

ESSD2023 Program



The First International Conference on Engineering Solutions Toward Sustainable Development

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MINISTRY OF HIGHER EDUCATION
AND SCIENTIFIC RESEARCH



Portsaid University

Organized by



Faculty of Engineering



Day 1

2 May 2023

9:30 AM – 10:30 AM

REGISTRATION

10:30 AM - 11:30 AM	OPENING SESSION (Hall A)
	Introduction
	Prof. Rehab F. Abdel-Kader/ Executive Chair <i>Vice-Dean of Graduate Studies & Research</i>
	Prof. Taha E. Farrag/ Conference Chair <i>Dean of the Faculty of Engineering</i>
	Prof. Rawya Y. Rizk/ Conference Chair <i>Vice-President of Graduate Studies & Research</i>
	H.E. Prof. Hesham Arafat Mahdi <i>Vice Chairman of the Board of Trustees of Future University, Chairman of the Board of Directors of MID Bank & Former Minister of Transportation</i>
	H.E. Prof. Ashraf Al-Shehhi <i>President of the Egyptian Chinese University and Former Minister of Higher Education & Scientific Research</i>
	H.E. Dr. Hussein I. El-Atfy

	<i>Secretary-General of the Arab Water Council and Former Minister of Water Resources and Irrigation</i>
	Prof. Ayman M. I. Mohamed/ Conference President <i>President of Port Said University</i>
	Major General Adel Mohamed El Ghadban <i>Governor of Port Said</i>
11:30 AM - 12:00 PM	KEYNOTE SPEAKER SESSION (Hall A)
	Moderators: Prof. Ayman M. I. Mohamed & Prof. Hesham Arafat Mahdi
	Prof. Ashraf Al-Shehhi Title: “Risk Management in Higher Education Institutions”

12:00 PM – 12:30 PM	EXHIBITION OPENING/ COFFEE BREAK
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12:30 PM - 1:45 PM	KEYNOTE SPEAKERS SESSION (Hall A)
	Building the Future of Egypt: Structural Design and Infrastructure Projects
	Moderators: Prof. Ashraf Al-Shehhi & Prof. Selda Oterkus Prof. Hesham Arafat Mahdi
	Title: “Feasibility of Promoting Transport Infrastructure in Egypt” Prof. Tarek Hassan <i>Principal at the Structural Engineering Department, Dar Al Handasah Consultants, and Professor of Concrete Structures at Ain Shams University</i>

	Title: “Structural Design Considerations for the Iconic Tower in Egypt”
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1:45 PM - 3:00 PM	KEYNOTE SPEAKERS SESSION (Hall A) Sustainable Management of Energy and Water Systems
	Moderators: <i>Prof. Nabil A. S. Elminshawy & Prof. Abdelazim Negm</i>
	<i>Dr. Hussein I. El-Atfy</i> Title: “Enhancing Water Demand Management Towards Achieving Sustainable Development in the Arab Region”
	<i>Prof. Erkan Oterkus</i> <i>Professor in the Department of Naval Architecture, Ocean, and Marine Engineering, University of Strathclyde</i> Title: “Sustainable Development of Energy and Water Systems”

3:00 PM – 3:30 PM	COFFEE BREAK
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3:30 PM - 4:15 PM	WORKSHOP (HALL A) Faculty of Engineering Research Contributions for Sustainable Development: Strategies and Initiatives
	Moderators: <i>Prof. Islam Amin & Dr. Kamal El-Nahhas</i>
	<i>Prof. Nabil A. S. Elminshawy</i> Title: “Potential of Partially Floating Photovoltaic Technology in Egypt”
	<i>Prof. Rehab F. Abdel-Kader & Dr. Mohamed Abdel-Kader</i>

	Title: “Towards Sustainable Pavement: Utilizing AI for Efficient Pavement Distress Detection”
	<i>Prof. Mohamed Bassyouni</i> Title: “Advanced Research and Testing for Water Treatment Using Membrane Technologies”

4:15 PM - 5:00 PM	KEYNOTE SPEAKERS SESSION (Hall A)
	Moderators: Prof. Rawya Y. Rizk & Prof. Mohamed Abdel-Azim
	<i>Prof. Aboul Ella Hassanien</i> <i>Founder and Chair of the Scientific Research Group in Egypt (SRGE) and Professor at the Faculty of Computer and AI, Cairo University.</i> Title: “Digital Twinning and Artificial Intelligence: Recent Trends and Applications ”
5:00 PM - 5:30 PM	KEY SPEAKERS AND SPONSORS HONORARY CEREMONY

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END OF DAY 1

Day 2

3 May 2023

9:30 AM – 10:00 AM

REGISTRATION

<p>10:00 AM - 12:00 PM</p>	<p>CLEAN WATER AND SANITATION (Hall A) Session Chair: <i>Dr. Mohamed Elsakka</i></p>	<p>INDUSTRY, INNOVATION & INFRASTRUCTURE (Hall B) Session Chair: <i>Dr. Eman Elshrief</i></p>
	<p>Moderators: <i>Prof. Abdelazim Negm & Prof. Taha Farrag</i></p>	<p>Moderators: <i>Prof. Ahmed El-Hattab & Prof. Islam Amin</i></p>
	<p>“Low-Cost Filter Media for Removal of Hazardous Pollutants from Industry Wastewater Effluents” <i>Nehal M. Ashour</i></p>	<p>“A Comparative Study of Three Winding Configurations for Six-Phase Induction Motors” <i>Basant A. Kalas, Ahmed Refaat, Mahmoud Fawzi, Ayman Samy Abdel-Khalik</i></p>
	<p>“A Review on Wastewater Treatment Using Biodegradable Polymers for Dyes Removal” <i>Rana Gamal, Mohamed Bassyouni, Medhat M. H. ElZahar, Mamdouh Y. Saleh</i></p>	<p>“Survey and Evaluation of Applied Modern Engineering Pedagogy” <i>Omer Alkelany, Hatem Khater, Mohamed Kamal, Hosam E. Mostafa</i></p>
	<p>“Textile Wastewater Treatment Using a Modified Coal Fly Ash as a Low-Cost Adsorbent”</p>	<p>“Examining the Behaviour of Lubricating Oil Film Within Marine Journal Bearing Under Emergency and Critical Operational Conditions”</p>

	<p><i>Ahmed Magdy Eteba, Mohamed Ismail Bassyouni, Amr Mansi, Mamdouh Youssif Saleh</i></p>	<p><i>Nour A. Marey, El-Sayed H. Hegazy, Amman A. Ali</i></p>
	<p>“Removal of Methylene Blue from an Aqueous Solution Using a Surfactant-Modified Activated Carbon”</p> <p><i>Farid I. El-Dossoki, Osama K. Hamza, Esam A. Gomaa</i></p>	<p>“Enhanced Performance of Propane Refrigerant at LNG Plant During Hot Climate Conditions - Case Study”</p> <p><i>Usama Eldemerdash, Belal Magdy Abdel Aziz, Naser Safa, Taha E. Farrag</i></p>
	<p>“A Critical Review of Biodegradable Polymeric Reverse Osmosis Membranes”</p> <p><i>Kareem Fouad, Yasser Elhenawy, Medhat A. El-Hadek, M. Bassyouni</i></p>	<p>“Ship Design for Green Ship Recycling - A New Approach”</p> <p><i>Bahgat M. Walid, El-Sayed Hegazy, Heba S. El-Kilani, Amman Ali, Mostafa M. Mostafa</i></p>
	<p>“Artificial Intelligence for Predicting the Performance of Adsorption Processes in Wastewater Treatment: A Critical Review”</p> <p><i>Mohammad Mansour, M. Bassyouni, Rehab F. Abdel-Kader, Y. Elhenawy, Lobna A. Said, Shereen M. S. Abdel-Hamid</i></p>	<p>“Analysis of the Time Multiplexed Sampling and a Proposed Prototype for Effective Heterogenous Data Acquisition Systems”</p> <p><i>Omer Alkelany</i></p>
	<p>“Saline Water Desalination Using Direct Contact Membrane Distillation: A Theoretical and Experimental Investigation”</p> <p><i>Yasser Elhenawy, Kareem Fouad, Thokozani Majozi, Shereen M. S. Abdel-Hamid, Mohamed Bassyouni</i></p>	<p>“Condition Monitoring as a Pathway for Sustainable Operation: A Case Study for Vibration Analysis on Centrifugal Pumps”</p> <p><i>Mahmoud Mostafa, Mohamad Elsakka, Mohamed S. Soliman, Mohamed El-Ghandour</i></p>

	<p>“Tanneries Wastewater Treatment by Coagulation and Reverse Osmosis” <i>A. Essam, M. Bassyouni, Mamdouh A. Gadalla, Fatma H. Ashour</i></p>	<p>“Preliminary Evaluation of Experiential Learning in Engineering Pedagogy for Undergraduate Students Learning Logic Design Concepts” <i>Omer Alkelany, Hatem Khater, Mohamed Kamal, Hosam E. Mostafa</i></p>
	<p>“Utilization of Fly Ash in Wastewater Treatment: A Review” <i>Medhat M. H. ElZahar, Mohamed Bassyouni, Mayada M. Gomaa, Mohamed Z. El-Shekhiby, Mamdouh Y. Saleh</i></p>	<p>“Mode-I Crack Problem in Generalized Thermo-Microstretch with Harmonic Wave Under Three Theories by Using a Laser Pulse with Non-Gaussian Form Temporal Profile” <i>Wafaa Hassan, Khaled Lotfy</i></p>
	<p>“A Critical Review of Bilgewater Treatment” <i>Maggie Gad, A.E Mansi, Noran Ashraf, Y. Elhenawy, M. Bassyouni</i></p>	<p>“Materials Selection and Performance of Fiber-Reinforced Plastic Poles” <i>M. Bassyouni, Yasser Elhenawy, Yuliya Kulikova, Olga Babich, Medhat A. El-Hadek</i></p>
	<p>“Assessing the Performance and Fouling of Polytetrafluorethylene Hydrophobic Membrane for the Treatment of Oil-Polluted Seawater Using AGMD” <i>A.E. Mansi, Y. Elhenawy, Maggie Gad, Noran Ashraf, Ahmed Eteba, M. Bassyouni</i></p>	<p>“Maximization of Condensate Production in Gas-Oil Separation Plant in Gulf of Suez: Case Study” <i>Mamdouh A. Gadalla, Ahmed A. Elsheemy, Hany A. Elazab, Thokozani Majazi, Fatma H. Ashour</i></p>
	<p>“Treatment of Printing Ink Wastewater Using Natural and Synthetic Coagulants” <i>Menna Eid, S. M. El-Marsafy, M. Bassyouni</i></p>	<p>(Poster): “The Hysteresis in the Stoner-Wohlfarth Model of Ferromagnetism” <i>Wafaa Hassan</i></p>

	<p>“Modified Activated Carbon for Adsorptive Removal of Para-Nitrophenol from Industrial Wastewater (IWW)”</p> <p><i>Usama N. Eldemerdash, Taha E. Farrag, Sherine A. Abdelkader</i></p>	
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12:00 PM – 12:30 PM	COFFEE BREAK
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12:30 PM - 3:00 PM	<p>CLEAN ENERGY (Hall A) Session Chair: Dr. Asmaa Rady Ahmed</p>	<p>SMART CITIES AND COMMUNITIES (Hall B) Session Chair: Dr. Basma Nashaat</p>
	<p>Moderators: Prof. Erkan Oterkus & Prof. Nabil A. S. Elminshawy</p>	<p>Moderators: Prof. Naglaa Megahed & Prof. Heba M. Abd El Atty</p>
	<p>“An Efficient MPP Tracker Based on Flower Pollination Algorithm to Capture Maximum Power from Proton Exchange Membrane Fuel Cell”</p> <p><i>Ahmed Elbaz, Ahmed Refaat, Nikolay Korovkin, Abd-Elwahab Khalifa, Ahmed Elsayed Kalas, Mohamad Elsakka, Hussien M. Hassan, Medhat Elfar</i></p>	<p>“Sustainable Development: A Review of Concepts, Domains, Technologies, and Trends in Smart Cities”</p> <p><i>Mohamed Elnahla, Hossam Wefki</i></p>
	<p>“Experimental Investigation of Two Bio-Inspired MPPT Algorithms for Partially Shaded PV Arrays”</p> <p><i>Abd-Elwahab Khalifa, Medhat Elfar, Qays Adnan Ali, Ahmed Elbaz, Ahmed Elsayed</i></p>	<p>“Sustainability of Lap Splice in Externally near Surface Mounted Bars of Reinforced Concrete Beam”</p> <p><i>Khaled F. Khalil, Mohamed A. Farouk, Azza I. Anan</i></p>

	<p><i>Kalas, Mohamad Elsakka, Nikolay Korovkin, Ahmed Refaat</i></p>	
	<p>“Numerical and Experimental Investigation on Integrated Solar Chimney for Seawater Desalination System in Egypt”</p> <p>Mohamad Elsakka, Islam Amin, Erkan Oterkus, Selda Oterkus, Moustafa Aboelfadl, Mohamed Elsayed <i>Abdelfattah, Omar Nimr, Amr A. Sayed Alahl, Dalia Abouzaid, Hossam Shawky</i></p>	<p>“The Behavior of the Aluminum Bridges”</p> <p><i>Ola. Elsaid, Azza I. Anan, Mohamed M. Badawy</i></p>
	<p>“In-Situ Fabrication of Poly (M-Phenylene Isophthalamide)/ Fluorographene Nanocomposites and Their Properties”</p> <p><i>Lina M. Elbayar, Mahmoud Abdelaty, Shaban Nosier, Abbas Anwar Ezzat, Fathy Ahmed Shokry</i></p>	<p>“Risk Categorization for Various Project Delivery Methods in Construction Sector”</p> <p><i>Ibrahim Mahdi, Ahmed Mohamed Abdelkhalig, Hassan Mohamed Hassan, Ehab Rashad Tolba, Lamisse Raed</i></p>
	<p>“A Comprehensive Review of Biomass Pyrolysis to Produce Alternative Biofuel”</p> <p><i>Yasser Elhenawy, Kareem Fouad, Mohamed Bassyouni, Mamdouh Gadalla, Fatma H. Ashour, Thokozani Majazi</i></p>	<p>“Seizure Detection Using Fast Walsh-Hadamard Transform (FWHT)”</p> <p><i>Saly Abd Elateif El Gindy, Ayman Ahmed, Saad Elsayed</i></p>
	<p>“A Modified Model Predictive Speed Control Based on Sensorless Hybrid MPPT Algorithm in Wind Turbine Systems”</p>	<p>“Improving Smart Infrastructure Monitoring Systems as a Response to Prevalent Pandemic”</p>

	<p><i>Mai N. Abuhashish, Ahmed A. Daoud, Ahmed Refaat, Medhat Elfar</i></p>	<p><i>Nourhan Osama, Ahmed Magdy, Bassem El Hady, Khaled Abd EL Salam</i></p>
	<p>“A Review of Ventilation Systems for Efficient Energy Use” <i>Asmaa Ahmed, Mohamad Elsakka, Ayman Mohamed</i></p>	<p>“Parametric Form-Finding in Architecture: Dimensions Classification and Processes Guidelines” <i>Lina A. Ramadan, Ashraf El Mokadem, Nancy Badawy</i></p>
	<p>(Poster): Abstract: “Recent Progress in Vertical Axis Wind Turbine Research: Modelling and Optimizations” <i>Mohamad Elsakka, Yasser Elhenawy, Ahmed Refaat, Gamal H. Moustafa, Jee Loong Hee, Lin Ma</i></p>	<p>“Performance Analysis of Emerging Multi-Carrier Waveforms for 6G Wireless Communications” <i>Walid Raslan, Heba Abdel-Atty</i></p>
	<p>(Poster): “Performance Analysis of a Green Hydrogen Production System in Several Coastal Locations in Egypt” <i>Mohamad Elsakka, Ahmed Refaat, Asmaa Ahmed, Ahmed E Amer, Ahmed Elsheikh, Medhat Elfar, Yasser Elhenawy, Nidiana Rosado Hau, Thokozani Majozi, Islam Amin, Selda Oterkus, Erkan Oterkus, Ayman Mohamed</i></p>	<p>“Post-Pandemic Active Learning (PPAL): A Framework for Active Architectural Education” <i>Asmaa M Hassan, Basma N. El-Mowafy</i></p>
	<p>CLIMATE ACTION (Hall A) Session Chair: Dr. Rabab F. Abdel-Kader</p>	<p>“Efficient Deep Deblurring Technique Using Dark and Bright Channel.” <i>Nouran Ali, Asmaa Abdallah, I. F. Elnahry, Randa Atta</i></p>

	<p>Moderators: Prof. Selda Oterkus & Dr. Heba Y. Soliman</p>	<p>“Investigating the Performance of Indoor Daylighting, and Thermal Performance in Residential Buildings Using Productive Façades”</p> <p><i>Basma Nashaat El-Mowafy</i></p>
	<p>“Field Measurements Used to Validate Envi-MET and Conduct Sensitivity Analysis, in Egypt.”</p> <p><i>Esraa Ebrahiem Salim, Naser Fawzy Ramadan, Mohamed Saad Mohamed Saad</i></p>	<p>“Real-Time Facial Emotion Recognition Using Haar-Cascade Classifier and MobileNet in Smart Cities”</p> <p><i>Shereen El-Shekheby</i></p>
	<p>“Assessing Climate Change of Western Delta by Regional Climate Models”</p> <p><i>Sherien Zahran, Randa Farag, Mohamed M. F. Sobeih, Esam Helal</i></p>	<p>“Enhanced COVID-19 Classification Using Ensemble Meta-Algorithms on Chest X-Ray Images”</p> <p><i>Lamiaa Menshawy, Ahmad H. Eid, Rehab F. Abdel-Kader</i></p>
	<p>“Maximizing Energy Efficiency in Petroleum Refining: Case Study - Delayed Coker Unit in an Egyptian Refinery”</p> <p><i>Mohamed Shahin, Hany A. Elazab, Mamdouh Gadalla, Thokozani Majozi, Fatma Ashour</i></p>	<p>“Building Strategy of City Branding as a Tool to Achieve Sustainable Development (Case Study: Branding of Port-Said City)”</p> <p><i>Shaimaa R. Nosier, Nancy M. Badawy</i></p>
	<p>“A Systematic Methodology for Retrofit Analysis of Refineries Preheat Trains with Variable Heat Capacity and Exchangers Fouling”</p>	<p>(Poster): “The Role of Perforated Building Envelopes in Sustainable Design”</p> <p><i>Marwa Gamal Ahmed Fawaz, Naglaa Ali, Dalia Elghezawy, Basma Nashaat Ali</i></p>

	<p><i>Haya Kaled, Hany A. Elazab, Mamdouh Gadalla, Thokozani Majazi, Osama Abd El-Baari, Fatma Ashour</i></p>	
	<p>“Parametric Urbanism in Optimising Outdoor Thermal Comfort of Urban Spaces” <i>Nancy Badawy, Maram Waleed Rezk, Ashraf El Mokadem, Heba Adel Ahmed Hussein</i></p>	<p>(Poster): “Utilizing Deep Reinforcement Learning for Resource Scheduling in Virtualized Clouds.” <i>Mona Nashaat, Heba Nashaat</i></p>
	<p>“Optimal Design of Container Ships Geometry Based on Artificial Intelligence Techniques to Reduce Greenhouse Gases Emissions” <i>Hussien M. Hassan, Mohamed M. Elsakka, Ahmed Refaat, Ahmed E. Amer, Rawya Y. Rizk</i></p>	<p>(Poster): “Questions Concerning the Role of the Skycourt as a Passive Strategy to Enhance Energy Efficiency.” <i>Rasha A Ali, Naglaa A Megahed, Asmaa M Hassan, Merhan M Shahda</i></p>
	<p>“Exploring the Regulatory Framework of Maritime Decarbonization to Achieve IMO GHG Emission Targets” <i>Nourhan I. Ghoneim, Arife Tugsan Colak, A. M. Amer</i></p>	
	<p>"Contrasting the Water Consumption Estimation Method: Case of USA and South Africa" <i>Etienne Alain Feukeu, Lucas W Snyman</i></p>	

	<p>(Poster): “An Overview of LCA Integration Methods at the Early Design Stage Towards National Application” <i>Sally R. Hassan, Naglaa A. Megahed, Osama M. Abo Eleinen, Asmaa M. Hassan</i></p>	
	<p>(Poster): “How Urban Morphology Affects Energy Consumption and Building Energy Loads? Strategies Based on Urban Ventilation” <i>Sarah G. Aboria, Osama M. Abo Eleinen, Basma N. El-Mowafy, Asmaa M. Hassan</i></p>	
	<p>(Poster): “Sustainability Research at Port Said University Towards the Achievement of the Sustainable Development Goals.” <i>Mohamed M. Elsakka, Mohamed Bassyouni, Rawya Y. Rizk, Ayman M. I. Mohamed</i></p>	
<p>3:00 PM - 3:30 PM</p>	<p>BEST PAPER AWARDS AND CLOSING SESSION</p>	

END OF DAY 2

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