



Scientific Days on Electrical Engineering and Nanotechnology in Biomedical, Agriculture and Environmental Sciences

*On the 9th and 10th December 2024,
Constantine, Algérie*

Program of the Scientific Days

Organized by

Faculty of Technology Sciences

Electronics Department

Laboratory of Microsystems and Instrumentation

Aims and Scope:

Development and innovation in Electrical Engineering and Nanotechnology has opened new frontiers in Biomedical, Agricultural, and Environmental Sciences. The aims of these Scientific Days is to give an opportunity to our researchers, PhD Students and all participants to discuss about the innovative solutions in these critical domains. Furthermore, the interaction between researchers in different fields allows as enhancing our experience and improving the scientific quality skills.

During these two days, the participants' contribution will explore some topics in many fields such as:

- ✓ Materials and Nanomaterials
- ✓ Electrical power systems: Plasma, Electrostatics, High Voltage...
- ✓ Sensors and Biosensors
- ✓ Optoelectronics and Photonics
- ✓ Intelligent Devices and Systems

The conference seeks to foster interdisciplinary collaborations, promote the translation of academic research into practical applications, and envision future advancements in sustainable technologies.

Program

1st Day 09 December 2024

08h30	Welcoming of the Participants and Registration
09h00-9h30	<p>Inauguration</p> <p>Word of Pr. Abderraouf Messai, Honorary president</p> <p>Word of Pr. Salah Sahli, Director of LMI laboratory</p> <p>Word of Pr. Mouloud Kihel, General chair</p>
9h30-10h30	<p>Plenary Session 1 :</p> <p>Pr. Salah Sahli</p>
10h30-11h00	Coffee Break
11h00-13h00	<p>Oral Session 1</p> <p>Electrical Power Systems: Plasma, Electrostatics, High Voltage... Salah Sahli, Boubakeur Essedik Belkerk, Zehira Ziari</p>
	<p>Insight on the Implementation of Plasma Jet in Liquids Treatment: Inactivation of Microorganisms in Water Housseem Eddine Bousba, Mouna Saoudi, Lyes Benterrouche, Salah Sahli, Wail Seif Eddine Namous</p>
	<p>Optimization of a Plasma Jet for Biomedical use Through the Surface Treatment of a Polymer Heithem Sahli, Mouloud Kihel, Lyes Benterrouche, Housseem Eddine Bousba, Wail Siffeddine Namous</p>
	<p>Cooperative Improvement of Plasma Jets Characteristics in a Three Jets Plasma device for Homogeneous Surface Treatment Wail Seif Eddine Namous, Salah Sahli, Lyes Benterrouche, Housseem Eddine Bousba</p>
	<p>Application of Plasma-Activated Water in Maize Seed Irrigation: Impact on Germination and Plant Growth Aya Malak Benmounah, Salah Sahli, Lyes Benterrouche, Housseem Eddine Bousba, Wail Seiff Eddine Namous</p>
	<p>Numerical Analysis of Electric Field in Atmospheric Pressure Cold Plasma Jets Amira Boudjadar, Fouzi Bouanaka, Saida Rebiai, Zehira Ziari</p>
	<p>Investigation of Electrostatic Charge Dynamics on the Surface of a Polymeric Material Meriem Bouaziz, Zehira Ziari, Salah Sahli</p>
13h00-14h00	Lunch Break

14h00- 16h00	Oral Session 2 Sensors and Biosensors Hobar Farida, Azzeddine Bellel, Azzeddine Telia
	Low-frequency PECVD Deposited TiO₂ Thin Films on Quartz Crystal Microbalance for Sensing Volatile Organic Compounds Leila Grine, Khaled Dallah, Azzeddine Bellel, Salah Sahli
	Nanostructured Polymer Film of Hexamethylsiloxane Coated Microscale Interdigital Capacitor for Gas Phase Sensor Applications Khaled Dallah, Azzeddine Bellel, Salah Sahli, Patrice Raynaud
	Sensing Properties of SnO₂ Films: Effect of Mg Doping Levels Bouteina Bendahmane, Milena Tomić, Nour El Houda Toudjén, Isabel Gràcia, Stella Vallejos, and Farida Mansour
	Capteur SPR Multicouche Basé sur une Nano-Couche Métallique Hétérogène Bouchra Aliche, Abdelali Saouli
	Oral Session 3 Intelligent Devices and Systems Noura Mansouri, Abdellah Benhalouda, Abdelali Saouli
	Upper Limb Rehabilitation Robot in Stroke Therapy Impedance Control Design Mawloud Aichaoui, Ameer Ikhlef
	Advances in Deep Learning for Medical Image Classification Rayene Chelghoum, Ameer Ikhlef

2nd Day 10 December 2024

08h30	Welcoming of the participants and registration
9h00-10h00	Plenary Session 2 : Ahlem Belmerkhi + Mohamed Redha Labbal
10h00-11h00	Oral Session 4 Optoelectronics and Photonics Mohamed Bouchemat, Ahlem Benmerkhi, Mohamed Redha Lebbal, Esma Benchiheb
	Design of Photonic Crystal Temperature Sensor Based on Hexagonal Photonic Crystal Resonator Younes Boukebeche, Ahlem Benmerkhi, Merzoug Ammari, Mohamed Bouchemat
	Exploratory Study on the Use of Photonic Crystal Fiber for Early Diagnosis of Malignant Cells Alima Abdedaim, Mohamed Ras Lain, Chouaib Chettah, Rayene Gourmat
	Innovative 1D Photonic Crystal Sensor for Enhanced Hemoglobin Detection in Blood Samples Rayene Gourmat, Mohamed Ras Lain, Chouaib Chettah, Alima Abdedaim
	Simulation de l'Intégration de Systèmes Photovoltaïques dans un Réseau Électrique Intelligent Yasmine Boucherit, Nedjouda Bennechib
11h00-11h30	Coffee Break
11h30-12h30	Oral Session 5 Materials and Nanomaterials Telia Azzeddine, Mohamed Ras Lain, Ammari Merzoug
	Design and Development of an Electrospinning System for Nanofiber Production Norhane Nasri, Mouloud Kihel, Redha Soudous, Houssein Eddine Bousba
	Structural Properties of Superconducting Ceramics Bi-2212 Doped Fatima Harma, Karima Belakroum
12h30-13h30	Lunch Break
13h30-16h00	Workshop: Introduction à l'Internet des Objets (IoT, Internet of Things) Benhamouda Abdellah, Smail Mouisset
	Delivery of the Participation Certificates and Closure Ceremony