

# Event Program

International conference of Sustainability  
Systems Development

# ICSSD



Academic & Research Services Sdn. Bhd. – Malaysia  
Registration Number: 202301026855 (1520778-W)



## DAY 1 (15 July 2024)

<b>08:00 – 09:00</b>	<b>Registration</b>
<b>09:00 – 10:15</b>	<b>Opening Ceremony [Zaytouna Hall]</b>
	Welcoming address by the ICSSD 2024 Chair
	Opening Ceremony by patronage Prof. Dr. Hyder + Prof. Dr. Adris
	Keynote speech by Prof. Dr. Abdullateef Ahmed Jadallah Moderator: Prof. Miqdam T. Chaichan
	Group photo session

**COFFEE BREAK**  
**10:15 - 10:30**

**Session A / Dwin meeting room**

**Session Chair: Prof. Dr. Zena K. Kadhim**

10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45
<p><b><u>ICSSD-215</u></b> <i>Mustafa A.S. Mustafa</i></p> <p>Optimization Of Multi-Material Drone Propeller Using Computational Fluid Dynamics</p>	<p><b><u>ICSSD-201</u></b> <i>Mohammed Khalid Jar AL-ISAWI</i></p> <p>CFD Study for Different Pitch Ratio of Integral finned Tube to Improvement Heat Transfer Rate in A Cross-Flow Heat Exchanger</p>	<p><b><u>ICSSD-211</u></b> <i>Amina Hmoud Alikhan</i></p> <p>CUO Brownian Motion Effect On Heat Exchanger Performance: An Experimental Study</p>	<p><b><u>ICSSD-217</u></b> <i>Diana Abd Alkareem Noori Kattab</i></p> <p>Effect Of Powder Mixed Electric Discharge Machining On Performance Of Edm - A Review</p>	<p><b><u>ICSSD-219</u></b> <i>Malik Adnan Faisal</i></p> <p>Investigating the use of Phase-change Materials To Enhance the Solar collector Mechanism</p>
11:45-12:00	12:00-12:15	12:15-12:30	12:30-12:45	12:45-13:00
<p><b><u>ICSSD-268</u></b> <i>Miqdam T Chaichan</i></p> <p>Analyzing Nanoparticle size Distribution in Compression ignition Engines Powered By Rapeseed Methyl Ester Fuel</p>	<p><b><u>ICSSD-276</u></b> <i>Hussain H. Al-Kayiem</i></p> <p>An Assessment of Photovoltaic Array Cooling by Water Spray in Smart Standalone Multifunction Hybrid Energy System</p>	<p><b><u>ICSSD-274</u></b> <i>Miqdam T Chaichan</i></p> <p>Combustion, Performance, and Emission Properties of Ternary Blend of Biodiesel, Butanol and Diesel</p>	<p><b><u>ICSSD-238</u></b> <i>Ameer Resen Kalash</i></p> <p>Enhancing Solar Thermal Systems Efficiency: Investigating Longitudinally Finned and Smooth Tube Performance</p>	<p><b><u>ICSSD-242</u></b> <i>Zainab Mahdi Saleh</i></p> <p>Improved performance of double pipe heat exchanger using different configurations inserted in inner tube: A review</p>

**Session B / Mardin meeting room**

**Session Chair: Prof. Dr. Kifah H. Hilal**

10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45
<p><b><u>ICSSD-253</u></b> <i>Ismail I. Marhoon</i></p> <p>Numerical Investigation by MD simulation model of Fe<sub>20</sub>Ni<sub>80</sub> super Alloy Solidification Phase Transformation and Recrystallization behavior</p>	<p><b><u>ICSSD-243</u></b> <i>Khudir Z. Zarrag</i></p> <p>Numerically and Experimentally Enhancement of Pool Boiling heat transfer by Hybrid Nanomaterials using Micro Fins</p>	<p><b><u>ICSSD-225</u></b> <i>Ouf A. Shams</i></p> <p>Investigation of Source Power intensity and Welding speed on Joint Deformation, Microstructure, and Corrosion Resistance</p>	<p><b><u>ICSSD-228</u></b> <i>Ali M. Tukkee</i></p> <p>Thermodynamic Power Cycle for the Solar Vortex Engine</p>	<p><b><u>ICSSD-221</u></b> <i>Mohammed Mahdi Alkhafaji</i></p> <p>Numerical and Experimental Investigation of CP copper TO 304 Stainless steel SMAW joints Heat Distribution, Microstructures, and Mechanical Properties with Different Welding Electrodes</p>
11:45-12:00	10:30-10:45	12:15-12:30	12:30-12:45	12:45-13:00
<p><b><u>ICSSD-214</u></b> <i>Nazar Yasir Jasim</i></p> <p>Effect of Hydraulic Compressor Rotational Speed and Fluid Type on Hydraulic System of Cylinder Force</p>	<p><b><u>ICSSD-224</u></b> <i>Hayder A. Alnaielia</i></p> <p>An Approach for the Design Methodology and Performance Assessment of a Sunflower Solar System</p>	<p><b><u>ICSSD-226</u></b> <i>Asrra Y. Al-Goody</i></p> <p>Investigation of Physical and Mechanical Properties of Gypsum: Experimental, and Statistical Analysis</p>	<p><b><u>ICSSD-234</u></b> <i>Younis Khalid Khdir</i></p> <p>Improving Tensile Properties Of Epoxy By Adding Synthetic And Natural Fibers</p>	<p><b><u>ICSSD-254</u></b> <i>Ali M. Tukkee</i></p> <p>Aerothermodynamics Computational Analysis of the Collector of Hybrid Solar Chimney Power Plant Integrated with a Gas Turbine Plant</p>

**LUNCH AND NETWORKING**

**13:00 – 14:00**

### Session C / Dwin meeting room

**Session Chair: Prof. Dr. Qassim Salih**

14:00-14:15	14:15-14:30	14:30-14:45	14:45-15:00
<p><b><u>ICSSD-272</u></b> <i>Hussein M. Hamada</i></p> <p>Effect Of Treated Desert Sand As Renewable Fine Aggregate On Sustainable Concrete At Later Curing Age</p>	<p><b><u>ICSSD-273</u></b> <i>Sinan S. Hamdi</i></p> <p>Petrophysical Characterizations of Polymer Al<sub>2</sub>O<sub>3</sub>/GNPs Hybrid Nanofluids for Improving Oil Recovery</p>	<p><b><u>ICSSD-277</u></b> <i>Asraa S. Ahmed</i></p> <p>Experimental Evaluation Performance of an Evacuated Tube Solar Collector (ETSC) at Variables Flow Rates -A Case Study for Baghdad Climate</p>	<p><b><u>ICSSD-279</u></b> <i>Tamara</i></p> <p>Preparation and Characterization of Ellagic Acid-Inulin Conjugation and its Potential as a Natural Antimicrobial and Antioxidant Agent in Food Product</p>
15:00-15:15		15:15-15:30	
<p><b><u>ICSSD-202 (Online)</u></b> <i>Firas Basim Ismail</i></p> <p>Internet Of Things (Iot) Enhanced Renewable Energy Monitoring And Optimization For Stand-Along Systems In Rural Area: An Experimental Study</p>		<p><b><u>ICSSD-205 (Online)</u></b> <i>Erhan KAYABASI</i></p> <p>Dynamic Behaviors of a Counter flow Heat Exchanger Under Variable Thermo physical Properties</p>	

### Session D / Mardin meeting room

**Session Chair: Prof. Dr. Dhamyaa S. Khudhur**

14:00-14:15	14:15-14:30	14:30-14:45	14:45-15:00
<p><b><u>ICSSD-235</u></b> <i>Salwan Hasan Al-Humairee</i></p> <p>Improving The Mechanical Properties Of Sandwich Panels With Varying Structures : A Review</p>	<p><b><u>ICSSD-203</u></b> <i>Ahmad Mola</i></p> <p>Performance Analysis Of Flat Plate Solar Collector Integrated With Thermal Energy Storage And Nanofluids CuFe<sub>2</sub>O<sub>4</sub>/Water</p>	<p><b><u>ICSSD-278</u></b> <i>Mothana Bdaiwi</i></p> <p>Enhancement Heat Exchanger Performance By Insert Dimple Surface Balls Inside Tubes: Numerical Analysis</p>	<p><b><u>ICSSD-264</u></b> <i>Ahmed Hekmet</i></p> <p>Performance Enhancement of a Solar Water Collector by using Aluminum Porous Media and Nanoparticles</p>
15:00-15:15		15:15-15:30	
<p><b><u>ICSSD-207 (Online)</u></b> <i>Dhoha A. Shafeeq</i></p> <p>Ultrasonic Waves Treatment of Heavy Oil to Reduce Viscosity and Enhance Flow Ability in Pipelines</p>		<p><b><u>ICSSD-210 (Online)</u></b> <i>Abdullah Dhayea Assi</i></p> <p>The Effect Of Adding Yttrium Oxide Nanoparticles On The Wear Resistance Of Aluminum Alloy (5083)</p>	

**COFFEE BREAK****15:30 – 15:45****Session E / Dwin meeting room****Session Chair: Dr. Raed A. Jessam**

16:00-16:15	16:15-16:30	16:30-16:45	16:45-17:00	17:00-17:15
<b><u>ICSSD-213 (Online)</u></b> <i>Asraa Mahdi Shaker</i>	<b><u>ICSSD-218 (Online)</u></b> <i>Safaa A. Saleh</i>	<b><u>ICSSD-220 (Online)</u></b> <i>Abdullah Dhayea Assi</i>	<b><u>ICSSD-222 (Online)</u></b> <i>Haroun A.K. Shahad</i>	<b><u>Icssd-232 (Online)</u></b> <i>Ghazwan A. Mohammed</i>
Investigation Of Nanofluids Mixed Convection In An Enclosure With Cylindrical Obstacles And Movable Top Surface	Enhancing thermal performance of a counter-flow heat exchanger using helical fins with different heights	Effect of Silicon Addition on the Characteristics of Nitinol Shape Memory Alloy	Experimental Study of Droplet Evaporation of Different Hydrocarbon Fuels	Experimental Study Of The Performance Of Solar Heating System For Space Heating

**Session F / Mardin meeting room****Session Chair: Dr. Sinan S. Hamdi**

16:00-16:15	16:15-16:30	16:30-16:45	16:45-17:00	17:00-17:15
<b><u>Icssd-236 (Online)</u></b> <i>Noor Basheer Mohamed</i>	<b><u>Icssd-237 (Online)</u></b> <i>Farah G. Fahad</i>	<b><u>Icssd-240 (Online)</u></b> <i>Hayder M. Mnati</i>	<b><u>ICSSD-204 (Online)</u></b> <i>Ibrahim A. Mahmood</i>	<b><u>ICSSD-212 (Online)</u></b> <i>Asraa Mahdi Shaker</i>
Study of The Effect of Lhd Fuel Emulsion on Burner Performance And Emissions	Dehumidification Using LiCl, CdCl <sub>2</sub> , And NaCl Inorganic Liquid Desiccant Materials By Cross-Flow System With Cellulose And Plastic Packing	Numerical Study And Experimental Investigation For Analyzing The Kinematic And Vibration of The Single-Cylinder Engine	Analysis of Characteristics And Mechanism of Forced Convection Heat Transfer For A Heated Pipe In A Tank	Nanofluid Mixed Convection In An Enclosure Having Obstacles And Movable Top Surface

**END OF DAY 1**

**DAY 2 (16 July 2024)**

**Session G / Dwin meeting room**

**Session Chair: Prof. Dr. Ibtihal A. Mahmood**

09:00-09:15	09:15-09:30	09:30-09:45	09:45-10:00	10:00-10:15
<p><b><u>ICSSD-282</u></b> <i>Ameer Resen Kalash</i></p> <p>Enhancing Solar Thermal Systems Efficiency: Investigating Longitudinally tube and Twisted tube Performance through Experimental Analysis</p>	<p><b><u>ICSSD-275</u></b> <i>Zamen Karm</i></p> <p>Precipitation Of Nickel From Synthetic Wastewater Using Modified Waste Glass</p>	<p><b><u>ICSSD-255</u></b> <i>Dhamyaa S. Khudhur</i></p> <p>An Experimental and Numerical Investigation on the PV Performance Enhancement by Radiative Cooling Using Indium Tin Oxide Nano-coatings</p>	<p><b><u>ICSSD-262</u></b> <i>Raed A. Jessam</i></p> <p>Experimental Evaluation of Performance Enhancement of S-Shaped Diffuser at Gas Turbine Inlet by Energy Promoters</p>	<p><b><u>ICSSD-261</u></b> <i>Hussein N. Jabbar</i></p> <p>Review the effect of vibrations caused by two-phase flow in a piping system</p>
10:15-10:30		12:00-12:15		
<p><b><u>ICSSD-263</u></b> <i>Sundus S. Al-Azaway</i></p> <p>Numerical Evaluation of the Performance Enhancement of S-Shaped Diffuser at the Intake of Gas Turbine by Energy Promoters</p>		<p><b><u>ICSSD-223</u></b> <i>Sally A. Polus</i></p> <p>Impact Of Different Parameters On Power Generation From Photovoltaic Module Cooled By Spray Water</p>		

**Session H/ Mardin meeting room**

**Session Chair: Assoc. Prof. Dr. Ranj S. Abdullah**

09:00-09:15	09:15-09:30	09:30-09:45	09:45-10:00	10:00-10:15
<p><b><u>ICSSD-245</u></b> <i>Ahmed S. Salman</i></p> <p>Optimizing PEM Fuel Cell Performance through Flow Field Design Analysis</p>	<p><b><u>ICSSD-206</u></b> <i>Hasanain A. Abdul Wahhab</i></p> <p>Ammonia-Methane Premixed Flames on a Counter Combustor: Combustion speed and Stabilization limits</p>	<p><b><u>ICSSD-216</u></b> <i>Qassim Wanis . M</i></p> <p>Enhancement of Efficiency and Stability for Multi Section Wind Turbine Blade With Flaps</p>	<p><b><u>ICSSD-208</u></b> <i>Tawfeeq Kadhem Salman</i></p> <p>Numerical Study Of Effects Dc Electric Field On The Turbulent Swirl Flame Prepared By Tube Burner</p>	<p><b><u>Icssd-209</u></b> <i>Ameer Hasan Hamzah</i></p> <p>Numerical Analysis Of Combustion Characteristics For Diesel Blend With Bio Diesel And Nano Particles In A Diesel Engine</p>

10:15-10:30	10:30-10:45			
<b><u>Icssd-260</u></b> <i>Miqdam Tariq Chaichan</i>  Optimizing Performance And Reducing Emissions With Diesel-Water Emulsion Fuel	<b><u>Icssd-265</u></b> <i>Miqdam Tariq Chaichan</i>  The Impact Of Engine Speed On Performance And Emission Characteristics Of Engine Fueled With Diesel-Water Emulsion			

**COFFEE BREAK**  
**10:45-11:00**

**Keynote speech by Prof. Dr. Ibrahim Ismael Hamarash**  
**11:00-11:30**

**Moderator: AP Dr. Laith Jaafer Habeeb**

**Session I / Zaytouna Main Hall**

**Session Chair: Dr. Sally A. Polus**

11:30-11:45	11:45-12:00	12:00-12:15	12:15-12:30
<b><u>Icssd-241 (Online)</u></b> <i>Jehan A. Abbas</i>  Wearable Technologies For Epileptic Seizure Detection: A Systematic Review	<b><u>Icssd-244 (Online)</u></b> <i>Mustafa A. Almaliki</i>  The Characterization Of Epd Parameters On Nano Ceramic/Polymer Coating Layers	<b><u>Icssd-246 (Online)</u></b> <i>Muthanna Ismaeel Fayyadh</i>  Free Vibration Analysis On Functionally Graded Material (Fgm) Plates With Diverse Porosity Layers	<b><u>Icssd-249 (Online)</u></b> <i>Nassr F. Hussein</i>  Evaluation Of Energy Policy For Iraqi Academic Facilities In Terms Of Energy Saving And Reducing Thermal Cooling Load Requirements
12:30-12:45		12:45-13:00	
<b><u>Icssd-258 (Online)</u></b> <i>Ali A. Ismaeel</i>  Photovoltaic Panels' Thermal And Electrical Performance In The Presence Of Soot Nanoparticles And Dust: An Experimental Study		<b><u>Icssd-259 (Online)</u></b> <i>Adel M. Saleh</i>  Heavy Fuel Oil/Water Emulsions Combustion And Emission Characteristics: An Experimental Study	

## Session J / Mardin meeting room

**Session Chair: Prof. Dr. Abdullateef A. Jadallah**

11:30-11:45	11:45-12:00	12:00-12:15	12:15-12:30
<p><b><u>Icssd-250 (Online)</u></b> <i>Azhar K. Azeez</i></p> <p>Alleviating Environmental Concerns By Enhancing Distribution Transformers' Thermal Performance With Eco-Friendly Innovative Cooling Systems</p>	<p><b><u>Icssd-251 (Online)</u></b> <i>Basil Abdullah Ahmed</i></p> <p>Impact of Biodiesel Blends (Waste Cooking Oil) With Exhaust Gas Recirculation on The Performance, Emissions, And Combustion Characteristics of An Industrial Oil Burner</p>	<p><b><u>Icssd-252 (Online)</u></b> <i>Oday Zakariya Jasim</i></p> <p>Utilizing Geospatial Analysis To Implement Indicators For Sustainable Development Goals - Review Paper</p>	<p><b><u>Icssd-256 (Online)</u></b> <i>Wasan S. Mowea</i></p> <p>Optimization Process For Demulsification of Water-Oil Emulsions Using Microwave Heating Assisted With Calcium Carbonate</p>
12:30-12:45		12:45-13:00	
<p><b><u>Icssd-266 (Online)</u></b> <i>M. H. Rady</i></p> <p>Analysis of Tensile Strength of Friction Stir Welding For Alumim Alloys Aa6061 With Aa5083 By Using Design of Experiment</p>		<p><b><u>Icssd-267 (Online)</u></b> <i>Ali Hassan Saleh</i></p> <p>A Study of Diffusion Bonding Process of Hardox 400 Steel And Aa7020 Using Tin Interlayer</p>	

## LUNCH AND NETWORKING

**13:00 – 14:00**

## Session K / Zaytouna main hall

**Session Chair: Assoc. Prof. Dr. Sundus S. Al-Azawiey**

14:00-14:15	14:15-14:30	14:30-14:45	14:45-15:00	15:00-15:15
<p><b><u>ICSSD-269 (Online)</u></b> <i>Noor Al-Huda A. Taher</i></p> <p>Enhancing the thermal performance of the cold side of thermoelectric cooler powered by solar photovoltaic energy</p>	<p><b><u>ICSSD-270 (Online)</u></b> <i>Kadhun Hassan Ali</i></p> <p>Performance Evaluation of SP1848-27145 Thermoelectric Generator in Thermal Electricity Generation Cells</p>	<p><b><u>ICSSD-271 (Online)</u></b> <i>Ammar Abd Raba Sakran</i></p> <p>The Triplet-Optimized Signal Analysis Algorithm for Precise Protein-Coding Region Detection in DNA Sequences</p>	<p><b><u>ICSSD-280 (Online)</u></b> <i>Noor Alhuda Baheer</i></p> <p>Effect of Friction Stir Processing on Microstructure and Mechanical Properties of In-situ Composite A356/Al3Ni Fabricated by stir casting</p>	<p><b><u>ICSSD-281 (Online)</u></b> <i>Farah Abdalrahman</i></p> <p>Technoeconomic Investigation of Methanol Production Plant Using Solar and Wind Energy in Iraq</p>



## Certificates Awarding and Closing Ceremony

15.15 – 15.45

[www.icssdconf.org](http://www.icssdconf.org) [info@icssdconf.org](mailto:info@icssdconf.org)

+964 775 560 7195

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