



Association Tunisienne pour l'Information
Scientifique, ATIS, Tunisie

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13th

MAGHREB-EUROPE DAYS
Innovative Sensor devices for Health,
Environment and Agriculture Monitoring



"Sensors as part of the one health concept"



MADICA 2024

Special Edition in Memory of
Pr. Hafedh BEN OUADA

November 2024, Skanes Serail Hotel ★★ ★ Monastir - TUNISIA

November 12 & 13, 2024: Thematic School on Acoustic Sensors
Supervised by Pr. Corinne DEJOURS, Univ. Bordeaux, FRANCE

November 14, 15 & 16, 2024: MADICA 2024 Conferences

Thematics:

- Sensors and Health
Chairperson: Pr. Ali OTHMANE, Univ. Monastir, TUNISIA
- Sensors and Environment
Chairperson: Pr. Nicole RENAULT JAFFRESIC, Univ. Lyon, FRANCE
- Sensors and Agriculture
Chairperson: Pr. Amine AZIZ, Univ. Casablanca, MAROC



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November 14th, 2024

November 14th, 2024

Room A

Plenary sessions A1; Chairman: Pr. Ali Othman

Time	Speaker / Institution	Conference title
9:30	Pr. Latifa Fakri-Bouchet / University Claude Bernard Lyon 1, France	Innovations in Breast Cancer Imaging: The Contribution of Microwaves and Artificial Intelligence
10:00	Pr. Olfa Kanoun / University of Technology, Chemnitz, Germany	Potential of flexible polymer-carbon-nanomaterials composites enhanced sensors for the next generation sensing technologies

10:30	Coffee Break	
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Plenary sessions A2; Chairman: Pr. Nicole Jaffrézic

Time	Speaker / Institution	Conference title
11:00	Pr. Salmon Laurent / University Paris-saclay, France	Carbohydrate-based electrochemical biosensors for detection of a cancer biomarker in human plasma

Oral communications **Room A; Chairman: Pr. Nicole Jaffrézic**

Time	Ref	Speaker	Communication Title
11:30	Heal-O19	Mansour Wejdene	One health: A paradigm shift to better understand health problems. The case of infectious diseases caused by bacteria multi-resistant to antibiotics
11:45	Heal-O1	Bouricha Brahim	Real-time selectivity by zinc oxide nanoparticle pellets, based on the virtual electronic nose concept, of various VOCs, holds promise for identifying potential biomarkers of VOCs in human breath.
12:00	Heal-O3	Hafsa Korri-Youssoufi	Nanofibers Based on Biopolymers and Conducting polymers for Cancer Detection
12:15	Heal-O4	Helene Sauriat-Dorizon	Reduced graphene oxide combined with derived tetraphenylporphyrin nanomaterial as platform for electrochemical DNA sensors application

12:30	Lunch
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Plenary sessions A3; Chairman: Pr. Hafsa Korri Youssoufi

Time	Speaker / Institution	Conference title
14:00	Pr. Aziz Amine / University Hassan II of Casablanca, Morocco	Recent Advances in Biosensors based on Nanozymes

Oral communications **Room A; Chairman: Pr. Hafsa Korri Youssoufi**

Time	Ref	Speaker	Communication Title
14:30	Heal-O5	Belhadj Mbarek Mkacher Najoua	Microwave-assisted green synthesis of silver nanoparticles using tunisan plant extracts leaves and application
14:45	Agr-O1	Dieguez Angel	A novel low-cost and practical solution for wine quality assessment
15:00	Heal-O6	Zekriti Mohssin	Investigating the role of Surface Plasmon Resonance Sensor in Breast Cancer Early Detection : A Comprehensive Analysis
15:15	Heal-O7	Mohammadi Hasna	Advancements in DNA Biosensors for Monitoring within the Framework of the One Health Concept
15:30	Heal-O8	Ben Halima Hamdi	A Conductometric Sensor Based on Electropolymerized Pyrrole-Tailed Ionic Liquids for Acetone Detection
15:45	Heal-O9	Moumen Youssra	Green Synthesis of Zif-8 Combined with Ruthenium Nanoparticules for Enhanced Electrochemical detection of Dopamine.

16:00	Coffee Break
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Oral communications **Room A**; Chairman: Pr. Laurent Salmon

16:30	Heal-O10	Guo Jia	Electrochemical Biosensors Based on Fructose-6-Phosphate for the Quantification of AMF in Human Fluids
16:45	Heal-O11	Ben Abdelkader Makrem	Modeling of an innovative surface acoustic wave (SAW) sensor for non-invasive detection of liver diseases through breath analysis.
17:00	Heal-O12	War Makhtar	Diagnosis of canine cutaneous leishmaniasis based on electronic nose technology combined with pattern recognition method

November 14th, 2024

Room B

Plenary sessions B1; Chairman: Pr. Latifa Fakri-Bouchet

Time	Speaker / Institution	Conference title
14:00	Pr. Baouab Mohamed Hassen V / University of Monastir, Tunisia	Dispersion of Magnetite Nanoparticles in a Biopolymer Matrix: Catalytic and Microbiological Application
14:30	Pr. Boris Lakard / University of Franche-Comté Besançon, France	Chemical Sensors based on Conducting Polymers

Oral communications Room B; Chairman: Pr. Latifa Fakri-Bouchet

Time	Speaker	Communication Title
15:00	Hlali Slah	Investigating Temperature and Bias Voltage Effects on Electrical and Dielectric Properties in New MIS Nanotechnology Structures
15:15	Youbi Asma	Study of the inhibitory effect of an expired drug against corrosion of mild steel in 1M H ₂ SO ₄ by the weight loss method
15:30	Manel Lopez	Nanostructured ITO Growth for Biosensor Fabrication: Pros and Cons
15:45	Ibrahim Mayssa	Synthesis of Ag ₂ S nanoparticles and their use for fluorescence imaging in living cells

	16:00	Coffee Break
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Oral communications **Room B**; Chairman: Pr. Cherif Dridi

Time	Ref	Speaker	Communication Title
16:30	Mat-05	Abiedh Khouloud	Growth, Structural and Optical Characterization of Mixed Halide (I/Br) Perovskite Microcrystals
16:45	Mat-06	Aissat Abdelkader	Modeling and optimizing the structure of poly-silicon optical sensor with incorporation the quantum dots
17:00	Agr-O2	Mounir Majid	Integrated strategy using synbiotics in crop biocontrol and postharvest biopreservation of citrus

November 15th, 2024

November 15th, 2024

Room A

Plenary sessions A4: Chairman: Pr. Aziz Amine

Time	Speaker / Institution	Conference title
08:30	Pr. Najla Fourati / CNAM Paris, France	Biosensors for prostate cancer biomarkers detection: Recent advances and challenges
09:00	Pr. Maxence Rube / University of Guyane, France	Acoustic wave sensors in liquids : A new paradigm in their use
09:30	Pr. Khalil Ahmed Saad / Fayoum University, Egypt	The Role of Multiphase MoS ₂ Nanosheets within PES Membranes in Oily Wastewater Treatment

10:00	Coffee Break
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Oral communications Room A; Chairman: Pr. Boris Lakard

Time	Ref	Speaker	Communication Title
10:30	Heal-O13	Chelly Meryam	Smartphone-operated dual colorimetric and fluorescent platform based on microalgae's phycocyanin for the detection of biomolecules

10:45	Heal-O2	Piro Benoît	An Electrolyte-Gated Transistor combined with CRISPR/Cas13a for RNA detection
11:00	Env-O2	Abderrahmane Sihem	Comparative Study between Two Green Inhibitors on the Corrosion of 5086 Aluminum in 1M HCl
11:15	Env-O3	Derbali Maram	Fe _{0,05} Bi _{0,95} VO ₄ /CNS as a new efficient Paracetamol electrochemical Sensor.
11:30	Env-O4	Zazoua Ali	Biosourced materials for the design of environmental sensors
11:45	Env-O5	Souissi Riadh	Chemical VOCs sensing of sol-gel ZnO and linear discriminant analysis for instantaneous selectivity
12:00	Heal-O20	Galai Said	New spectrophotometric and electrochemical enzyme biosystem based on laccase and ionic liquid for the detection of intracellular Glyphosate in different biological samples

Oral communications **Room B**; Chairman: Pr. Najla Fourati

Time	Ref	Speaker	Communication Title
10:30	Mat-07	Achour Khedhiri Arwa	Synthesis and Characterization of hybrid Membranes Based on Biochitosan and Perovskites.
10:45	Mat-08	Chiba Ilhem	Thermal Sensing Characteristics of Neodymium-Substituted Bismuth Ferrite Nanoparticles for Thermistor Applications
11:00	Mat-09	Haj Ammar Wiem	Innovative Chemiresistive Sensor Networks: Selective Detection of Acetone, Ethanol, and Water Using Machine Learning
11:15	Mat-010	Ali Emna	Simultaneous detection of Cd ²⁺ and Pb ²⁺ by an electrochemical sensor based on PANI@TiO ₂ @CNT nanocomposites
11:30	Mat-011	Toumia Hiba	Synthesis and Characterization of a Novel Trinuclear Copper MOF for Micro-Supercapacitor Applications
11:45	Mat-012	Menini Philippe	SUB-PPM NO ₂ GAS SENSOR BASED ON OPTIMIZED ZNO :GA THIN FILM

12:30	Lunch
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Room A

Plenary sessions A5; Chairman: Pr. Maxence Rube

Time	Speaker / Institution	Conference title
14:00	Pr. Chouki Zerrouki / CNAM Paris, france	Sensors & biosensors multi-transductions: redundancy or complementarity?
14:30	Dr. Aymen Mahjoub / Thales Research & Technology, France	Technologie Électrocalorique : Fondamentaux, Avancées et Perspectives

Oral communications Room A; Chairman: Pr. Maxence Rube

Time	Ref	Speaker	Communication Title
15:00	Env-O7	Sellaoui Lotfi	Adsorption of perfluorobutanoic and perfluorooctanoic acids on chitosan: Modelling and interpretation of the adsorption mechanism
15:15	Env-O8	Brahim Hafedh	Exploring CsPbBr ₃ as a Novel Electrochemical Sensor for Environmental Pollutant Detection: A First-of-Its-Kind Study
15:30	Env-O9	Ajrour Mohamed	MSA capped CdTe quantum dots as highly selective fluorescence chemsensors for mercury(II) ions detection
15:45	Env-O10	Vautrin-UI Christine	IMPROVING OF THE MOLECULARLY IMPRINTED POLYMERS PROPERTIES FOR APPLICATIONS IN ELECTROCHEMICAL SENSORS
16:00	Mat-015	Hadj Lajimi Ramzi	Green synthesis of silver nanoparticles prepared using aqueous root extract of <i>Salvadora persica</i> L. growing wild in the region of Najran in Saudi Arabia: Synthesis optimization, characterization and antibacterial activities

16:00	Coffee Break
16:00	Posters session

November 16th, 2024

November 16th, 2024

Room A

Plenary sessions A6; Chairman: Pr. Chouki Zerrouki

Time	Speaker / Institution	Conference title
08:30	Pr. Giovanni Neri / University of Messina, Italy	New directions in semiconductor materials for gas sensing
09:00	Pr. Slaheddine Khlifi /University of Jendouba, Tunisia	Apports de la science du citoyen et des capteurs dans le monitoring des hydrosystèmes : cas de la Medjerda (Nord de la Tunisie)

Oral communications Room A; Chairman: Pr. Chouki Zerrouki

Time	Ref	Speaker	Communication Title
09:30	Env-O11	Ait Nouh Fatima	Assessment of the alpha volumetric activities of ²³⁸ U and ²³² Th in drinking water using the DSTN method and the ICP-MS technique from wells in the industrial region of Safi, Morocco
09:45	Env-O12	Bhiri Fatma	Synthesis and Sensing Performance of Three Chromogenic and Fluorogenic Schiff Bases: A Smartphone-Assisted Fluorometric Assay for Selective Metal Ion Detection in Drinking Water

10:00	Coffee Break
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Oral communications Room A; Chairman: Pr. Rafik Kalfat

10:30	Heal-O14	Bouزيد Mohamed	Understanding binary racemic adsorption of sucrose and caffeine on the β -CDMe surface using the statistical physics modeling and molecular docking.
10:45	Heal-O15	Rabti Amal	Redox-Capacitance Detection of Kanamycin and Aflatoxin B1 using Polyaniline: A Novel Biosensing Approach
11:00	Heal-O16	Echabaane Mosaab	Development of a non-enzymatic glucose Sensor based on biogenic synthesis of CuO NPs
11:15	Heal-O17	Belkhiria Fatma	Electrochemical Detection of Dopamine Using a Nanocomposite Based on Gold Nanoparticles Decorated on Dopamine-Functionalized Graphene
11:30	Heal-O18	Besbes Fatma	Development of an electrochemical aptasensor based on Polypyrrole-Chitosan Nanospheres for the detection of aflatoxin M1
11:45			

12:00	Dissertation and closing session
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12:30	Lunch
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