mohammed VI of Oujda
	CO3. ID-356: Abir Yahyaoui, Amjad Idrissi, Oussama rahhab, Youssra Sbibih, Hajar Zrouri, Omayama Hamdani, Wissam Azizi, Mouad Harandou, El-houcine Sebbar, and Mohammed Choukri, Contribution of artificial intelligence in the processing of Big Data in a medical biology laboratory
	CO4. ID-357: Oussama Rahhab, Abir Yahyaoui, Mohammed Ghalem, Yousra Sbibih, Oumayma Hamdani, Mouad Harandou, Amjad Idrissi, Hajar Zrouri, Wissam Azizi, Doha Berraouane, El Houcine Sebbar, and Mohammed Choukri, Risk management in a medical biology laboratory: pilot experience of the central laboratory of the CHU Mohammed VI Oujda
	CO5. ID-49: C. El Garrab, Fakri-Bouchet, L. G. Zaz, and M. Zekriti, Optofluidic sensors for breast cancer diagnosis- A Review
	CO6. ID-109: S. Arji, A.O.T. Ahami, and R. Ziri, Burnout in private sector and its impact on the employees well –being
	CO7. ID-110: S. Arji, M. Elhaddadi, A.O.T. Ahami, and R. Ziri, Stress at work among employees of a Moroccan company
CO8. ID-111: S. Arji, M. Elhaddadi, A.O.T. Ahami, and R. Ziri, does job stress affect neurocognitive functions? case of employees of a Moroccan private industrial company sector	
CO9. ID-23: S. Arji, M. Elhaddadi, A.O.T. Ahami, and R. Ziri, Burnout in the Moroccan private sector	
11:30– 13:00	ROOM II
	Session 2) : WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ANALYSIS
	Moderators & Rapporteurs: Prof. Rachid SALGHI and Prof. SOLHE ALSHAHATEET
	CO10. ID-09: K. Tassaoui, M. Damej, A. Molhi, M. Errili, S. Ksama, O. Ninich, A. Et-Tahir, and M. Benmessaoud, Inhibition effect of 4-amino-3-methyl-,4-triazole-5-thione (MTSNH) against corrosion of Cu-30Ni alloy in 3%NaCl solution

<p>11:30– 13:00</p>	<p>CO11. ID-01: Cherifi Hicham, and Chaouni Abdel-Ali, On the use of weathered schist in road pavements: an experimental study on the schists of the province of Taza</p> <p>CO12. ID-14: Zineb El Kerdoudi, Hafssa Helli, Jaouad Bensalah, Abdelali El Mekkaoui, and Noureddine El Mejdoub, Adsorption of the dye (methylene blue) by the clay of Khenichet-Sidi Kacem- Morocco: Mathematical and thermodynamic modeling of experimental data</p> <p>CO13. ID-08: O. Ninich, K. Tassaoui, A. Et-Tahir, B. Satrani, O. Chauiyakh, S. Ksama, M. Benmessouad, Inhibiting effect of cedar tar on corrosion on e24 in 1M HCl</p> <p>CO14. ID-33: H. Bouziane, M. Arabi, Z. Irzi, and M. Sbaa, Bathymetry Study and Sludge Characterization of Anaerobic Ponds in Al Hoceima Waste Stabilization Pond (Mediterranean Moroccan Coast)</p> <p>CO15. ID-34: M. Kadiri, Y. Zarhloule, and A.E. Barkaoui, Identification of favorable area for artificial recharge in the Tamellalt aquifer</p> <p>CO16. ID-40: Abdelhay El Amri, Azeddine Lebkiri, Fatima Zahra Bouhassane, Zineb Wardighi, El Housseine Rifi and Ahmed Lebkiri, Theoretical and kinetic study of the adsorption of the industrial Methyl Orange MO dye on Typha latifolia: Treatment and recovery</p> <p>CO17. ID-56: Oumaima Moumouche, Hammadi El Harmouchi, Safae Alami, Redouane Khaoulaf, Khalid Brouzi, Mohamed Harcharras, Characterization and application of corrosion of $A_2MP_2O_7$ and $AMPO_4$</p> <p>CO18. ID-105: Naïma El Assaoui, Abdelaziz Sadok, Ouiam Bouchanine, and Nora Maataoui, Climate change and siltation of the Mohamed V dam (Morocco): assessment using GIS and remote sensing tools</p> <p>CO19. ID-260: Abdelouadoud Omari, Linda Zraibi, Hameed Saleh Ali Yahya, and Nour-Elhouda Basraoui, Implementation of an Environmental Management System in a company that specializes in wood and aluminum carpentry in Eastern Morocco in the city of Oujda</p>
<p>11:30– 13:00</p>	<p style="text-align: center;">ROOM III</p> <p>Session 3): GREEN ENERGY, RENEWABLE, STORAGE AND SUSTAINABLE DEVELOPMENT</p> <p>Moderators & Rapporteurs: Prof. Jamal BUCHNAIF, Prof. Elmostafa ZIANI and Prof. Zineb AQACHMAR</p> <p>CO20. ID-15: Dalal Nasreddin, Soumia Aboutaleb, Aymane Cheracher, Yasmine Abdellaoui, Saad Amrani Marrakchi, Inass Sabbahi, Youssef Benmoussa, Reda El Makroum, Aymane El Alami, Asmae Khaldoun, and Houssame Limami, Regression and Machine Learning Modeling Comparative Analysis of Morocco’s Fossil Fuel Energy Forecast</p> <p>CO21. ID-35: A. Idrissi, Z. Elfakir, R. Atir, A. Habsaoui, S. Bouzakraoui, Designing new thiophene-based HTMs with favorable optoelectronic properties for perovskite solar cells</p> <p>CO22. ID-36: M. Es Sadki, A. Azouzoute, M. Benhaddou, and M. Ghammouri, Energy audit and assessment of indoor environmental condition inside Oujda-Angads International Airport terminal building, Morocco</p> <p>CO23. ID-39: Z. Elfakir, A. Idrissi, R. Atir, A. Habsaoui, S. Bouzakraoui, New Carbazole-Based Hole-Transport Materials in Perovskite Solar Cells</p> <p>CO24. ID-147 : Sanae Habchi, Nabila Lahboubi, Brahim Sallek, Hassan El Bari, Mesophilic anaerobic digestion of chicken slaughterhouse waste : Methane production and kinetic study</p> <p>CO25. ID-68: Lamreoua Abdelhak, Benslimane Anas, Bouchnaif Jamal, Hairech Kamal, and El Ouariachi Mostafa, Current harmonic reduction for grid-connected photovoltaic system (PV) based on a three-phase seven-level inverter.</p> <p>CO26. ID-210: R. Aalloul, A. Elaissaoui, M. Benlattar, and R. Adhiri, Electrical and Thermal Modelling of Solar Cells</p> <p>CO27. ID-250: N. El Moussaoui, M. Rhiat, A. Lamkaddem, K. Kassmi, R. Malek, O. Deblecker, and N. Bachiri, Power Supply System for DC Solar Equipment by Batteries</p> <p>CO28. ID-408: Abderrahim El Bouazouli, Lahssen Baidder, Hicham Bahi, Oumar Diagana, Fadil Abdehamid, Said Rhoulane, Prospection of geothermal resources using spatial and Geo-spatial technology: a case of clean energy mix implementation in the Moroccan Sahara and the Souss Massa Region</p>

<p>11:30– 13:00</p>	<p>CO29. ID-362: EL HADRI Fatima Zahra, KRIM Deae-eddine, RRHIOUA Abdeslem, BAKARI Dikra, and ZERFAOUI Mustapha, Nanoscale energy deposition frequencies evaluation using GATE simulation tools</p> <p>CO30. ID-367: El Asri Ouahid, Hmadi Inass, Ramdani Mohamed, Hameed Saleh Ali Yahya, Chafi Abdelhafid, Green Energy from the bioresource of Nador lagoon</p> <p>CO31. ID-387: Youssef Kasseh, Abdellatif Touzani, and Salma Elmajaty, what management method should be deployed in the Energy Management System as a lever for efficient and sustainable management of public lighting in Moroccan cities</p> <p>CO32. ID-388: Salma El Majaty, Abdellatif Touzani, and Youssef Kasseh, Results and perspectives of the application of an energy management system based on iso 50001 in administrative buildings - case of Morocco</p> <p>CO33. ID-392: Abdelilah Khelifi, Yamina Khelifi, and Hali Aissa, Realization and real application of two prototypes for photovoltaic panel data acquisition</p> <p>CO34. ID-410: Hasna Aziam, Hicham Ben Youcef, Ismael Saadoune, Abdelfattah Mahmoud, Daria Mikhailova, Messaoud Harfouche, Novel NaSICON-type structure Iron/ Vanadium phosphate-based as cathode for Lithium-ion Batteries</p> <p>CO35. ID-32: A. Azouzoute, Z. Elmaazouzi, M. Es Sadki, M. Benhaddou, F. Jeffali, Techno-econo-environmental study of the integration of renewable energy in a desalination plant: case study of Laayoune, Morocco</p> <p>CO36. ID-238: Yasmine Abdellaoui, Issam Zaim, Oussama Eddeqiouaq, Asmae Khaldoun, Houssam Limami, Conductive Graphene Clay Bricks for Energy Efficient Buildings.</p> <p>CO37. ID-370: A. Cheracher, S. Anasse, O. Al Fezghari, A. Meddah, A. Ghamas, A. Khaldoune, Old buildings of Morocco: a source of inspiration for energy-efficient modern buildings</p> <p>CO1. ID-240: Youssef Benmoussa, Maria Ezziani, All-Fousseni S. Djire, Zaynab Amine, Asmae Khaldoun, Houssame Limami, Design and simulation of an energy-efficient air conditioner with cellulose-based daytime radiative cooling material</p>
<p>11:30– 13:00</p>	<p style="text-align: center;">ROOM IV</p> <p>Session 2) : WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ANALYSIS</p> <p>Moderators & Rapporteurs: Prof. Abdenacer IDRISSE and Prof. Latifa EL FARISSE</p> <p>CO2. ID-261: A. Amahmouj, E.M. Chaabelasri, A. Abakoy, N. Salhi, A bedload transport in shallow water model applied for sediment transport in open channel flows</p> <p>CO3. ID-280: Ahmed Darmous, Maryam Slamini, Mourad Arabi, Hamza Kajeiou, Driss Bouknana, Ikram Azzakhnini, and Mohamed Sbaa, Evaluation of the impact of land use and irrigation systems on the soil nitrogen transfer: case of five pilot farms in the Triffa plain (Berkane, Eastern Morocco).</p> <p>CO4. ID-285: M. Amansour, and S. Zyade, Study of the influence of microalgae in wastewater treatment</p> <p>CO5. ID-288: Yjjou Mohammed, Dekhissi Hassane, Derkaoui, Jamal Eddine, Didi Abdessamad, and Aknouch Adil, Evaluation of water equivalent ratio for 3 dosimetric materials at carbon ion energies ranging 100-300 MeV/nucleon using Fluka Monte Carlo code</p> <p>CO6. ID-301: I. Essebbahi, C. Ouazzani, A. Moustaghfir, A. Er-Ramly, Y. El Baroudi, A. Dami, and L. Balouch, Analysis of the fluoride levels of well water consumed by the moroccan population in different rural areas</p> <p>CO7. ID-302: Y. El Baroudi, C. Ouazzani, A. Er-Ramly, A. Moustaghfir, I. Essebbahi, A. Dami, and L. Balouch, Nitrite levels in well water from different rural areas in Morocco</p> <p>CO8. ID-329: S. Aftimi, Y. Kerroum, A. Guenbour, A. Bellaouchou, A. Zarrouk, H. Idrissi, R. Boulif, and N. Semlal, Corrosion-abrasion of stainless steel in phosphoric acid using acoustic emission technique</p> <p>CO9. ID-332: Abdelhak Saidi, Abdelkader Chahlaoui, Moulay Lafdil Belghiti, Iman Taha, and Driss Bengoumi, Use of quality and organic pollution indices in the assessment of the physical-chemical quality of surface waters in oued khoumane (city of moulay idriss zerhoun-morocco)</p> <p>CO10. ID-343: I. Merimi, B. Hammouti, H. Lgaz, and M. Messali, Correlation between study Experimental and theoretical of two triazole molecules as a new effective corrosion inhibitor for mild steel in acid medium</p> <p>CO11. ID-230: M. El Rharib, Z. Zaroual, S. Elghachtouli, and M. Azzi, Adsorption of methylene violet dye from aqueous solution onto Moroccan zeolite</p>

13:00 – 14:00	Lunch
Materials For Sustainable Future	
Moderator & Rapporteur: Prof. Mohamed EDDAOUDI	
09:00 – 09:30	Plenary Conference (5) Prof. SUSUMU KITAGAWA, Japan <i>“Chemistry and Application of Soft Porous Crystals from MOFs/PCPs”</i>
14:00 – 14:30	Plenary Conference (6) Prof. STEFAN KASKEL, Germany <i>“Porous Energy Materials: From Fundamentals to Applications”</i>
14:30 – 15:00	Plenary Conference (7) Prof. MD K. NAZEERUDDIN, Switzerland <i>“Development of Efficient and Stable Perovskite Solar Cells and Modules”</i>
15:00 – 15:30	Plenary Conference (8) Prof. MIRCEA DINCĂ, USA <i>“Surprising Properties of 2D Metal-Organic Frameworks”</i>
15:30 – 16:00	Plenary Conference (9) Prof. OMAR FARHA, USA <i>“New Age of Catalyst Discovery: Smart and Programmable Crystalline Sponges”</i>
16:00 – 16:30	Poster Session / Stands
Moderators & Rapporteurs: Prof. Jamal HADADI and Prof. Intissar HADDIYA	
18:00 – 18:45	Official Opening Ceremony ICMES'22
Moderator & Rapporteur: Prof. Mohamed EDDAOUDI	
18:45 – 19:15	Plenary Conference (10) Prof. CHAD MIRKIN, USA <i>“Nanomaterials in Healthcare”</i>
Moderator & Rapporteur: Prof. Mohammed CHOUKRI	
19:15 – 19:45	Plenary Conference (11) Prof. MOHAMMED BENLAHSEN, FRANCE <i>“Challenges of artificial intelligence”</i>
Moderator & Rapporteur: Prof. Intissar HADDIYA	
19:45 – 20:15	Plenary Conference (12) Prof. SOUAD NAIMI, France <i>“The Next generations of Cancer Treatment”</i>
Moderator & Rapporteur: Prof. Smail ZOUGGAR	
20:15 – 20:45	Plenary Conference (13) Prof. NOUREDDINE ABIDI, USA <i>“Cellulose and chitin biopolymers for sustainable bioproducts preparation”</i>
Moderators & Rapporteurs: Dr. Noussaiba BENHAMZA, Dr. Mohammed GHALEM, Dr. Yousra SBIBIH, Dr. Doha BERRAAOUAN, Dr. LOUKILI EL HASSANIA, Doct. Chaimae MERIMI, Dr. Fatima Zahra EL AMRI Pr. Wafae MRABTI and Doct. Salma KADDA	
20:45 – 21:00	Trophies
21:00 – 21:15	Coffee break / Stands / Poster

Saturday, June 11, 2022

Moderator & Rapporteur: Prof. Rachid TOUZANI

08:30 – 09:00

Plenary Conference (14)

Prof. PIERRE H. DIXNEUF, France

“Improvement of Molecular Metal-Ligand Catalysts via fast Catalytic C-H bond Functionalization of pyridines and Phosphine Ligands”

Moderator & Rapporteur: Prof. Mohamed Rachid EL MAHFOUDI

09:00 – 09:30

Plenary Conference (15)

Prof. YANN GARCIA, Belgium

“New sensors based on spin crossover materials”

Moderator & Rapporteur: Prof. Rachid SALGHI

09:30 – 10:00

Plenary Conference (16)

Prof. MUSTAFA SOYLAK, Turkey

“Novel Nanocomposites for Solid Phase Microextraction of Trace Species from Environmental Samples”

Moderator & Rapporteur: Prof. Asmae KHALDOUN

10:00 – 10:30

Plenary Conference (17)

Prof. MOUAD DAHBI, Morocco

“Opportunities and Challenges in the Development of Phosphate based Materials for Large-Scale Electricity Storage”

09:00 – 10:30
11:00 – 12:45

ROOM V

SPONSOR WORKSHOPS I

SYMPOSIUM MASTERLAB

Clinical chemistry, Sequencing, Oncogenetics, Environment, Anatomopathology

10:30 – 10:50

Coffee break

09:30 – 11:30
11:30 – 12:45

ROOM VI

SPONSOR WORKSHOPS II

Symposium Mégaflex / Siemens

Clinical chemistry, Hematology, Hemostasis

10:30 – 11:00

Poster Session

11:30 – 13:00

ROOM I

Session 4): ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, ELECTRICAL ENGINEERING AND SIMULATION

Moderators & Rapporteurs: Prof. Driss BRIA and Mostafa EL OUARIACHI

CO12. ID-18: Miloud Errili, K. Tassaoui, M. Damej, A. Molhi, Z. Lakbaibi, S. Ksama, S. El Hajjaji, and M. Benmessaoud, Electrochemical and theoretical (DFT, MC, MD) evaluation of a new compound based the Mercaptobenzimidazole against corrosion of Cu-30Ni in a 3% NaCl solution

CO13. ID-52: I. Bezzaoui, D. Bakari, A. Rrhious, D. Soubane, S. Lounis, and M. Bouhassoune, Ab initio investigation of the electronic structure of atomic defects hosted in a Cu(111) surface

- CO14. ID-20:** M. Benhaddou, M. Ess Sadki, M. Ghammouri, L. Bouselham, New Simulation of low cycle fatigue and description of strain hardening cyclic
- CO15. ID-55:** Jabri Abdelkarim, Zenasni Mourad, Kissami Rabah, and Jabri Taha, Impacts of Fossil Fuel and Electricity Energy Consumption in degrading environment quality in Morocco: Evidence from non linear Approach
- CO16. ID-72:** H. Zniker, B. Ouaki, Said Bouzakraoui, M. Ebntouhamia, and H. Mezouara, Experimental study of Energy absorption of laminated and sandwich composites under repeated dynamic impacts and quasi-static indentation
- CO17. ID-119:** Mouna Azogagh, Rachid Hsissou, Said About, Fouad Benhiba, Mourad Rafik, Samir Briche, Hamid Erramli, Mohamed Ebn Touhami, Abderrahim El Bachiri, Salah Eddine Higazi, Mohamed Rafik, Elaboration identification and corrosion inhibition of epoxy prepolymer for carbon steel in 1M HCl medium: computational approaches
- CO18. ID-120:** M. Khattabi, F. Benhiba, B, M. Ebn Touhami, H. Zarrok, R. Tourir, C. M. Allali, H. Oudda, A. Zarrouk, The prevention of corrosion inhibition of mild steel in sulfuric (0.5 M) and hydrochloric (1.0 M) environments using a pyran compound: Electrochemical performance and computational analyses.
- CO19. ID-101:** Ilias Laroussi, Liu Huan, and Zhao Xiusheng, How Will the Internet of Energy (IoE) Revolutionize the Electricity Sector? A Techno-Economic Approach.
- CO20. ID-146:** M. Abdelouhab, A. Senhaji, A. Attar, R. Aboutni, and J. Bouchnaif, Improvement of the behavior of the direct torque control of an induction machine when an inter-turn short-circuit fault appears
- CO21. ID-211:** Senhaji Abdelhamid, Abdelouhab Mostafa, Attar Abdelilah, and Bouchnaif Jamal, Backstepping Control of a Permanent Magnet Synchronous Motor
- CO22. ID-25:** Doha Guettioui, Othmane Dahi, Houssame Limami, El Mehdi El Boustani, Kaoutar Benazzou, Oussama Bezzad, Asmae Khaldoun, Machine Learning Forecasting of Thermal, Mechanical and Physicochemical Properties of Unfired Clay Bricks with Plastic Waste Additives.
- CO23. ID-358:** H. Lrhoul, H. Turki, B. Hammouti, Internationalization of scholarly journals in Morocco: factors of success

ROOM II

Session 5): INNOVATIVE DEVICES, CHEMISTRY AND MATERIAL PHYSICS.

Moderators & Rapporteurs: Prof. Ahmed CHETOUANI and Prof. Khadija HABOUBI

- CO24. ID-46:** Saâd Oukkass, R. Ouchn, R. Louafy, Z. Habibi, I. Mechnou, Y. Chaouqi, L. Lebrun, and M. Hlaïbi, Use of a new technique to improve the efficiency of oriented processes for the extraction and recovery of the methylene blue dye through a polymer inclusion membrane
- CO25. ID-51:** Paul S.B Macheso, and Mohssin Zekriti, Physical Parameter Monitoring in the Fourth Industrial Revolution Using Optical Fiber Sensors B -A Review,
- CO26. ID-63:** Benataya Karim, Mejdoubi El Miloud, and Aaddouz Mohammed, The effect of some adjuvant and heating temperature on the purification of phosphoric acid through the vapometallurgical process
- CO27. ID-70:** D. Belfadil, H. Zain Elabidine, F. Bazi, and S. Zyade, Potato peels, potato and corn starch-based bioplastics as alternative to conventional petroleum-based plastics
- CO28. ID-84:** N. El Biyari, and M. Zekriti, 3D-printed microfluidic device for bio-sensing applications
- CO29. ID-107:** Somia Fellak, and Abdelhadi Lhassani, Applicability of X-ray diffraction and FTIR spectroscopy to evaluate changing in cellulose crystallinity of softwood during natural ageing process
- CO30. ID-122:** Adil Bahloul, Fatima-Zahra Semlali Aouragh Hassani, Zineb Kassab, Mina Oumam, and Mounir El Achaby, Development of starch bio-nanocomposite materials filled with phosphorylated and sulphated cellulose nanocrystals extracted from pepper agricultural residue

11:30 – 13:00

	<p>CO31. ID-134: Hanane Boutkhil, Ghizlane Moutaoukil, Badr Aoun, Salihaalehyen, and Mhamed Taibi, Strength characteristics and Rheological behaviour of high-volume Fly ash concrete</p> <p>CO32. ID-149: Anouar El Magri, and Sébastien Vaudreuil, Effects of environmental aging on the mechanical and thermal performances of 3D printed Poly (ether ether ketone) / Poly (ether imide) [PEEK/PEI] blends</p> <p>CO33. ID-155: Azeddine Lebkiri, Abdelhay El Amri, Fatima Zahra Bouhassane, Zineb Wardighi, El Housseine Rifi, Amar Habsaoui and Ahmed Lebkiri, Cellulosic-based hydrogel from biomass material for removal of dyes from waste water</p>
11:30 – 13:00	ROOM III
	Session 6): NANOSCIENCE, ORGANIC AND INORGANIC ADVANCED MATERIALS
	Moderators & Rapporteurs: Prof. El-houcine SEBBAR and Prof. Ahmad Samih ELDOUHAIBI
	<p>CO34. ID-13: Assia Chichane, Radouane Boujmal, and Abdellah El Barkany, Bio-composites and bio-hybrid composites reinforced with natural fibers: Review</p> <p>CO35. ID-97: Ilyass El Arkoubi, Haytham Bouammali, Mohamed El Kodadi, El Bekkay Yousf, Rachid Touzani, Tabti Salima, and Amel Djedouani, New ligands based of azine: Evaluation of the catecholase activity</p> <p>CO36. ID-113: Fatima El Hajri, Haddou Anahmadi, Driss El Mekkaoui, Zakaria Benzekri, Sarra Sibous, Ali Ouasri, Amina Hassikou, Ali Rhandour, Abdelaziz Souizi and Said Boukhris, Bis [hydrazinium (1+)] hexafluoridosilicate (N₂H₅)₂SiF₆ novel hybrid crystal as an efficient, reusable and environmentally friendly heterogeneous catalyst for Knoevenagel condensation and synthesis of biscoumarin derivatives.</p> <p>CO37. ID-123: Bouhassane Fatima Zahra, El Amri Abdelhay, Lebkiri Azeddine, Wardighi Zineb, Lebkiri Ahmed, El Housseine Rifi, Habsaoui Amar, Experimental, kinetic and thermodynamic adsorption of a cationic dye by raw and activated bio-adsorbent.</p> <p>CO38. ID-129: Aziz El Yahyaoui, Imad Manssouri, Hassane Sahbi, Othmane Noureddine, and Houssame Limami, Physical and Mechanical Properties of Unfired Clay Bricks with Dwarf Palm-Fibers Additives as a Construction Material</p> <p>CO39. ID-160: Chaymae Bourhou, E. Fraj, H. Benouda, B. Bouammali, A. Challioui, T. Harit, R. Touzani, A. Asehraou, N. Bentouhami, and I. Ozdemir, Synthesis of novel tetrazole derivatives and evaluation of their antibacterial and antifungal activities</p> <p>CO40. ID-165: M. Dadda, K. Abdelouhadi, M. Waqif, and L. Saadi, The use of clayey residues in the manufacturing of compacted earth blocks: optimization of formulations</p> <p>CO41. ID-166: E. Fraj, C. Bourhou, H. Benouda, B. Bouammali, and A. Chalioui, Synthesis of 2-thienyl (or furyl) chromones by the “one pot” Naik's method</p> <p>CO42. ID-173: H. Bouammali, L. Bourassi, B. Bouammali, B. Serrano, A. Chelioui, and R. Touzani, Graphene and chitosan innovative materials for water treatment</p> <p>CO43. ID-174: M. Mohamed, F. Abrigach, S. El Kadiri, A. Moliterni, and R. Touzani, N-Heterocyclic compounds: good extractants of heavy metals</p> <p>CO44. ID-412: Ayalew H. Assen, Aminat Mohammed, Youssef Belmabkhout, Valorizing tannery effluent and waste plastic bottles as precursors for preparing functional metal-organic frameworks</p> <p>CO45. ID-22: Othmane Noureddine, Imad Manssouri, Khalid Cherkaoui, Hassane Sahbi, Asmae Khaldoun, Silvia Erba, A rheological approach to evaluate strength of unfired clay bricks incorporating almond husk</p>
	ROOM IV
	Session 7): NATURAL PRODUCTS AND THEIR BIOTECHNOLOGICAL APPLICATIONS

11:30 – 13:00	Moderators & Rapporteurs: Prof. Latifa AMIAR and Prof. YANN GARCIA
	<p>CO46. ID-29: S. Laaraj, Y. Noutfia, C. El-Rhouttais, M. Achchoub, H. Azzouzi, H. Ennaoui, S. Salmaoui, and K. Elfazazi, Antioxidant and antimicrobial activities of Carob leaves extracts (Ceratoniasiliqua L.) from female and male trees.</p>
	<p>CO47. ID-06: K. Mzioud, A. Habsaoui, S. Rached, M. Galai, M. Ouakki, S. El Fartah, N. Dkhireche and M. Ebn Touhami, Valorization of the essential oil of Urginea maritime as an inhibitor of the corrosion of copper in acid medium</p>
	<p>CO48. ID-07: S. Rached, A. Habsaoui, K. Mzioud, M. Galai, M. Ouakki, S. El Fartah, K. Dahamani, N. Dkhireche and M. Ebn Touhami, Prevention of copper corrosion in a sulfuric environment by an ecological inhibitor: Mentha pulegium L from western Morocco</p>
	<p>CO49. ID-30: C. El-Rhouttais, Z. El Kettabi, S. Laaraj, S. Fakhour, O. El Bezzami, M. Benaamar, S. Salmaoui, and K. Elfazazi, Assessment of cold storage impact on technological quality and bioactive compounds of three pomegranate varieties cultivated in Béni Mellal region in Morocco</p>
	<p>CO50. ID-31: M. Dibane, A. Benmoumen, D. Belfadil, and S. Zyade, Determination of pyropheophytin a in extra virgin olive oils by HPLC method</p>
	<p>CO51. ID-54: Brahmi Mohamed, Hamza Bouakline, Kamal Essifi, Amina Amrani, Ali Elbachiri, Abdesselam Tahani, Alginate-based encapsulation of polyphenol from Pistacia Lentiscus leaf extract for stable and controlled release system.</p>
	<p>CO52. ID-60: M. Achchoub, H. Azzouzi, H. Latifi, S. Laaraj, S. Salmaoui, and K. Elfazazi, Evaluation of physicochemical, functional and sensory properties of carob pulp beverage (ceratoniasiliqua l)</p>
	<p>CO53. ID-61: H. Azzouzi, M. Achchoub, L. Chafki, H. Latifi, S. Salmaoui, and K. Elfazazi, Assessment of total phenolic content and antioxidant activity potential of clementine extract obtained by microwave assisted extraction method</p>
<p>CO54. ID-82: Z. El Kettabi, A. Haddioui, C. El-Rhouttais, S. Fakhour, M. Benaamar, J. Charafi, K. Elfazazi, A Comparative study of chemical properties and antioxidant activity attributes of five pomegranate (Punica granatum L.) cultivars grown in Béni Mellal region-Morocco.</p>	
<p>CO55. ID-98: H. Latifi, H. Zahir, H. Latrache, M. El Louali, L. Haltout, H. Azzouzi, M. Achchoub, and K. Elfazazi, Impact of aromatization by Thymus vulgaris and Rosmarinus Officinalis L essential oil on virgin olive oil quality</p>	
13:00 – 14h30	Lunch
Moderator & Rapporteur: Prof. Abdelouahad AOUINTI	
15:00 – 15:30	<p>Plenary Conference (18) Prof. MOHAMED SIAJ, Canada <i>“Electroactive low dimensional materials for advanced electrocatalysis and sensors applications”</i></p>
Moderator & Rapporteur: Prof. Driss BRIA	
15:30 – 16:00	<p>Plenary Conference (19) Prof. ABDENACER IDRISSE, France <i>“Local structure in mixtures of ionic liquid with molecular solvent: vibration spectroscopy, NMR and molecular dynamics simulation”</i></p>
Moderator & Rapporteur: Prof. Mohammed BENLAHSEN	
16:00 – 16:30	<p>Plenary Conference (20) Prof. SOLHE ALSHAHATEET, Jordan <i>“Synthesized Functional Materials for Industrial and Environmental Applications”</i></p>
16:30 – 17:00	Poster Session / Stands

17:20 – 19:00	ROOM I
	Session 2) : WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ANALYSIS
	Moderators & Rapporteurs: Prof. Naïma El Assaoui, Prof. Abdelouahad AOUINTI and Prof. Ahmad Samih ELDOUHAIBI
	<p>CO56. ID-47: Rachid Ouchn, Y. Chaouqi, Ah. Avci, E. Curcio, O. Cherkaoui, and Miloudi Hlaibi, Efficient hydrophobic membranes based on ionic liquids for water desalination by direct contact membrane distillation processes</p>
	<p>CO57. ID-50: I. Kassem, E-H. Ablouh, F-Z. El Bouchtaoui, S. Boukind, M. Mhada, S. Mouhib, H. Sehaqui, and M. El Achaby, Slow- Release Phosphate Fertilizer Coated by Phosphorylated Cellulose Gel - Nanoclay Reduces Phosphorus Leaching and Promotes Beans Growth</p>
	<p>CO58. ID-59: B. Ould Abdelwedoud, M. Damej, K. Tassaoui, A. Berisha, H. Tachallait, K. Bougrin, N. Ouadghiri, A. Kabouri, and M. Benmessaoud, Theoretical and experimental study of saccharin derivative as a corrosion inhibitor for carbon steel in 1M HCl</p>
	<p>CO59. ID-69: Oumaima Bourzik, Nacer Akkouri, Khadija Baba, and Abderrahman Nounah, Effect of waste marble powder on the properties of concrete</p>
	<p>CO60. ID-76: O. Kharbouch, Z. Benzekri, K. Dahmani, M. Ouakki, M. Galai, S. Boukhris, M. Ebn Touhami, H. Elkafsaoui, Electrochemical evaluation of novel benzoxazepinone derivatives as corrosion inhibitors for mild steel in 1 M HCL</p>
	<p>CO61. ID-77 : N. Ferraa, M. Ouakki, M. Cherkaoui, M. Bennani Ziatni, Characterization of OCPa, application on the corrosion of carbon steel in 3% NaCl medium.</p>
	<p>CO62. ID-78 : El Harmouchi Hammadi, Moumouche Oumaima, Alami Safae, Ait Hmid Lahsen, Dkhireche Nadia, Ebn Touhami Mohamed, Harcharras Mohamed, The factor group analysis of the (M'', M') MP2O₇ diphosphate and their corrosion protection efficiency.</p>
17:20 – 19:00	ROOM II
	Session 6): NANOSCIENCE, ORGANIC AND INORGANIC ADVANCED MATERIALS
	Moderators & Rapporteurs: Prof. Maurin GUILLAUME and Prof. Mohamed SALAHDINE ELYOUBI
	<p>CO68. ID-180: Mohamed El Boutaybi, Nadia Bouroumane, Mohamed Azzouzi, Mohamed Aaddouz, Said Bacroume, Mohamed El Miz, Ismail Warad, Abdelkader Zarrouk, Rachid Touzani, and Zahra Bahari, Synthesis, characterization, and applications of new cobalt (II) complex in catalysis</p> <p>CO69. ID-193: S. Dehhaoui, K. Ba, R. Driss, H. El Aaad, T. Jermoumi, A. Shaim, A. Chahine, Elaboration by sol-gel method and characterization of TiO₂-P₂O₅ coating</p> <p>CO70. ID-198: D. El Machtani Idrissi, B. Achiou, M. Ouammou, and S. Alami Younssi, Comparison study of green and chemical synthesis of ZnO nanoparticles by sol-gel route</p>

	<p>CO71. ID-214: Rachid Hidki, Lahcen El Moutaouakil, Mohammed Boukendil, Zouhair Charqui, and Zaki Zrikem, Impact of Cu, Al₂O₃-H₂O hybrid nanofluid on natural convection inside a square cavity containing two heat-generating bodies</p> <p>CO72. ID-219: Chaymae Hejjaj, A. Ait Aghzzaf, N. Scharnagl, M.L. Zheludkevich, R. Hakkou, C.B. Fischer, and J. Alami, Insights into the preparation of Layered Aluminum Tri-Polyphosphate (ATP) intercalated with amino acids and their corrosion protection of low carbon steel</p> <p>CO73. ID-391: Hasna Nait M'Barek, Brahim Mazian, Giana Almeida, Patrick Perré, Dynamics of fungal mycelium growth for biomaterials production: molding the mold for a greener economy</p> <p>CO74. ID-223: Chaimae Merimi, B. Hammouti, R. Touzani, M.A. Mehdi, M. Neffa, R. Quesada-Cabrera, J.M. Doña-Rodriguez, highly efficient photocatalytic degradation of acid by clay-doped TiO₂ photocatalyst</p> <p>CO75. ID-226: A. Essate, B. Achiou, S. Benkhaya, M. Ouammou, and S. Alami Younssi, Development of composite ultrafiltration membrane made of polystyrene/NaA zeolite deposited on pozzolan flat support for organic dyes removal</p> <p>CO76. ID-295: Kaoutar Aghmih, Abderrahim Bouftou, Said Gmouh, Sanaa Majid, Development of new biocomposite films based cellulose triacetate for packaging</p> <p>CO77. ID-300: El Mehdi Salmi, Amina Amarray, Youssef Samih, Mohammed Azzi, and Sanae Eghachtouli, Synthesis of a novel nickel sulfide nanoparticles-incorporated carbon nanofibers as effective nonprecious catalyst for methanol electrooxidation in alkaline medium</p> <p>CO78. ID-325: T. Ahlelhaj, K. Sadraoui, K. El Mejdoubi, B. Sallek, Optimization of synthetic oxazinone catalyzed by an efficient heterogenous phosphate catalyst</p> <p>CO79. ID-365: Kamal. Essifi, Doha. Berraaouan, Mohamed Brahmi, Amina Amrani, Abdourahim Hammani, Ali. El Bachiri, Marie-Laure Fauconnier, and Abdesselam. Tahani, A green method for the preparation of montmorillonite essential oils nanostructured hybrid materials for protection and controlled release of volatile active compounds</p> <p>CO80. ID-415: Nabil El Halya, Mohammed Kerroumi, El Houssine El Maataouy, Ayoub El Bendali, Fouad Ghamouss, Jones Alamia, Mohammed Makha, Mouad Dahbi, Low-cobalt Li_{1.2}Mn_{0.54}Ni_{0.13}Fe_{0.1}Co_{0.03}O₂ as High-Energy Cathode Material for Lithium-Ion Batteries</p> <p>CO81. ID-416: Abdelwahed Chari, Elhoucine Elmaataouy, Marwa Tayoury, Jones Alami and Mouad Dahbi, Al₂O₃ coating endow Na₃V₂(PO₄)₃ cathode with enhanced electrochemical performances</p>
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	ROOM III
	Session 7): NATURAL PRODUCTS AND THEIR BIOTECHNOLOGICAL APPLICATIONS
	Moderators & Rapporteurs: Prof. Abdeslem RRHIOUA and Prof. Hossain EL OUARGHI
17:20 – 19:00	<p>CO82. ID-125: Imane Ziani, Saliha Bouknana, Hamza Bouakline, Yousra Belbachir, Mohamed Bnouham, Abdesselam Tahani, Abdelmonaem Talhaoui, and Ali El Bachiri, The chemical profile, antioxidant activity, α-Amylase Inhibition Potential and Toxicity Evaluation of the water residues from hydro distillation of Rosemary</p> <p>CO83. ID-141: Hamza Bouakline, Mohamed Brahmi, Amina Amrani, Imane Ziani, Abdesselam Tahani, Ali El Bachiri, the effect of the air-drying temperature on the bioactive compounds and biological effect of P. lentiscus leaves extracts and essential oil</p> <p>CO84. ID-144: Amina Amrani, Hamza Bouakline, Mohamed Brahmi, Abdesselam Tahani, and Ali El Bachiri, Extraction, characterization and antioxidant activity of the Ceratonia siliqua L seeds extract and essential oil</p> <p>CO85. ID-169: Imane Oualdi, Khaoula Diass, Kaoutar Elfazazi, Hanane Azzouzi, Adyl Oussaid, and Rachid Touzani, Rosemary Essential Oils: Chemical composition and Antimicrobial Activities</p> <p>CO86. ID-170: Belbachir Yousra, Azizi Salaheddine, Ziani Imane, Beraich Abdessamad, Ali El Bachiri, Abdesselam Tahani, Hammadi El Farissi, Abdelmonaem Talhaoui, Preliminary</p>

	<p>characterization of <i>Thymus vulgaris</i> essential oil by solid-phase microextraction (HS-SPME) and gas chromatography coupled to mass spectroscopy (GC-MS)</p> <p>CO87. ID-171: H. Boulrika, M. El Hajam, M. Hajji Nabih, I. Riffi Karim, N. Idrissi Kandri, and A. Zerouale, Definitive screening design applied to cationic & anionic Adsorption dyes on Almond shells activated carbon: isotherm, kinetic and thermodynamic studies.</p> <p>CO88. ID-187: Abdou Achraf, Moukhfi Fatima Zahra, Bimoussa Abdoullah, Maaghloud Fatima Ezzahra, Chadli Nour-Eddine, El Makssoudi Abdelhakim, Jamaledine Jamal, and Dakir Mohamed, Antibacterial activity of acetylated and non-acetylated clove bud Essential oils and their main compounds</p> <p>CO89. ID-227: Hbika Asmae, Daoudi Nour Elhouda, Bouyanzer Abdelhamid, Loukili El Hassania, and Mohamed Bnouham, Chemical composition and inhibitory activity of pancreatic α-amylase and intestinal α-glucosidase in vitro and in vivo of <i>Artemisia absinthium</i> L. extracts.</p> <p>CO90. ID-229: Khaoula Diass, Imane Oualdi, Kaoutar El Fazazi, Hanane Azzouzi, Belkheir Hammouti, Rachid Touzani, Essential oil of <i>Lavandula officinalis</i>: Antimicrobial activities against <i>Escherichia Coli</i>, <i>Salmonella Newport</i></p> <p>CO91. ID-239: Moujabbir Sara, Aboukhalaf Abdelghani, João Miguel Ferreira da Rocha, Amraoui Belkassem, and Belhsen Reikia, Antimicrobial and antifungal activity of metholic extract of sourdough.</p> <p>CO92. ID-258: A. Rkhaila, M. Saga, S. G. Grohs, A. El Yacoubi, B. Chafik El Idrissi, and K. Ounine, The Potential of Chitin Co-products in the Biocontrol of <i>Solanum lycopersicum</i> L. Phytopathogens: The Case of <i>Ralstonia solanacearum</i> and <i>Fusarium oxysporum</i> f.sp. <i>radicis-lycopersici</i></p> <p>CO93. ID-272: Lamiae Bourassi, Allal Challioui, and Boufelja Bouammali, A Viscometric study of the products obtained by controlled degradation of naturel rubber</p>
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17:20 – 19:00	ROOM IV
	Session 2) : WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ANALYSIS
	Moderators & Rapporteurs: Prof. Mohammed J. MEZIANI and Rachid BENKADDOUR
	<p>CO94. ID-112: A. Hmada, N. Dkhireche, R. Sayed, Z. Benzekri, M. Galai, R.A. Belkhemima, A. Habsaoui, S. Boukhris, M. Ebn Touhami, Corrosion inhibition of mild steel in 1M HCl solution by Quinazoline derivatives</p> <p>CO95. ID-137: S. Bouhout, K. Haboubi, and M. S. Elyoubi, Comparative assessment of groundwater quality challenges confronting Mediterranean coastal aquifers: A review</p> <p>CO96. ID-152: Abdesselam Eddaoukhi, Mohamed Berradi, Yassine Bouzhar, Ahmed El Yacoubi, Mohamed Grou, Hakima Nassali, Amar Habsaoui, and Abderrahim El Bachiri, Valorization of treated vegetable waters for the cultivation of a vegetable plant (eggplant) in two types of soil</p> <p>CO97. ID-161: Soufiane Hmamouchi, Asmae Massit, Mohamed Berradi, Mounir El Hezzat, Ahmed El Yacoubi, Brahim Chafik El Idrissi, Photocatalytic decomposition of Methylene blue dye using sand-graphite composite under visible light irradiation</p> <p>CO98. ID-163: F. El Farhani, M. Ouakki, Z. Benzekri, M. Ebntouhami, Corrosion hindrance effectiveness of pyrazoles being environmentally-safe organic inhibitors: Thermodynamical, electrochemical and surface studies</p> <p>CO99. ID-164: R. Bouyaksass, S. Bouaouda, A. Taleb, and S. Souabi, Leachate and biogas flow rate assessment at the level of Oum Azza landfill in Rabat city, Morocco</p> <p>CO100. ID-184: S. Karim, A. Aouniti, C. Belbachir, I. Rahhou, Evaluation of heavy metal concentrations in commercial marine fishes caught in the Mediterranean coast of Morocco and their associated health risks to consumers</p>

	<p>CO101. ID-218: H. Kajeiou, M. Sbaa, and A. Darmous, Physico-chemical, chemical and biological characterization of treated wastewater from the city of Oujda (eastern Morocco) and possibility of reuse in irrigation.</p> <p>CO102. ID-222: Youssef Haddadi, Abd -El-Kader Chahlaoui, Aziz Taouraout, and Abdelhak Saidi, Use of house sparrows in the bio-monitoring of atmospheric pollution by metallic trace elements in the city of Meknes</p> <p>CO103. ID-232: Douâae Ou-Yahia, Kawtarfikri-Benbrahim, and Ibsouda Koraichi Saad, Experimental and theoretical investigations of marine yeasts adhesion and its impact on the physico-chemical properties of sea-immersed AISI 304 and 316 stainless steels.</p> <p>CO104. ID-253: M. Bahouq, H. Bahouq, and A. Douira, Effect of salinity on Strawberry plant growth and their tolerance to water deficiency after inoculation with a composite arbuscular mycorrhizal inoculum</p> <p>CO105. ID-339: A. El Abdouni, K. Haboubi, M. S. El Youbi, Study of the adsorption of phenolic compounds of olive oil mill wastewater by clay extracted from Mohamed Ben Abdelkarim El Khattabi dam in Al-Hoceima (Morocco)</p>
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20:00 – 00:00	Diner GALA
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Sunday, June 12, 2022

Moderator & Rapporteur: Prof. Jamal BOUCHNAIF

08:00-08:30	<p>Plenary Conference (21) Prof. GUILLAUME MAURIN, France <i>“How MOF/Polymer Interfacial void shape/size affect the gas permeability of Mixed Matrix Membranes”</i></p>
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Moderator & Rapporteur: Prof. Elmostafa ZIANI

08:30-09:00	<p>Plenary Conference (22) Prof. WAHID MELLOUKI, France <i>“Interlinkages between climate change and air pollution”</i></p>
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Moderator & Rapporteur: Dr. Mohammed GHALEM

09:00-09:30	<p>Plenary Conference (23) Prof. MOHAMMED J. MEZIANI, USA <i>“Carbon Dots as Novel Antimicrobial Agents”</i></p>
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Moderator & Rapporteur: Dr. Khalil AZZAOU

09:30-10:00	<p>Plenary Conference (24) Dr. Alberta Terzi, Italy <i>“X-ray hierarchical investigation of type I collagen in tissue engineering and pathology”</i></p>
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10:00-11:30	ROOM I
	Session 2) : WATER, SOIL, AIR, AGRICULTURE AND ENVIRONMENTAL ANALYSIS
	Moderators & Rapporteurs: Prof. Hossain EL OUARGHI, Prof. Abdelouahad AOUINTI and Prof. Ouahid EL ASRI
	<p>CO106. ID-347: M. Loutfi, R. Mariouch, M. Belfaquir, M. S. ElYoubi, Removal of cationic dye from aqueous solutions by natural clay from Morocco</p> <p>CO107. ID-393: Touria Hachi, Maryama Hachi, Youssef El Hammioui, Hamza Essabiri, Driss Belghyti, Mhamed Khaffou, Rabiaa Mounir, Rachid Benkaddour, and El Hassan Abba,</p>

	<p>Water quality and environmental performance of a municipal wastewater treatment plant (M'irt City. Morocco)</p> <p>CO108. ID-394: Youssef El Hammoui, Hammou Anarghou, Moulay Lafdil Belghiti, Touria Hachi, Mhamed Khaffou, Rachid Ben Kaddour, and El Hassan Abba, Physico-chemical and bacteriological quality of well water in khénifra province (morocco)</p> <p>CO109. ID-395: Touria Hachi, Maryeama Hachi, Rachid Ben Kaddour, Hamza Essabiri, Adnane El Yaacoubi, Mhamed Khaffou, and El Hassan Abba, Assessment and relationship between organic pollution parameters and aquatic bio-indicators (Wadi tighza. morocco)</p> <p>CO110. ID-368: Moulkaf safae, Bachir Elkihel, and Ahmed Rassam, Optimization of WWTP</p> <p>CO111. ID-199: C. Belmejdoub, K. Benbouya, I. Forsal, S. Lahmady, M. Rabaa, and R. Tourir, Corrosion inhibition of carbon steel in hydrochloric acidic solution 1M by Irbersartan</p> <p>CO112. ID-320: F. Hamouche, and M. Ebn Touhami, Corrosion Behavior of Different Types of Brass at Different Temperatures in Neutral Medium,</p> <p>CO113. ID-372: S. El kaouahi, M. Raji, N. Errahmany, M. Rbaa, R. Tourir, H. El Kafssaoui, B. Lakhrissi, H. Larhzil, A. Shaim, Theoretical and experimental study of the corrosion inhibition of mild steel in 1.0 M HCl by new quinoxaline derivatives</p> <p>CO114. ID-366: H. Hailou, M. Ait Himi, S. Taghzouti, M. Dahbi, C. Hajjaj, R. Tourir, H. El Kafssaoui, M. Ebn Touhami, Investigation of brass corrosion inhibition in 200 ppm NaCl solution by new diacetate derivative: experimental study, spectroscopy analysis and theoretical approach</p> <p>CO115. ID-403: Badr Baach, Moussa Ouakki, Hanane Barebita, Soumya Ferraa, Mohammed Cherkaoui, and Taoufik Guedira, Corrosion inhibition by new compounds based on bismuth Bi₂O₃</p> <p>CO116. ID-413: Mohamed Allaoui, and Said ibn Ahmed, Removal of heavy metal (chromium) ions using sea-Mehdia shells by an adsorption process</p> <p>CO117. ID-194: Amine Daha Belghiti, Bioclimatic materials and design in constructions</p>
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10:30-11:30	ROOM II
	Session 4): ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, ELECTRICAL ENGINEERING AND SIMULATION
	Moderators & Rapporteurs: Prof. Loubna BOUSELHAM, Prof. Mohammed BENHADDOU and Asmae KHALDOUN
	<p>CO118. ID-213: Z. Charqui, M. Boukendil, L. El Moutaouakil, R. Hidki, and Z. Zrikem, Numerical analysis of turbulent heat transfer in a double glazed Trombe wall under time-dependent conditions</p>
	<p>CO119. ID-224: Grari Meryem, and Zoheir CifAllah, Two-dimensional Simulation of Non equilibrium Silicon Nitride Plasma Discharge for Thin Film Solar Cell Deposition</p>
	<p>CO120. ID-245: H. Fakhry, M. Rbaa, F. Benhiba, A. Zarrouk, H. Oudda, B. Lakhrissi, B. Hammouti, and A. Guenbour, Density Functional Theory, Molecular modeling by MD simulation, Characterization (SEM/EDXS/UV-Visible), Thermodynamic and Electrochemical studies of the inhibitory power of two quinoline analogs for C38 in aggressive area</p>
<p>CO121. ID-252: Moulay Said Khattab, Ilyass El Kadmiri, Youssef Ben-Ali, and Driss Bria, Propagation of acoustic waves through waveguides and symmetric/asymmetric resonators based on Fano and AIT resonances</p>	
<p>CO122. ID-206: Guetbach Yassmina, Grari Meryem, Said Sara, Es-Salhi Abdenacer, Zoheir Cifallah, Numerical modeling of a hydrogenated silicon inductively coupled plasma discharge</p>	
<p>CO123. ID-209 : Imane Mehdi, El Mostapha Boudi, An integrated environmental requirement modeling approach for sustainable mechatronic systems using hierarchical CP-net.</p>	

- CO124. ID-265 :** A. El Jaouhari, M. Rochdi, and M. El Kaouini, Effect of discharge parameters on conductive behavior and characteristics of monopole plasma antenna
- CO125. ID-276:** Sara Sabri, Rachid Malek, and Khalil Kassmi, A theoretical study of InAs/InP and InAs/GaAs QDs systems.
- CO126. ID-281:** Lahcen Amri, Smail Zouggar, and Mohamed Kebdani, Design and optimization of a Rim Driven generator for pump application
- CO127. ID-271:** A. Abakouy, A. Amahmouj, I. Al Korachi, N. Salhi, Depth- Averaged Large Eddy Simulation of shallow turbulent mixing layer
- CO128. ID-374:** Zineb Aqachmar, Hamid El Qarnia, and Abdelkader Outzourhit, High leverage variables through the modeling and numerical simulation of a mono-crystalline silicon solar cell under MATLAB
- CO129. ID-371:** Badredine Lamuadni, Rachid El Bouayadi, Elhoussaine Ouabida, and Driss Zejli, An Improved System Dedicated to the Prediction of Junction Temperature of Multi-Chip IGBT Semiconductor Module
- CO130. ID-396:** Yassir Elghazi, Samir Didi, Dikra Bakari, Karim Bahhous, Abdeslem Rrhious, and Mustapha Zerfaoui, Verification of monitoring unit calculations for the 3D conformal radiation therapy treatment planning system
- CO131. ID-399:** Badr-Eddine Benahmed, Faouaz Jeffali, Abdellah El Barkany, and Amar Bakdid, Design and realization of an aeronautical cleaning robot for aircraft maintenance 4.0 based on artificial intelligence
- CO132. ID-237:** Abdelaalim Mabrouki, Yassine Bennani Karim, Hamza Ouadghiri Hassani, Yassine Jamali, Asmae Khaldoun, A study of a passive cooling and heating design employing a Trombe wall with PCM: A numerical investigation of the semi-oceanic climate in Morocco

ROOM III

Session 7): NATURAL PRODUCTS AND THEIR BIOTECHNOLOGICAL APPLICATIONS

Moderators & Rapporteurs: Prof. OSSAMA EL ABOUTI and Prof. Farid FALYOUNI

10:00-11:30

- CO133. ID-282:** M. Hajji Nabih, M. El Hajam, H. Boulouka, Z. Chiki, S. Ben Tahar, N. Idrissi Kandri, and A. Zerouale, Preparation of Activated Carbon from Cardoon "*Cynara Cardunculus*" Waste: Characterization and Application to the Adsorption of Synthetic Organic Dyes
- CO134. ID-309:** Raoudi Meryem, Ziani Imane, El Bachiri Ali, Radi Smaail, Khalef Nawel, Bakri Abdelaziz, Benameur Hassan, and Mohamed Elkadiri, Preliminary identification and characterization of *Serenoa Repens* extracts
- CO135. ID-310:** M. El Bastrioui, K. Haboubi, and B. Hammouti, Phytochemical investigation and antioxidant activity of the extracts of *Marrubium Vulgare* L. from the region of Al-Hoceima
- CO136. ID-315:** Fatima Brahmi, Ouafae Mokhtari, Ashraou Abdessalam, Taibi Ben Hadda, Rachid Touzani, Bouchra Legsseyer, Evaluation of the antifungal activity of essential oil from *Mentha pulegium*. L
- CO137. ID-389:** B. Douhri, K. Draoui, I. Raissouni, M. Hadri, E. Khay, A. Farah, N. Skali Senhaji, J. Abrini, and H. Douhri, Bioactive compounds from Moroccan plants as antibiofilm agents: Case of the endemic *Origanum grosii*
- CO138. ID-397:** Salma Kadda, Abdelmajid Belabed, Sabir Ouahhoud, Raffaele Conte, and Hamza Mechchate, Phytochemical analysis of the residues of *opuntia ficus indica* 1 seed oil of eastern region of Morocco
- CO139. ID-177:** Salima Haddou, Belkher Hammouti, Rachid Touzani, Loukili Hassania, Asmae Hbika, Abdelkrim Chahine, Antioxidant activities of *Cannabis Sativa* L seeds extracts from Morocco

	CO140. ID-74: Mohammed Amine Mehdi, Toufik Cherradi, Azzeddine Bouyahyaoui, Said El Karkouri and Ahmed Qachar, Predictive approach for post-covid 19 evolution study of the pavement surface deterioration based on visual inspection results.
	ROOM IV
	Session 5): INNOVATIVE DEVICES, CHEMISTRY AND MATERIAL PHYSICS.
	Moderators & Rapporteurs: Prof. Khadija HABOUBI and Prof. Ahmed CHETOUANI
10:00-11:30	<p>CO141. ID-186: Oussama Jhabli, El Mountassir El Mouchtari, Mustapha Boutamart, Salah Rafqah, Yassine Redouany, Adil Bouhmmad, Khalid Nouneh, Samir Briche, the evolution of tribasic lead sulfates features during paste curing of positive active material of lead acid battery</p> <p>CO142. ID-266: A. Rguibi, K. Ba, R. Driss, H. El Aadad, T. Jermoumi, A. Hsini, A. Shaim, A. Chahine, Elaboration by coacervation method, structural investigation and durability of new glasses</p> <p>CO143. ID-268: Mustapha Boutamart, Oussama Jhabli, Amine Hadri, Salah Rafqah, Khalid Nouneh, Salma Ziadi, Hicham Bichara, Samir Briche, Preparation of superhydrophobic concrete for preserving building facades</p> <p>CO144. ID-190: Morchid Fatima Ezzahrae, Akkouri Nacer, Elfarissi Latifa, Zamma Abdellah, and Idiri Mohamed, Thermal and mechanical properties of a high-density polyethylene (HDPE) composite reinforced with wood flour</p> <p>CO145. ID-179: Mohamed Hamid Salim, Zineb Kassab, El-Houssaine Ablouh, Mounir El Achaby, Fabrication of different surface-modified cellulose nanocrystals as green materials for water treatment</p> <p>CO146. ID-192: K. Lamhour, A. Tizliouine, and O. Cherkaoui, Effect of chemical treatment on Moroccan Alfa fiber thermal behavior</p> <p>CO147. ID-255: Loubna Hdidou, Ayoub El Bendali, Ghizlane Elomari, Jones Alami, and Mouad Dahbi, Si/Graphite as Anode Material for Lithium-Ion Batteries (LIBs)</p> <p>CO148. ID-287: F-Z. El Bouchtaoui, E-H. Ablouh, I. Kassem, M. Salim, Z. Kassab, H. Sehaqui, and M. El Achaby, Novel methylcellulose@lignin bio-composite as an eco-friendly and multifunctional coating material for good nutrients management</p> <p>CO149. ID-326: M. Benhaddou, M. Ess Sadki, A. Azouzoute, L. Bouselham, M. Ghammouri, The effect of bending load for two geometries design of AISI 316L cardiovascular stent</p> <p>CO150. ID-330: Khadija Annaba, Bennaceur Ouaki, Moha Cherkaoui, and Khalid Ibaaz, Application of pozzolan as a material for thermal insulation of buildings</p> <p>CO151. ID-345: Ikhlal Hani Chennoufi, Chorouk Zanane, Mehdi Ameslek, Mostafa El Louali, Hafida Zahir, and Hassan Latrache, Relationship between color facemasks and their electron donor acceptor character</p> <p>CO152. ID-382: Abdelqader El Guerraf, Sana Ben Jadi, Nurgul Bakirhan, Yalcin Ozkan, Sibel Ozkan, Mohammed Bazzaoui, and El Arbi Bazzaoui, Electrochemical characterization of trimetazidine hydrochloride on PEDOT modified glassy carbon electrode by stripping square wave voltammetry</p> <p>CO153. ID-341: Kaoutar Aghmih, Abderrahim Bouftou, Said Gmouh, Sanaa Majid, Rheology and dissolution of a cellulose/imidazolium-based ionic liquid solution</p> <p>CO154. ID-405: K. Lamayny, O. El Abouti, M. Amrani and E. H. El Boudouti, Surface states in one-dimensional Graphene-Dielectric photonic crystal</p> <p>CO155. ID-411: Achraf Delhali, Ayalew H. Assen, Youssef Belmabkhout, Porous materials for water vapor related applications</p>
11:30-12:00	Closing Ceremony
09:00-14:00	Reception / Participant certificate

10-12 June 2022	Poster Session
<p>Friday</p> <p>10 June, 2022</p> <p>11:00 – 11:30</p> <p>16:00 – 16:30</p> <p>Saturday</p> <p>11 June, 2022</p> <p>10:30 – 11:00</p> <p>16:30 – 17:00</p>	<p>Chairs: Pr. Hassan ZAHBOUNE, Pr. Abdelaziz OUARIACH, Dr. Fatima Zahra EL AMRI, Dr. El Hassania LOUKILI, Dr. Noussaiba BENHAMZA, Dr. Doha BERRAAOUAN, Dr. Abdelqader EL GUERRAF, Dr. Samah KARIM and Dr. Youssra SBIBIH.</p> <p>CP1. ID-158: Sandaoui Meriem, Zaroual Zaina, El Ghachtouli Sanae, and Azzi Mohammed, Treatment of pharmaceutical effluents by sonochemistry</p> <p>CP2. ID-349: Wissame Azizi, Abdessamad Amrani, Mouad Harandou, Abir Yahyaoui, Youssra Sbibih, Oumayma Hamdani, Hajar Zerouri, El-Houcine Sebbar, and Mohammed Choukri, Importance of implementing an outsourced internal control system in the quality of biochemical results</p> <p>CP3. ID-350: Omayama Hamdani, Amjad Idrissi, Mouad Harandou, Abir Yahyaoui, Youssra Sbibih, Wissam Azizi, Hajar Zrouri, El-houcine Sebbar, and Mohammed Choukri, Establishment of an analytical toxicology unit in the biochemistry laboratory of university hospital Mohammed VI of Oujda</p> <p>CP4. ID-351: Amjad Idrissi, Abir Yahyaoui, Oussama rahhab, Youssra Sbibih, Hajar Zrouri, Omayama Hamdani, Wissam Azizi, Mouad Harandou, El-houcine Sebbar, and Mohammed Choukri, the importance of setting up an external quality evaluation system in the medical biology laboratory: Experience of the biochemistry laboratory of the Mohammed VI University Hospital of Oujda</p> <p>CP5. ID-352: Hajar Zrouri, Amjad Idrissi, Mouad Harandou, Abir Yahyaoui, Youssra Sbibih, Wissam Azizi, Oumayma Hamdani, El-houcine Sebbar, and Mohammed Choukri, Containment levels in medical laboratories</p> <p>CP6. ID-19: R. Othmane, S. Rafik, and T. Said, Kinetics, thermodynamics, equilibrium, surface modelling, and atomic absorption analysis of selective Cu(II) removal from aqueous solutions and rivers water using silica-2-(pyridin-2-ylmethoxy)ethan-1-ol hybrid material</p> <p>CP7. ID-93 : L. Zouhri, J. Jaunat, and P. Lutz, Characterization of contaminated sites by the perchlorate contaminant and the environmental impact on groundwater resources (Grand-Est, France)</p> <p>CP8. ID-106: R. Kellal, D. Benmessaoud Left, M. Azzi, and M. Zertoubi, Anti-corrosion activity of a green inhibitor based on a Moroccan medicinal plant as an environmentally friendly corrosion inhibitor for carbon steel in 1M HCl and 0.5M H₂SO₄: Phytochemical screening, FT-IR, SEM-EDX, Synergetic effect and electrochemical evaluations.</p> <p>CP9. ID-312: Redouane Elharbili, Tawfik El Moussaoui, Khalid El Ass, and Mohamed Oussama Belloulid, Simultaneous assessment of raw pollution and municipal WWTP performances: Case study of Kenitra city, Morocco</p> <p>CP10. ID-57: Zahaf Toufik, Sabar Hichame, Boushaba Farid, and Mimoun Chourak, Mapping the risk of flooding of the national road N °2 at the crossing of the wadi Tamdmadt north of the city of Bni Drar</p> <p>CP11. ID-400: Jihane Serbout, Imane Oualdi, Anouar El Magri, Sébastien Vaudreuil, Rachid Touzani, Belkheir Hammouti, Corrosion inhibition of tool steel (H13) in 1 M HCl medium by pine essential oil</p> <p>CP12. ID-401: Abdelkarim Ait mansour, Badr El-Haitout, Fatima Zahra Thari, Khalid Karrouchi, Khalid Bougrin, Hassane Lgaz, Han-seung Lee, Rachid Salghi, Exploring the corrosion inhibition mechanism of novel thiazolidinediones for N80 steel in 15 wt.% HCl solution: Insights from experimental and first-principles DFT investigations</p> <p>CP13. ID-402: Badr El-Haitout, Abdelkarim Ait mansour, Mustafa Raji Al-Hadeethi, Hassane Lgaz, Han-seung Lee, Rachid Salghi, Insights into the corrosion inhibition property of novel hydrazone compounds for N80 steel in 15 wt.% HCl solution: Experimental and theoretical approaches</p> <p>CP14. ID-409: Badr El-Haitout, Abdelkarim Ait mansour, Gideon Idowu, Hassane Lgaz, Rachid Salghi, Study on Microplastics contamination in water and sediment of marine environment using extraction methods and FTIR analysis</p>

- CP15. ID-26:** Ali Srairi, Abdelmajid Dridi, Abdelouahed Ben Mhamed, Abdellatif Boumaaz, and Driss Belghyti, Reproduction study on squid « *loligo vulgaris lamarck*, 1798 » in the moroccan southern region of the atlantic (cape boujdor – cape blanc)
- CP16. ID-81:** S. Es-Sabbeur, Y. Chaouqi, A. Cherif, I. Elkoraichi, L. Lebrun, and M. Hlaibi, Reinforcement and disinfection of heritage textile materials. Characteristic and kinetic study
- CP17. ID-108:** Somia Fellak, Mourad Rafik and Abdelhadi Lhassani, FT-Raman and Fourier Transform Infrared spectroscopy (FTIR) investigation of hardwood lignin: identification of guaiacyl and syringyl units
- CP18. ID-156:** Leila Azaryouh, Zineb Kassab, Adil Aboulkas, Mounir El Achaby, and Khalid Draoui, Eco-friendly composites based on Biopolymers and Moroccan Clay for wastewater treatment
- CP19. ID-267:** Ahmed El Yacoubi, Asmae Massit, Soufiane Hmamouchi, Amine Rkhaila, Aziz Boulouiz, Khadija Ounine, and Brahim Chafik El Idrissi, Sulphate-substituted Tricalcium Phosphate β -TCP-S: Effect of SiO_4^{2-} insertion and microwave conditions
- CP20. ID-404:** K. Essifi, A. Ed-Daoui, M. Brahmi, D. Berraaouan, A. Amrani, M. Benelmostafa, M. Dahmani, A. El Bachiri, A. Tahani, Determination of the mechanical properties of single calcium alginate microcapsules loaded gallic acid
- CP21. ID-139:** Yahya El-Mernissi, Amina Labhar, Ikrame Zeouk, M'hamed Ahari, Soufian El Barkany, Amin Salhi, and Hassan Amhamdi, Ethnobotanical study of medicinal plants used in the treatment of dermal diseases and skin care.
- CP22. ID-89:** R. Sayed, N. Dkhireche, A. Hmada, M. Galai, A. Habsaoui, M. Harcharras, M. Ebn Touhami, Plant essential oil as a safe corrosion inhibitor for copper in 0,5M H_2SO_4
- CP23. ID-162:** Sarah Loukhamas, Ebrahim Kerak, Hamza Zine, and Hasnaâ Harrak, Assessment of physical and physicochemical characteristics of mesocarp and peel of ten Moroccan pomegranate cultivars (*Punica granatum L.*)
- CP24. 331:** Arrahmouni Rayan, Elouazzani Chahed Chadia, Erramly Azzedine, and Ballouch Hussein, Physicochemical qualities of commercial essential oils of: *M. spicata*, *M. piperita*, *M. pulegium*
- CP25. ID-353:** Doha. Berraaouan, Kamal. Essifi, Amina Amrani, Mohamed Brahmi, Mohamed. El Miz, Mouad. Harandou, El Houcine Sebbar, Mohammed. Choukri, and Abdesselam. Tahani, Development and characterization of commercial Moroccan nanoclays
- CP26. ID-348:** M. Sabbahi, A. Tahani, A. Talhaoui, and A. El Bachiri, Cartography and chemical profiling of rosemary essential oil in Eastern High Atlas Mountains, Morocco
- CP27. ID-346:** Sadik Hasnaa, Ouazzani Chadia, Samira El Ghammarti, Abdellah Moustaghfir, and Hussein Ballouch, Comparison of the physico-chemical characteristics of three strawberry varieties of strawberries from different regions in Morocco
- CP28. ID-406:** Imane Naboulsi, Mansour Sobeh, Rachid Lamzira, Karim El Fakhouri, Widad Ben Bakrim, Chaimae Ramdani, Rachid Boulamtat, Mustapha El Bouhssini, Jane ward, Aziz Aboulmouhajir, and Abdelaziz Yasri, LC-MS Characterization of Moroccan Aromatic and Medicinal Plants and Their Investigations against *Dactylopius Opuntiae* (Cockerell) Under Laboratory and Greenhouse Conditions
- CP29. ID-318:** S. M. Almutairi, W. S. El-Sayed, P. K. Sahu and M. Messali, Ultrasound-assisted synthesis of new 4-dimethylaminopyridinium-based ionic liquids and/or salts, characterization, in silico approaches and antimicrobial evaluation
- CP30. ID-414:** M. Hammouri, A. Idrissi, F Maaroufi, Monte Carlo simulations and Thermodynamic Integration of Mixing of Acetonitrile and Water
- CP31. ID-292:** O. Erefai, A. Soulaymani, A. Mokhtari, H. Hami, Environmental exposures and lung cancer in Morocco

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