

**The First Edition of the International Scopus Congress on:  
Environment and Natural Resources: Challenges and Solutions  
(ENRSC2021)**

**24-25<sup>th</sup>, November 2021, Khenifra, Morocco**

## Programme

**Wednesday 24th November 2021**

**9h00** : Opening and participants welcome: <https://meet.google.com/bmh-hhrr-pca>

- ✦ Sultan Moulay Sliman University President's, Speech. Pr. Nabil Hmina
- ✦ Akhawayn University President's, Speech. Pr. Amine Bensaid
- ✦ Higher School of Technology of Khenifra Director's, Speech. Pr. Mohammed Bouachrine
- ✦ Committee organizing's, Speech. Pr. El Hassan Abba

**Plenary conferences (Moderators : Pr. E. Abba, Pr. L. Hajji, and Pr. M. Khaffou)**

**09h30 : Conference 1 : Pr. Arthur Riedacker, Nobel Price 2007.** Directeur de recherche honoraire et président de l'Institut Oikos, ONG scientifique et technique pour des développements nationaux mondialement soutenable, Paris, France. **L'Agriculture, le Développement Soutenable et le Changement Climatique: Défis pour les pays en Développement et les pays Développés.**

**10h15 : Conference 2 : Pr. Al-a'quarbeh Marwa.** National Agricultural Center, University of Jordan Amman, Jordan. **Crosslinking Chitosan-Manganese ferrite (MnFe<sub>2</sub>O<sub>4</sub>) as potential nanosorbent for adsorption of uranium(VI) and thorium(IV).**

**11h00 : Conference 3 : Pr. Hasnaoui Mustapha.** Équipe Génie de l'environnement. Faculté des Sciences et Techniques, Université Sultan Moulay Slimane. Maroc Et Droussi Mohammed, Expert International en Aquaculture. Maroc. **Quel avenir pour l'Aquaculture continentale au Maroc ?**

**11h45 – 12h10 : Break**

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### **Session 1 : Chemistry and Environment**

<https://meet.google.com/rnk-oucr-zpf>

**Moderators et rapporteurs: Pr. T. Ainane and Pr. M. Driowya**

**12h10: Hanane Ait Hmeid et al,** Mineralogy and Geochemistry of Rhyolitic domes and Perlites Rocks in the Tidinet massif, (Nador, Northern Morocco).

**12h20: Ariyanti S. Dewi et al,** Collagen-stimulating Activities in vitro of Low Molecular Weight Peptides from *Holothuria atra*.

**12h30: Bouchra Assoubhi et al,** Comparative evolution of the biomass and biochemical composition of *Coelastrum microporum* and *Monoraphidium convolutum* grown in vitro

**12h40: Rajaa Bassam et al,** Competitive removal of heavy metals from aqueous solution using a raw rock as adsorbent and their regeneration performance.

**12h50: Ibtissam Boussaoudi et al,** Phytochemical Screening, Quantitative Estimation of Total Flavonoids, Total Phenols and Antioxidant Activity of *Laurus nobilis* L.

**13h00: Imad El bojaddyani et al,** Synthesis and characterization of new zeolitic material using natural bentonite as clay source.

**13h10: Novalia Rachmawati et al**, Thawing effect on the growth and histamine formation of *Klebsiella aerogenes* in broth and artificially contaminated mackerel.

**13h20: Youssef El Ouardi et al**, Synthesis and characterization of activated carbon prepared from Argan nutshell with Na<sub>2</sub>CO<sub>3</sub> activation and its application for the removal of Rhodamine B dye by Combined adsorption and photocatalysis.

**13h30: Laila Elazzouzi et al**, Photocatalytic Efficiency of the system BiVO<sub>4</sub>-MnZnO catalyst on the removal of Amoxicillin in water under UV and Visible light irradiation.

**13h40: Safae Er Raouan et al**, Mitigation of microbiologically influenced corrosion of 304L stainless steel in the presence of *Pseudomonas aeruginosa* by *Salvia officinalis* of leaves extract.

**13h50: Fatima El aamri et al**, Effects of sodium bicarbonate on cell growth and morphology of *Isochrysis galbana*.

**14h00: Fatima Zahra Erraji et al**, Adsorption du bleu de methylene par des sous-produits de l'industrie de congelation de poisson.

**14h10: Hind Hajjaoui et al**, Removal of cadmium using magnesium phosphate: Adsorption kinetics, isotherm, and mechanism studies.

**14h20: Abderahim kali et al**, Etude comparative de l'adsorption du cuivre sur quatre matériaux biomasse (Coque (c) de noix, c. d'amande, c. de coco et c. d'arachide).

**14h30: Samira Jaouhar et al**, Evaluation de l'effet désinfectant et antimicrobien de cinq extraits de plantes médicinales.

**14h40: Youssef Lahlou et al**, Chemical composition, antioxidant and antimicrobial activities of Moroccan species of *Psidium guajava* extract.

**14h50: Halima Malal et al**, The effect of vermicompost on microbial community under salinity stress conditions.

**15h00: Smahane Mhanned et al**, Physico-chemical study and quality control of some types of Moroccan honey.

**15h10: Meriem Yatim et al**, Morphological and chemical characterization of carob pulps collected from four moroccan regions.

**15h20: Bouchra Nabil et al**, The influence of  $\gamma$ -ray irradiation at low doses on antioxidant activity, phenolic compounds profile, chlorophylls and structure of cladode powder (*Opuntia ficus indica*)

**15h30: Mohammad El mourabit et al**, Organic coating pigmented with a potassium zinc orthophosphate, synthesised from phosphate sludge for corrosion protection of mild steel in 3% NaCl.

**15h40: Imane Berni et al**, Glyphosate and aminomethylphosphonic acid in agricultural groundwater Saïss plain (Morocco) from 2017 to 2018: Occurrence and environmental risk assessment.

**13h50: Khiair Habiba et al**, In (III)-doped Ag<sub>3</sub>PO<sub>4</sub> Photocatalyst: Effects on visible light activity and catalyst stabilization.

**14h00: Insaf Nori et al**, Acid Hydrolysis of the wastes of *Opuntia Ficus Indica* (L.) Miller in order to produce bioethanol.

**14h10: Farid Zohra et al**, Study of the adsorption of soybean oil soap on the apatite surface in the presence of Ca<sup>2+</sup> ions and optimization of phosphate ore flotation factors using the Box-Behnken-Design.

**14h20: Elmahfoud El-Abboubi et al**, Structural and morphological investigations of layered double hydroxides as effective adsorbents of Methyl Orange.

**14h30: Abderrahim Kali et al**, Etude comparative de l'adsorption du cuivre sur quatre matériaux biomasse (Coque (c) de noix, c. d'amande, c. de coco et c. d'arachide).

**14h40: Amal Soufi et al**, Effects of operating parameters on the oxidation of tartrazine by the Fenton's reagent: A statistical design approach.

**14h50 : Discussion**

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## Session 2 : Biological activities, Modeling and Simulation

<https://meet.google.com/iac-dqps-wqe>

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Moderators et Rapporteurs: Pr. L. Hajji and Pr. H. Zaki

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**12h10: Khalil El khatabi et al**, Identification of novel indole derivatives as potent  $\alpha$ -amylase inhibitors for the treatment of Type-II Diabetes using in-silico approaches.

**12h20: Imad Hammoudan et al**, QSAR and DFT studies of some Tacrine-hydroxamate derivatives as inhibitor of Cholinesterase (ChEs) in the treatment of Alzheimer's disease.

**12h30: Halima Hajji et al**, Flavonoids in Herbal Medicines as Precursors to Drugs Against COVID-19: Computational Investigations.

**12h40: Ossama Daoui et al**, Design of novel Magnolol derivatives as anticancer agents for NSCLC using 3D-QSAR, MOLCAD and Molecular Docking studies.

**12h50: Abdellah El aissouq et al**, Virtual Identification of novel monoamine oxidase B (MAO-B) inhibitors by combining docking-based alignment, 3D-QSAR and ADMET prediction studies.

**13h00: Larbi Elmchichi et al**, 3D-QSAR Study, Docking Molecular and Simulation dynamic on Series of Benzimidazole Derivatives as Anti-cancer Agents: Design New Compounds.

**13h10: Said El Rhabori et al**, Molecular modeling and QSAR studies of quinoline, isoquinoline, quinazoline derivatives against the *Plasmodium falciparum* Chloroquine-sensitive and Mefloquine-resistant strain protozoan Parasite.

**13h20: Taoufik Akabli et al**, In silico analysis of cytotoxic activity of a series of N-substituted tetrahydro- $\beta$ -carboline-imidazolium salt derivatives using QSAR and molecular docking.

**13h30: Fatima Ennahli et al**, 2D-QSAR Study on acaricidal activity of Isoxazoline Derivatives against carmine spider mite (*Tetranychus cinnabarinus*).

**13h40: Mourad Stitou et al**, 2D and 3D-QSAR studies of triterpenoid derivatives as potent anticancer agents.

**13h50: Ayoub Khaldan et al**, In search of new potent  $\alpha$ -glucosidase inhibitors: CoMFA, CoMSIA, molecular docking, ADMET and quantum analysis.

**14h00: Nora Mir et al**, Diagnosis of the beekeeping sector and pollen characterization of the quality of some honeys of the Draa Tafilalet region.

**14h10: Yassine Koubi et al**, In silico studies of 1,4-disubstituted 1,2,3 triazole with amide functionality antimicrobial evaluation against *Escherichia coli* (MTCC

1652) as antimalarial agents using 3D-QSAR, molecular docking and ADMET properties.

**14h20: Soukaina Bouamrane et al**, 3D-QSAR, molecular docking, drug likeliness and in silico ADMET study of bioactive compounds against candida albicans.

**14h30: Soukaina Esslali et al**, In silico studies of linear dipeptides as inhibitors of antiproliferative activity in CEM cancer cell lines using 2D and 3D-QSAR, molecular docking and ADMET properties.

**14h40: Kamal Tabti et al**, CoMFA Topomer, CoMFA, CoMSIA, HQSAR, docking, molecular dynamic studies, and ADMET results on phenyloxypropyl isoxazole derivatives for coxsackie virus B3 virus inhibitors activity.

**14h50: Yassine El Masaoudy et al**, In silico design of new pyrimidine-2,4-dione derivatives as promising inhibitors for HIV Reverse Transcriptase-associated RNase H using 2D-QSAR modeling and ADME/Tox properties.

**15h00: Reda El-Mernissi et al**, New compounds based on 1H-pyrrolo[2,3-b] pyridine as potent TNIK inhibitors against colorectal cancer cells. Molecular modeling studies.

**15h10: Asmae Mahtal et al**, 2D-QSAR analysis of antibacterial activity of new chrysin derivatives, Molecular Docking and prediction of ADME/Tox properties.

**15h20: Ikram Kenfaoui et al**, Epidemiological profile and clinical characteristics of type 2 diabetes in Nador (Morocco).

**15h30: Basma Aghoutane et al**, Etude de l'effet de solvant d'extraction sur l'activité antioxydante et la teneur des polyphénols et flavonoïdes d'une plante médicinale endémique du Maroc.

**15h40: Omar Ou-ani et al**, Optimization of Extraction Yield of *Mentha spicata* L. Essential Oil by Ultrasound-Assisted Hydrodistillation using Response Surface Methodology.

**15h50: Lahcen Oucheikh et al**, Chemical composition and effect of the liquid and vapour phases of the essential oil of *Thymus zygis* on the mycelial growth of post-harvest apple rot fungi.

**16h00: Maryame Sabiri et al**, Screening phytochimique, et activités antioxydantes des extraits de *Lavandula mairei* Humbert.

**16h10 : Nora Salim et al**, Contribution à l'étude de l'activité antibactérienne des extraits méthanoliques de certaines populations naturelles du myrte au Maroc.

**16h20: Fatima Zahra Kadiri et al**, The antimicrobial and antioxidant activity of biosurfactants extracted by aeromonas salmonicida isolated from the marchika lagoon of nador.

**16h30: Oumayma Abdessadak et al**, Reverse docking on five PPO structures of plant, bacterial, and human origin.

**16h40: Zakaria Amarouchi et al**, Following Root Inoculation Bacteria Isolated from Grapevine Roots Confer Grapevine (*Vitis vinifera* L.) Resistance against the *Botrytis cinerea* Infection.

**16h50: Bouchra Assobhi et al**, Comparative evolution of the biomass and biochemical composition of *Coelastrum microporum* and *Monoraphidium convolutum* grown in vitro.

**17h00: Bouddine Toufik et al**, Composition of volatile compounds, Phytochemical study and qualitative characterization of *Ziziphus Lotus* honey samples from Moroccan Atlas areas.

**17h10: Mounia Chroho et al**, Chemical composition, Antibacterial and Antioxidant Activities of the Essential Oil of *Lavandula Pedunculata* growing wild from Khenifra Morocco.

**17h20: Hamza Derraji et al**, Valorization of Moroccan low-grade quality of dates fruits: Physicochemical, organoleptic and microbiological study of syrup.

**17h30: Youssef Lahlou et al**, Évaluation de l'activité anti-*Candida albicans* et anti-*Cryptococcus neoformans* des huiles essentielles de trois plantes médicinales marocaines.

**17h40: Discussion**

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### Session 3: Materials and biomaterials

<https://meet.google.com/fnm-jsgn-mez>

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Moderators et rapporteurs: Pr. Y. Ammari Sadiki, Pr. K. Lekouch and Pr. H. Lakraffi

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**12h10: Moulouda El Mouftari et al**, The modeling approach FTIR coupled with Chemometrics for evaluate and determine the falsification of black cumin oil.

**12h20: Brahim El ouardi et al**, Determination of radon <sup>222</sup>Rn and thoron <sup>220</sup>Rn concentrations outside for different cities of Morocco.

**12h30: Yassir Bouzineb et al**, The effect of changing the auxiliary acceptor in D-A- $\pi$ -A dyes on the efficiency of dye-sensitized solar cells (DSSCs): a DFT computational study.

**12h40: Amine Harbi et al**, Electronic, magnetic and optical properties of a new oxyphosphate Ni<sub>0.25</sub>Mn<sub>0.25</sub>TiO(PO<sub>4</sub>).

**12h50: Sliman Ennehary et al**, Theoretical study on new dyes carbazole-based for photovoltaic applications: Effect of the  $\pi$ -spacer on optoelectronic properties.

**13h00: Hicham Harrass et al**, Estimate of gamma radiation dose to relatives accompanying patients having underwent scintigraphy.

**13h10: Malak Lazrak et al**, Computational study of the influence of different bridges on optoelectronic properties of triphenylamine-based dyes.

**13h20: Malika Khnifira et al**, SiF<sub>4</sub> and HF adsorption on carbon graphite (111) surface in aqueous medium: A combined quantum chemical and molecular dynamic simulation approach.

**13h30: Marzouk Raftani et al**, Solvent effects and electro-optical properties of two conjugated molecules based on thiophene and phenyl. BHJ solar cells applications.

**13h40: Hamid Barkouch et al**, Preparation and characterization of Bismuth-doped TiO<sub>2</sub> and its solar photocatalytic activity for the degradation of dyes.

**13h50: Amar Meryem et al**, Elaboration and Study of Cu Doped TiO<sub>2</sub> P25 in Solar Photocatalytic Degradation of Indigo Carmin.

**14h00: Abdelhak Daiz et al**, Lattice Boltzmann simulation of mixed convection in a lid-driven square cavity containing an elliptic cylinder heating block.

**14h10: Dina Fransiska et al**, Effect of plasticizer and polylactic acid on thermal properties of thermoplastic alginate.

**14h20: Hind El Ouardi et al**, SPUC9 Inverter Integrated In A Standalone PV System.

**14h30: Hind Ghazzaf et al**, Synthesis and characterization of magnetic nanoparticles and their application in the heterogeneous Fenton process for organic dye degradation.

**14h40: Tawfik Mouhrach et al**, Phase Diagram and Thermodynamic Study of the Mixed Spin-1/2 and Spin-3 Blume-Capel Model: Renormalization Group Theory.



**14h50: Naima Outaleb et al**, Correlation study between the mechanical properties of PLA-based biocomposites and the chemical composition of their plant fibers.

**15h00: Ahmed Azaid et al**, Photophysical properties and electronic structures of (2E, 2'E)-1,1'-[chalcogenobis(4,1-phenylene)]bis [3-(4-chlorophenyl)prop-2-en-1-one]derivatives as hole-transporting materials for organic light-emitting diodes (OLEDs).

**15h10: Kaoutar Bazzar et al**, Experimental study on performance approach using High Volume Fly Ash mortar.

**15h20: Oumaima Bourzik et al**, Effect of waste marble powder on the mechanical properties of concrete.

**15h30: Radouan Touti et al**, Annual equivalent doses to skin due to  $\alpha$ -emitting nuclei of the 238U and 232Th series from the application of skin care creams by girls and women.

**15h40: Moussa Benboubker et al**, Covid-19 Respiratory Protection: Study of filter maghoutaneedia stability of decontaminated FFP2 masks for safe reuse.

**15h50: Laaraj Soukaina et al**, Assessment of immunomodulation properties of Brassica Rapa and *Raphanus sativus* seeds.

**16h 00: Ilham Karmal et al**, study of the scale deposits on the reverse osmosis membranes of a brackish water demineralization station.

**16h10: Hind El Ouardi et al**, SPUC9 Inverter Integrated In A Standalone PV System.

**16h20: Brahim ELOUARDI et al**, Effect of nature and geometric parameters of greenhouses on different radiative power.

**16h30 : Imad Essafi et al**, Detection of adulteration in honey by infrared spectroscopy and chemometrics.

**16h40: Farid Zohra e al**, Study of the adsorption of soybean oil soap on the apatite surface in the presence of Ca<sup>2+</sup> ions and optimization of phosphate ore flotation factors using the Box-Behnken-Design.

**16h50: Zakya M'HAMDI et al**, Analyse thermique et détermination de la teneur en métaux lourds de la plante *Urtica Dioica L* par spectroscopie d'absorption atomique

**17h00: Discussion**

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#### Session 4 : Wastes and Environment

<https://meet.google.com/nxj-tyww-tix>

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**Moderators et rapporteurs: Pr. A. Chahlaoui, Pr. M. Benaziz, and Dr. A. Ainane**

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**12h10: Ait Inoh Hayat et al**, Remote sensing and GIS contribution to the identification of potential sites for the artificial recharge of the Souss, western High Atlas, Morocco.

**12h20: Barakat Ahmed et al**, Ecological and human risk evaluation of heavy metals in agricultural soils from SE phosphate plateaus of Khouribga (Morocco).

**12h30: Bellouk Hamza et al**, Characterization and physicochemical treatment of the two types of leachate from the Fez landfill by coagulation-flocculation.

**12h40: Bougassa Rim et al**, A new system for Olive Mill Wastewater (OMW) treatment.

**12h50: Chennak Ilham et al**, Lixiviat de la décharge publique non contrôlée de Sidi Bennour (Maroc): caractérisation et étude d'impact sur la nappe phréatique.

**13h00: Dardona Zuhair et al**, Detection of *Toxoplasma gondii* oocysts in the Environmental Samples (Water and Soil) in Gaza – Palestine.

**13h10: Della Mina et al**, « Evaluation of cadmium levels in bivalve molluscs from Dakhla Bay in Morocco for the period 2012-2020 ».

**13h20: El Fadili Hamza et al**, Pollution indicators and chemometric expertise for the assessment of the impact of open dumps on soils located in their area (Benguerir, Morocco).

**13h30: El Khayyat Fatiha et al**, The impact of olive mill effluents on the physicochemical quality of leachate from the landfill of the Séfrou's city.

**13h40: Elhamdouni Driss et al**, Quality assessment of the composts extracted from solid waste in Khenifra province (Morocco).

**13h50: Essahale Adil et al**, Impact de la pollution oleicole sur la santé respiratoire de la population d'El Hajeb.

**14h00: Farhaoui Mohamed et al**, Impact of pollution factor on real estate appraisal.

**14h10: Fetjah Dounia et al**, Evaluating of various agricultural wastes by three phytotoxic tests.

**14h20: Habrich Ilham et al**, Study of Physico-Chemical and microbiological characteristics of olive mill wastewater of Taroudant city.

**14h30: Hilali Abdessamad et al**, Heavy metal contamination and ecological risk assessment in agricultural soils irrigated with wastewater: case of the Day River, Beni Mellal (Morocco).

**14h40: Maliki Abdelmonaim et al**, Contribution à l'évaluation de la qualité microbiologique des eaux souterraines d'une région aride du Maroc (Bleida, Zagora).

**14h50: Ouhammi Mohamed et al**, Evaluation of the aerated lagooning method applied to the wastewater treatment plant of the city of Errachidia –Morocco.

**15h00: Ouhsine Omar et al**, Caractérisation qualitative et quantitative des déchets générés par les établissements scolaires. Etude de cas dans la région de Béni Mellal Khénifra.

**15h10: Ouigmane Abdellah et al**, Energetic valorization of municipal solid waste in Morocco: a case study of financial feasibility of refuse derived fuel production.

**15h20: Rajji Abdelatif et al**, The impact of wastewater network degradation on the stability of infrastructure in urban areas.

**15h30: Taouraout Aziz et al**, Innovative Sustainable Sanitation Technology adapted to the rural areas of Morocco.

**15h40: Yatim Fatima Ezzahra et al**, Experimental study of wastes combustion.

**15h50: Hachi Touria et al**, Impact of bad odors from the WWTP on the well-being of the population of M'ritt (Morocco).

**16h00: Ouhajjou Majda et al**, Diagnostic environnemental sur l'utilisation des pesticides au niveau du périmètre irrigué du Tadla, Maroc.

**16h10: Siba Amine et al**, Dépollution bactérienne et toxique des eaux du littoral de Casablanca Est: Cas de la station de prétraitement SIDI BERNOUSSI. Maroc.

**16h20: Essabiri Hamza et al**, Valorization of fish waste; a means of management and protection of the environment.

**16h30: Ait Hmeid Hanane et al**, Valorization of Moroccan Bentonite Deposits: "Purification and Treatment of Margin by the Adsorption Process".

**16h30: Discussion**

## Thursday 25th November 2021

**09h00: Openin** : <https://meet.google.com/hda-hnoy-gkm>

**Plenary conferences (Moderator : Pr. A. El Yaacoubi et Pr. S. Cherroud, Pr. T. Ainane and Pr. A. Chahlaoui)**

**09h30: Conference 1: Pr. Tahar Lakhlifi**. Faculté des Sciences de Meknès, Université Moulay Ismail, Maroc. **Conception des médicaments par l'utilisation de la chimie quantique via des réactions de cycloaddition.**

**10h15: Conference 2 : Dr. Soudani Wafa**. Faculty de Medicine, University Badji Mokhrar, Annaba, Algeria. **Algerian Plants with Antiseptic Potential and Evaluation of Therapeutic Activity Anti Sars-Cov-2.**

**11h00 : Conference 3 : Pr. Ghaley Bhim Bahadur**. Associate Professor, University of Copenhagen, Danmark, **Climate-smart production of food, fodder and multiple ecosystem services to mitigate and adapt to climate change.**

**11h45: Conference 4 : Pr. Ahmed Said Mohamed**. Researcher at the Institute of Medicinal Research, Center for Study and Research of Djibouti, Djibouti. **Activation of Unsaturated Organic Molecules by Dinuclear Fe-Pt Complexes for biological applications.**

**11h45 – 12h10: Break**

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### Session 5 : Biodiversity

<https://meet.google.com/uyf-rgcw-nfh>

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**Moderators et rapporteurs: Pr. SM. Jadouali and Pr. M. Khaffou**

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**12h10: Barkaoui Mohamed et al**, Ethnobotany and diversity of medicinal plants used to treat diseases of the digestive system in the Chtouka Ait Baha and Tiznit (Western Anti-Atlas) region, Morocco.

**12h20: Belkhiri Abdelkhalek et al**, Monitoring of avian diversity and abundance in vineyards agroecosystems.

**12h30: Hachi Maryama et al**, Etude ethnobotanique des plantes médicinales dans la région du Moyen Atlas Central (Maroc).

**12h40: Douini Ikram et al**, Sélection de sites de nidification des oiseaux urbains dans la ville de Fès.

**12h50: El Khayari Abdelmajid et al**, Effect of photoperiod, temperature and humidity on the reproduction of *Alabastrina* (*Tingitana*) *tingitana* snails.

**13h00: El Moussaoui Hassan et al**, Alfalfa in arid and semi-arid regions Taroudant as an example, good and bad cultural practices on the environment: A statistical study.

**13h10: El Yaacoubi Adnane et al**, Determination of chilling requirements of Moroccan and foreign apricot cultivars

**13h20: Elbahi Abderrafea et al**, Souss-Massa National Park: a centre of reptile biodiversity in the Moroccan Atlantic coast.

**13h30: Erami Meryem et al**, Responses of Peach and Nectarine cultivars to temperature variation and determination of their chill and heat requirements in Sefrou, Morocco.

**13h40: Essaih Seloua et al**, Ethno botanical study of edible spontaneous plants in the Oulad Abbou and Beni hellal communes Morocco.

**13h50: Hajji Hasnae et al**, The fauna of dung beetles (Beetles: Aphodiinae, Scarabaeinae and Geotrupidae) in the Middle Atlas of Morocco.

**14h00: Hourmate Allah Maria et al**, Analyses floristique et ethnobotanique des plantes utilisées dans la région du Rif: Etude d'une biodiversité et savoir traditionnel à risqué.

**14h10: Moukhliiss Mohammed et al**, Conservation de la biodiversité au niveau du parc national d'Ifrane alliant associations de gestion sylvopastorales et création de métiers verts durables.

**14h20: Mounir Mohamed et al**, Effet des formations végétales sur l'avifaune nicheuse dans les milieux forestiers et milieux ouverts dans les deux vallées du Haut-Atlas Central de Béni Mellal.

**14h30: Mounir Mohamed et al**, Faune Sauvage des Vallée Haut-Atlasiques de Béni Mellal: Ait Bouguemez et Oued Ahansal. Richesse Spécifique et Services Ecosystémiques.

**14h40: Nait Douch Aicha et al**, Physiological, morphological and phytochemical performances of *Argania spinosa* L.skeels in grazed versus ungrazed conditions under aride climate.

**14h50: Nouri Ayoub et al**, Les macrophytes comme outil d'évaluation de l'état trophique d'une rivière: une étude de cas du haut bassin d'Oum Er-rbia (Maroc).

**15h00: Sghiouer Fatima Ezzahra et al**, Structure et diversité taxonomique du peuplement macrobenthique de l'oued Inaouène (Taza, Maroc).

**15h10: Trankil abdelah et al**, The response of benthic foraminifera and ostracods to environmental stress: a study from lagoon Oualidia.

**15h20: Khaffou Mhamed et al**, Wildlife - vehicle collisions in Morocco: First data.

**15h30: Hachi Maryama et al**, Floristic analysis of the medicinal flora used by the population of the Central Middle Atlas (Morocco).

**15h40: Douini Ikram et al**, Organisation et différenciation des communautés d'oiseaux dans un paysage forestier à urbain.

**15h50: Es Salai Karima et al**, Caractéristiques de nidification et chronologie de reproduction de la Foulque caronculée *Fulica cristata* (Gmelin, 1789) dans une zone humide de haute altitude: plan d'eau Zerrouka (Moyen Atlas, Maroc).

**16h00 Abba: El Hassan et al**. Contribution à la gestion des ressources naturelles au niveau du Parc National d'Ifrane.

**16h10: Elmejhed Badre ddine et al**, Valorization of less consumable Moroccan date: optimization of extraction and conservation.

**16h20: Khaili aymane et al**, Depth segregation phenomenon, the macrofaunal diversity associated and biometry of the edible sea urchin *Paracentrotus lividus* (Lamarck.1816) in the western Mediterranean of Morocco.

**16h30: Wafa Werghemmi et al**, Optimization of oyster mushroom production using agro-food by-products.

**16h40: Discussion**

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### Session 6 : Aquaculture and water Resources

<https://meet.google.com/nxd-xpks-hvn>

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**Moderators et rapporteurs: Pr. E. Abba, Pr. F. Jeffali and Pr. M. Doubi**

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**12h10: Elmoujtahid Aziz et al**, Effect of feeding at different protein pourcentages on the zootechnical performance of *oreochromis niloticus* (linnaeus, 1758) (Deroua fish farm, Morocco).

**12h20: Benrahmoune Abdelmjid et al**, Essai de la stimulation physiologique (Hypophysation) de l'espèce Brochet *Esox Lucius*, par le broyat hypophysaire de la carpe commune *Cyprinus carpio*.

**12h30: Zerkani Saida et al**, Seasonal diet of brown trout (*Salmo trutta macrostigma*, Dumeril 1858) in a mountain stream (Ifrane Morocco).

**12h40: Laiboud Chaima et al**, Evaluation de l'Impact de la densité sur la croissance des alevins de (*Oncorhynchus mikiss*) au niveau de la station de salmoniculture au Moyen Atlas Maroc.

**12h50: Elmoujtahid Aziz et al**, Effect of protein levels on the performance of reproduction and growth of *oreochromis niloticus* (linnaeus, 1758) (Deroua fish farm, Morocco).

**13h00: El Azhari Hamza et al**, The quality of soils and surface waters in the region of akchour and ouad laou, and their influence on the existence of rare earth.

**13h10: Hilali Abdessamad et al**, Distribution of heavy metals in agricultural soil profile and lysimeters irrigated with wastewater from the Day River, Beni Mellal (Morocco).

**13h20: Boudellah Abderrazzaq et al**, Contribution à l'étude de la qualité de l'eau souterraine des puits dans la région de Zagora (Est- Sud de Maroc).

**13h30: El Moustaine Radouane et al**, Contribution à l'évaluation de la qualité microbiologique des eaux souterraines d'une région aride du Maroc (Bleida, Zagora).

**13h40: El Yousfi Yassine et al**, Prediction and assessment of water erosion in the Nekor watershed by applying the RUSLE equation in the GIS framework and SWAT model, northeastern of Al Hoceima, Morocco.

**13h50: El Allaoui Abdelmajid et al**, Water uses and preservation measures in Morocco: what types of relationships between them? Case of El Hajeb Province.

**14h00: Elmezouari Elglaoui Rhita et al**, الإرث المائي المادي الغير المادي بمجال الحوز الشرقي وأنظمة السقي الحديث.

**14h10: Elyaagoubi Mohammed**, Problématique de l'accès à l'eau potable à Guercif : enjeux et perspectives.

**14h20: Er-rahmani Sara et al**, The effect of secondary metabolites on antimicrobial activity in water treatment.

**14h30: Gueddari Hicham et al**, Assessment of the groundwater quality with WQI (Water Quality Index) and multivariate analysis: of two different cases study of Bouareg-Greb aquifer and Kert plain (Mediterranean Zone. Nador Province, Oriental Region.

**14h40: Hafiane Fatima Zahra et al**, Evaluation of antibiotic resistance and prevalence of *Salmonella* spp. isolated from wells waters in Tadla plain-Morocco.

**14h50: Hilali Abdessamad et al**, Contribution of GIS techniques and AHP multi-criteria analysis methods for assessing the quality of agricultural soil irrigated with Wastewater from the Day River in Beni Mellal (Morocco).

**15h00: El Haou Mohamed et al**, Spatial distribution analysis of groundwater quality using GIS techniques: A case study from Meknes Area.

**15h10: Ibghi Mustapha et al**, Characterization and growth study of three toxic benthic dinoflagellates (*Ostreopsis* spp, *Coolia* spp and *Prorocentrum lima*) isolated from the southern Western Mediterranean (Gibraltar Strait, Morocco).

**15h20: Lazhar Hayat et al**, Les ressources en eau en milieu semi-aride: gestion communautaire, utilisations et Conflits.

**15h30: Maliki Abdelmonaim et al**, Contribution à l'étude d'impacts potentiels des activités minières sur les écosystèmes aquatiques souterrains dans la région de Bleida, Zagora (Est Sud du Maroc).

**15h40: Mouacha Youssef et al**, Artificial water channels in water desalination membranes, exhibiting high water permeability.

**15h50: Ouarrak Khadija et al**, Biodiversity of intestinal parasites in urban waters of the Ouislane River in central Morocco.

**16h00: Rahhou Abderrahmane et al**, The Impact of Environmental Factors on Seaweeds Distribution and Composition in Marchica Lagoon (NE Morocco).

**16h00: Sadki Mohcine et al**, Cartographie des habitats naturels d'une zone humide continentale: Le lac Dayet Er Roumi (Khémisset, Maroc).

**16h10: Alitane Abdennabi et al**, Application of the SWAT + model for water resource management on R'Dom catchment, Morocco.

**16h20: Alouiz Imad et al**, Elimination of olive mill wastewaters polyphenols through an olive pomace derived activated charcoal.

**16h30: Arifi Karim et al**, Assessment of spatial and temporal water quality variation of Grou River, Morocco

**16h40: Attar Oumaima et al**, Water-related research in the Souss-Massa basin: Gaps and potential innovative research paths toward sustainable water governance.

**16h50: El Moustaine Radouane et al**, Spatial distribution analysis of groundwater quality using GIS techniques: A case study from Meknes Area.



**17h00: Zine Mohammed et al**, Preliminary characterization and possibility of Olive Mill Wastewater's treatment and valorization: Case of Benguerir region.

**17h10: Dwiytno Dwiytno**, Emerging organic pollutants in water, sediment, and seafood in Jakarta bay, Indonesia.

**17h20: El Hammoui Youssef et al**, Evaluation of the metallic and bacteriological quality of groundwater in khenifra province (Morocco).

**17h30: Mehanned smahane et al**, Diagnosis of the water quality of the two rivers feeding the sidi chahed dam remediation by the plant vetiver grass test.

**17h40: Mizeb Khalid et al**, Assessment of Physicochemical quality of drinking and irrigation water in the region of Laâyoune Sakia El Hamra Oued Eddahab.

**17h50: Nadya Wahid et al**, Amélioration de l'efficience de l'eau au biais de système d'irrigation par l'argile autorégulé.

**18h00: Discussion**

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### Session 7 : Ecosystems

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**Moderators et rapporteurs: Pr. A. Boutsougame and Dr T. Hachi**

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**12h10: Akhal Najat et al**, L'agriculture intensive au Maroc entre le pari de l'augmentation du rendement et la préservation de la biodiversité. Exemple : périmètre irrigué de Tadla.

**12h20: Alaoui Mustapha et al**, Structural and Mining Geology of a Copper site with Epigenetic-type auriferous levels in the region of Imi Nisk in M'goun, Central High Atlas. Rural town of Abachkou, Azilal. Morocco.

**12h30: ARABI Mourad et al**, التراث الطبيعي الساحلي دعامة للتنمية المحلية بين مظاهر التنوع وعوامل التدهور.

**12h40: Azami Hassani Adil et al**, Dynamic and cartographic analysis of the *quercus rotundifolia* forest in the southwestern high slopes of Jbel Tichoukt (Middle central Atlas, Morocco).

**12h50: Belhacini Fatima et al**, La dynamique des groupements a *pistacia lentiscus* dans la forêt de Bissa - Chlef - Ouest Algerien.

**13h00: Edahbi Mohamed et al**, Geoenvironmental characterization of two rare earth elements ore deposits: the montviel carbonatites and kipawa silicates, Quebec, Canada.

**13h10: El bout Said et al**, Diachronic study of the vegetal coverage of the Inaouene watershed upstream the Idris I dam: Evaluation and Valuation.

**13h20: El Mderssa Mohamed et al**, Stability of organic matter: indicator of soil quality and carbon sequestration (Case of the forest ecosystems of the central Middle Atlas).

**13h30: Elmazi Mohamed et al**, Impacts of anthropic pressure on natural resources in the central Rif (Morocco).

**13h40: Ennaji Nadia et al**, Assesment of soil erosion rate using the EPM model: cas of Ououmana's basin, middle Atlas, Morocco.

**13h50: Handaq Nadia et al**, Système des Khetaras de Tafilalte : principe de partage des eaux, menaces et impact social.

**14h00: Laadel Nezha et al**, Caractérisation et spatialisation de la qualité physico-chimique des eaux d'un lac naturel du Moyen Atlas central: cas du site Ramsar lac Aguelmam Sidi Ali.

**14h10: Lachhab Mohamed et al**, Marine and climatic impacts on the hydrogeochemical functioning of Lake Sidi Boughaba (Kenitra, North West, Morocco).

**14h20: Moujane abdelaziz et al**, Applications de la télédétection et des SIG dans l'évaluation et le suivi de la déforestation et de la fragmentation des forêts dans la région de Zaouit Ahansal (Haut Atlas central), Maroc.

**14h30: Nahli Abdelmottalib et al**, Structure et organisation trophique du peuplement macrobenthique de l'oued Hassar après installation de la STEP de Mediouna (Casablanca, Maroc).

**14h40: Rafai Mouadh et al**, Machine learning approaches to predict soil erosion risk at Oum Er Rbia Basin (Morocco).

**14h50: Rahhou Abderrahman et al**, The potential role of sediments in nutrients cycle and eutrophication in Marchica lagoon (NE Morocco).

**15h00: Sadki Mohcine et al**, Etude de la qualité bactériologique des eaux du lac Dayet Er Roumi (Khémisset, Maroc).

**15h10: Sahel Yassir et al**, Contribution of very high resolution satellite imagery to Sbei rganat-bouchkal (Tsili) Argan forest mapping in (Moroccan central plateau).

**15h20: Sahel Yassir et al**, Contribution à une meilleure connaissance des groupements végétaux de l'arganeraie du Plateau Central Marocain.

**15h30: Achiban Hassan et al**, Évaluation de la pression pastorale et spatialisation du déficit fourrager dans le Moyen Atlas central occidental: cas du bassin versant de Tigrigra.

**15h40: Ait Haddou Mohamed et al**, L'effet de la clôture sur la biodiversité végétale et la dynamique de l'arganeraie (Ida-ou-Tanan, SW-Maroc).

**15h50: Mkik Salwa et al**, Being engaged is a good thing: understanding green and exploring the explanatory factors influencing Moroccan's consumer attitude-intention to purchase green foods products.

**16h00: Ait Yacine El-Arbi et al**, Determination and mapping of fire-risk areas in Achemeche forest – Morocco.

**16h10: El Fakir Rabia et al**, Contribution of GIS for the piezometric monitoring of the unconfined water-table aquifer of the Fez-Meknes basin.

**16h20: Boumalkha Oumayma et al**, Water quality cartography of the upstream part of the Oum Er Rabia hydraulic basin (Morocco).

**16h30: Boukhriss Houssam-eddine et al**, Evaluation des besoins en froid de l'olivier au Maroc.

**16h40: Goumih Mimoune et al**, Le fonctionnement hydrologique du bassin versant de l'Oued Assif Melloul (Partie median): Mésures des debits et création d'une courbe de tarrage pour l'année 2019.Haut Atlas central (Maroc).

**16h50: Ismaili Alaoui Hassna et al**, Assessment and valuation of ecosystem services at a watershed level- the case of Beht in the middle Atlas of Morocco.

**17h00: Khaldi Najat et al**, Sources de pressions environnementales au Maroc: Essai d'exploration théorique.

**17h10: Discussion**

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## Session 8 : Climate change

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**Moderators et rapporteurs: Pr. R. Benkadour and Pr. A. Aboukacem**

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**09h00: Baiddah Abdeslam et al**, L'Apport du SIG et de la télédétection dans l'étude de l'impact des changements climatiques sur l'érosion hydrique: Cas du bassin versant de Chichaoua (Haut Atlas occidental, Maroc).

**09h10: Bensmail Abderrahim et al**, Changement climatique, stress hydrique et adaptation: Cas de la valorisation des eaux usées épurées dans le périmètre irrigué de Sidi El Aidi.

**09h20: Brouziyne Youssef et al**, Assessing freshwater ecosystem vulnerability to climate change: environmental flow-based modeling approach.

**09h30: Dahman Anas et al**, Spatio-temporal characterization and analysis of the temperature trend in Morocco [1960-2018].

**09h40: El Omari Hajar et al**, Study of the impact of climatic factors on the distribution of water-borne diseases: the case of viral hepatitis.

**09h50: El Yadari Sadik et al**, The climate drought in the watershed of Inaouene (Morocco) and links between the North Atlantic oscillation.

**10h00: El-Khantoury Ismail et al**, Impact des sécheresses météorologiques sur les ressources en eau dans le Nord du Maroc: Cas du bassin versant de l'oued Martil.

**10h10: Hammoudy Wahib et al**, Impact of climate change on extreme events in the North-East region of Morocco.

**10h20: Jdi Hamza et al**, Weather Forecast using Machine Learning and Distributed Learning based on Apache Spark.

**10h30: Zerkani Saida et al**, The impact of climate change on vegetation and the ecological quality of water course in the Guigou basin -Morocco.

**10h40: Akhal Najat et al**, Impacts des changements climatiques sur les ressources en eaux souterraines au perimetre irrigue de Tadla, Maroc.

**10h50: Khaffou Mhamed et al**. Impacts des changements climatiques et des activités anthropiques sur les ressources en eaux: le cas d'Aguelmam Abekhan. Khenifra – Maroc.

**11h00: Discussion**