



نقابة المهندسين الأردنيين  
Jordan Engineers Association

شعبة الهندسة الميكانيكية  
Mechanical Engineering Division



The 10<sup>th</sup> Jordanian International  
Mechanical Engineering Conference  
(JIMEC 10)

# CONFERENCE PROGRAM أجندة المؤتمر

The 10<sup>th</sup> Jordanian International  
Mechanical Engineering Conference  
(JIMEC 10)

**October 8-9, 2024**  
Le Royal Hotel, Amman - Jordan

# Day 1

## Tuesday, Oct 8th 2024

### Time

08:30-10:00

Registration

10:00-11:00

OPENING CEREMONY حفل الافتتاح  
 السلام الملكي  
 القران الكريم  
 عريف الحفل-م. حسين الصرايرة  
 كلمة رئيس اللجنة التحضيرية للمؤتمر  
 ورئيس مجلس شعبة الهندسة الميكانيكية د. ابراهيم العدوان  
 كلمة نقيب المهندسين الأردنيين-م. أحمد سمارة الزعبي  
 كلمة راعي الحفل، مندوب دولة رئيس الوزراء  
 وزير الاقتصاد الرقمي والريادة-معالي م. سامي سميرات  
 تكريم الداعمين وراعي الحفل

11:00-11:30

COFFEE BREAK

11:30-12:30

Hall A  
 Session 1  
 Keynote Address 1  
**The Future of Unmanned Aerial Vehicles**  
 Prof. Mohammad Amin Al Jarrah  
 Professor of Aeronautics, Mechanical Engineering  
 General Manager, MARSRobotics  
 Session Chair: Prof. Mohamed Gaith

12:30-13:45

Hall A  
 Session 2  
 Session Chair: Prof. Naser S. Al-Hunuti

Hall B  
 Session 3  
 Session Chair: Dr. Hasan AL Dabbas

12:30-12:45

**Low-Cost Fused Deposition Modeling (FDM) of Metallic Alloy**  
 Loay Al Iawati , Abdelkrem Eltaggaz , Ibrahim Deiab , and Akrum Abdul-latif

**Enhancing the Efficiency of Industrial Boilers and Burners Using Deep Learning Techniques**  
 Anwar AL zadjali , Varghese M J , Santosh Walke

12:45-13:00

**Investigation of Flexural Properties of Hybrid Copper-Aluminum Honeycomb Structure**  
 Omar Al Osman , Maen Alkhader and Wael Abuzaid- online

**Financial Innovations and Their Impact on Modern Supply Chain Operations**  
 Bader AlTamimi, Nader AlTamimi and Mohammad Abdallah

13:00-13:15

**Design a Smart Thoracolumbosacral Orthosis Device**  
 Ali Saleh Shelbayeh, Abdallah Afaneh, Raghed Abdallah, Osama Obeid, Musa Al-Yaman, Bashar Al-Qaroot

**Performance assessment of photovoltaic thermal system: An overview**  
 Dhuha A. Shalash, N.A. Madlool-online

13:15-13:30

**Feasibility Study of Using Produced Water from Oil and Gas Operations for Green Hydrogen Production**  
 Anwar Al Abdali, Sara Al Ghafri, Sara Al Jassasi, Santosh Walke

**Intelligent Control Strategies for Permanent Magnet Synchronous Machines in Robotics and Automation**  
 Kasim Mousa Al-Aubidy, Abdullah F. Al-Saoudi, and Izzijyah M. Alsudri

13:30-13:45

Discussion

Discussion

# Day 1

## Tuesday, Oct 8th 2024

**Time**

13:45-14:15

**COFFEE BREAK**

14:15-15:30	<p>Hall A Session 4 Session Chair: Prof. Moh'd Sami Ashhab</p>	<p>Hall B Session 5 Session Chair: Prof. Omar Othman Badran</p>
14:15-14:30	<p><b>Smart light controller system</b> Khalifa Wasfi Alzoubi</p>	<p><b>Industrial Energy Efficiency and Sustainability Using Phase Change Material</b> Seyed Mojtaba Sadrameli Anahita Pirvaram, Leila Abdolmaleki</p>
14:30-14:45	<p><b>Translator from Arabic/English languages to Braille Using Solenoid Motors and Arduino Microcontroller</b> Ramzi Saifan , Hadeel Saleh Heba Tawfeq , Musa AlYaman</p>	<p><b>Mechanical Properties of PLA-CF Composites via FDM: Characterization and Optimization</b> Shafahat Ali, Ibrahim Deiab, Akrum Abdul-Latif</p>
14:45-15:00	<p><b>AI in Supply Chain Risk Management: Identifying, Assessing, and Mitigating Risks</b> Nader AlTamimi, Bader AlTamimi, Mohammad Abdallah and Mahmoud Allahham</p>	<p><b>Digital Excellence in Supply Chain: Utilizing Lean Six Sigma for Integrated and Automated Solutions</b> Souraj Salah-online</p>
15:00-15:15	<p><b>Innovative Cooling System of Raspberry Pi using Ultrasonic Resonant Device</b> Mohammad Mustafa, Abdulsalam Ghodayah and Mahmoud Irshidat</p>	<p><b>Modelling and Simulation of Bio-Hydrogen Production in a Sewage Treatment Plant: A Case Study in Oman</b> Hind Barghash ,Ahmed Al Aamri, Zuhoor Al Rashdi , Seyed Mojtaba Sadrameli , Kenneth E. Okedu-online</p>
15:15-15:30	<p>Discussion</p>	<p>Discussion</p>
15:30-16:30	<p>Hall A Session 6 Keynote Address 2-Online <b>Robotics in Medicines: From infancy to autonomous robots</b> Prof Dhiya Al-Jumeily OBE .Liverpool John Moores University, UK Session Chair: Prof. Kasim Mousa Al-Aubidy</p>	

16:30

Lunch

**End of Day 1**

# Day 2

## Wednesday, Oct 9th 2024

**Time**

09:30-10:00

Registration

10:00-11:00

Hall A  
 Session 7  
 Keynote Address 3  
**Additive Manufacturing: Navigating Challenges and Seizing Opportunities**  
 Prof. Ibrahim Deiab  
 Professor and Director of Advanced Manufacturing Lab  
 University of Guelph, Canada  
 Session Chair: Prof. Yousef Zurigat

11:00-11:30

**COFFEE BREAK**

11:30-12:45

Hall A  
 Session 8  
 Session Chair: Dr. Mohammad Sleman Khrisat

Hall B  
 Session 9  
 Session Chair: Dr. Hasan AL Dabbas

11:30-11:45

**Studying the Improvement of Production and Blending Processes at Jopetrol Lubricants Plant Using Lean Six Sigma Methodology**  
 Hisham Alghwiri, Mohammad Al-Tahat

**Experimental Investigation of the Performance of Bifacial Solar Panels Under Jordanian Climate Conditions**  
 Rasheed Abu-Radwan, Ahmed Al-Salaymeh, Mahmoud Irshadat, Khadeejah Afaneh, Randa Abu-Lail

11:45-12:00

**Effects of Adding Nanofillers on the Tensile Properties of Epoxy and Hybrid Composites**  
 Ali Alrufaie and Ali Alithari-online

**Design a Smart Thoracolumbosacral Orthosis Device**  
 Musa AlYaman

12:00-12:15

**Comparative Analysis: Determining the Best Fitted PV Technology and PV Cleaning Frequency - A Case Study in German University of Technology, Oman**  
 Aliya Al Zadjali, Taghreed Al Haddabi, Zuhoor Al Rashdi, Ahmed Al Aamri, Ali Al Humairi, Peter Jung, Hayat El Asri-online

**The Impact of Energy Subsidies on Renewable Energy Competitiveness**  
 Aseel Al Omari and Mahmoud Irshadat

12:15-12:30

**AI, IOT, Smart Homes & Smart City Using AI and IOT Tenegy Audit and Saving**  
 Ammar Naber

**Comparison of third order Euler's method with fourth order Runge-Kutta method for solving engineering problems**  
 Ahmad Mahmoud Almazaydeh

12:30-12:45

Discussion

Discussion

12:45-13:15

**COFFEE BREAK**

13:15-14:30

Hall A  
 Session 10  
 Session Chair: Prof. Omar Othman Badran

Hall B  
 Session 11  
 Session Chair: Prof. Mohamed Gaith

# Day 2

## Wednesday, Oct 9th 2024

Time		
13:15-13:30	<b>Design and Modeling of Mechanical Systems for Hayat Mall in Hebron</b> Anas Ali Juneidi, Mahmoud Odah Adel Masharqa	<b>Pre-design of a Hydroelectric Energy Storage System (HESS) at Wadi Mujib Dam, Jordan</b> Mahmoud Irshidat , Ahmad Jararweh
13:30-13:45	<b>Process Design of Sulphur Recovery from Hydrogen Sulphide (H2S) through Claus Process</b> Ribham Al Suli, Hiba Al Shekaili, Bayan Al Yousufi, Arwa Al Alawi, Santosh Walke	<b>Experimental Study of Enhancement the Piezoelectric Energy Harvesting from Raindrop Impact by Employing Bioinspired Membrane</b> Muhammad Awaluddin Harahap, Muhammad A. Hawwa
13:45-14:00	<b>Prediction of Stratified Flow Temperature Profiles in a Fully Insulated Environment</b> Ahmad Awad, Omar Badran, AbedAlrzaq Alshqirate	<b>The influence of Adding Nanomaterials on Impact Strength of Epoxy Reinforced by E-Glass Chopped Fibers</b> Ali Alrufaie and Ali Alithari -online
14:00-14:15	<b>Early Detection of Wildfire Using Convolutional Neural Network (CNN)</b> Dalal Zreiqat	<b>Optimizing Pediatric Dental Clinic Operations: A Simulation-Based Analysis</b> Nagham Kheder, Roaa Kamal, Aliaa M. Abou-Ali, Dr. Belal M.Y. Gharaibeh-online
14:15-14:30	Discussion	Discussion
14:30 -15:45	Hall A Session 12 Session Chair: Prof. Naser S. Al-Hunuti	Hall B Session 13 Session Chair: Prof. Moh'd Sami Ashhab
14:30-14:45	<b>GNSS/INS Navigation Solution for Autonomous Systems</b> Mohammed Bani Ateyeh , Bashar Zaid Alkilani , Odaï Bani Hani	<b>Design and Control 2-Axis gimbal for UAV Applications</b> Omar A. Ramadan
14:45-15:00	<b>Water Efficiency in Food Manufacturing</b> Mohammad Faris	<b>Autopilot Triple Modular Redundancy Approach for Unmanned Aerial Vehicles</b> Mohammad Kdaizat
15:00-15:15	<b>Ensuring Sustainable Heritage, Environment, and Development: The Petra Strategic Master Plan</b> Mohammad AlFarajat Dania AlEsawi-online	<b>Numerical Analysis of the effect of Upstream Obstacles on Aerodynamic Performance of NACA 65-421 Airfoil Using k-epsilon Model</b> Omar Badran Zeeshan Azad Muhammad Virk Saad Ragab, Ismail Masalha
15:15-15:30	<b>Design and development of an Electronic Engine Control Unit for Internal Combustion Engine</b> Ali Muheidat , Dema Abu-Alfoul , Obada Almasri , and Hashem Aloqla	<b>Effect of Uniaxial Strain on Frequency Bandgaps of Lightweight Lattice Materials</b> Mohamed Shendy, Maen Alkhader, Bassam Abu-Nabah and T.A. Venkatesh-online
15:30-15:45	Discussion	Discussion
15:45- 16:30	Lunch	

End of Day 2

## امسح الكودات أدناه

أجندة المؤتمر



استبانة المؤتمر



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