CONFERENCE PROGRAM

DAY 1
Tuesday – December 03, 2024
8:00-16:00: Conference Registration **Location: Main Hall, Building I-11, Qatar University - Doha, Qatar** **WebEx Link (Password: cengcongress)**
Opening Speeches, World Energy Storage Conference (WESC-2024)

09:00 –11:30	**9:00-9:05** **Dr. Mohammed Al-Marri** Head of Department of Chemical Engineering D
	9:05-9:10 **Dr. Fares Almomani** Conference Chair
	9:10-9:15 **Dr. Ameena Al-Sorour** Qatar Research, Development, and Innovation (QRDI)
	9:15-9:20 **Dr. Mohammad Ali Saad** Director of Gas Processing center:
	9:20 -9:40 **The Al Attiyah Foundation Energy Panel** **Dr. David Hart** – Global Hydrogen Lead at ERM and Visiting Professor at Imperial College London
	9:40 -10:00 **Dr. Gulmira Rzayeva** – Senior Research Fellow at the Oxford Institute for Energy Studies and Azerbaijan COP29 Energy Delegate
	10:00 -10:20 **Dr. Bill Farren-Price** – Senior Research Fellow and Head of Gas Research at the Oxford Institute for Energy Studies
	10:20- 11:30 **Panel Discussion:** The Role of Energy Storage in Sustainable Development: Challenges, Opportunities and Future Directions **Moderator:** Axel Threlfall, Editor-at-Large, Reuters, London
Coffee Break	

11:30-11:40	
11:40 -13:00	**Keynote Speakers** **Session Chair:** Prof. Muftah AlNaas
	11:40-12:20 Keynote Speaker :Prof. Henrik Lund **Towards an Energy Efficient and Affordable Green Energy Transition: The Cases of Denmark and Europe**
	12:20-13:00 Keynote Speaker: Prof. Ibrahim Dincer **Research dimensions and directions of energy storage systems and applications**
13:00- 14:00 **Lunch: Building I-11**	

Tuesday – December 03, 2024			
	Main Hall: Building I-11	**Room C245: Building I-11**	**Room C246: Building I-11**
14:00 – 15:45	**Session 1: Energy Storage in Renewable Energy Systems** Session Chair: **Prof. Majeda Khraisheh** Session Co-Chair: **Prof. Ahmed S. Khan** WebEx Link (Password: cengcongress)	**Session 2: Hydrogen Storage, Material and Applications** Session Chair: **Prof. Abdelbaki Benamor** Session Co-Chair: **Dr. Fodil Fadli** WebEx Link (Password: cengcongress)	**Session 3: Energy Storage in Renewable Energy Systems** Session Chair: **Dr. Saad Al-Sobhi** Session Co-Chair: **Dr. Seckin Karagoz** WebEx Link (Password: cengcongress)
	#229 "Visualization and Simulation Tools for Nano Devices used for Energy Generation and Storage", Ahmed S. Khan **#57 "**Optimal Model Predictive Control Weight Selection For An Energy Management Framework of A Multi-Node Microgrid", Dimitrios Trigkas, Alexios-Spyridon Kyriakides, Aristeidis Stoikos, Georgios Gravanis, Spyridon Voutetakis, Simira Papadopoulou **#102 "**Configuration and interaction of multiple turbulent jets for energy-efficient filtration of microalgae for biorefinery applications", Kim, Donghyun **#238 "**Advancements in Energy Storage Cells: Technologies, Innovations, and Future Prospects", Alaboodi, Abdulaziz, Mahroogi Faisal **#76 "**Numerical modeling of using alternative fuels (methanol and ethanol) in conventional gasoline internal combustion engine", Sheykhi, mohammad; Deymi-Dashtebayaz, Mahdi	**#65 "**Metal Spatial Structures For Enhancing Heat Transfer In Energy Storage Systems", Krzysztof Naplocha, Jakub Grzęda, Natalia Raźny, Jacek Kaczmar **#209 "**Hydrogen Generation By Plasma: A Review", Jeferson de Oliveira, Gustavo Barreto, Claudio Oller Do Nascimento and Jose Simoes-Moreira **#222 "**Advanced Modelling of Hydrogen-Carbon Dioxide Mixtures for Geo-Storage Applications: Bridging the Gap of Well-Established Mixing Rules", Clement Afagwu, Saad Alafnan **#223 "**Hydrogen Power System Conceptual Design for an Offshore Wind Crew Transfer Vessel", Hongjun Fan, Nagi Abdussamie, Peggy Shu-Ling Chen, Andrew Harris **#224 "**Comparative assessment of liquid air and hydrogen energy storage, based on thermodynamic principles", Nurettin Sezer, Sertac Bayhan	**#72** "Linking Clean Energy And Waste Management To Health And Economic Growth In Smart Urban Systems", Azzam Abu-Rayash **#81 "**Impact of CAPEX Development on the Future Cost Trends of Off-grid Solar Hydrogen Production Systems", Tebibel, Hammou; M'raoui, Abdelhamid **#100** "Dft Study of Hydrogen Sensing And Storage In Single-Walled Carbon Nanotubes: The Role Of Vacancy Defects, Pyridinic Nitrogen Termination, And Palladium Decoration", Berdiyorov, Golibjon **#237 "**Wind-Powered Fast Charging Station With Integrated Liquid Air Energy Storage And Heat Recovery For Battery Electric Vehicles", Sezer Nurettin, Bayhan Sertac **#108** " One-pot processes for macromolecule fractionation from concentrated Chlorella sp. ABC-001 biomass for co-production of biofuel and bioethanol", Kim, Donghyun

	# 28 "Automatic Fault Detection In Photovoltaic Modules Using Hybrid Deep Learning Models", Ellithy, Noor; Bicer, Yusuf; Schneider, Jens	**#105 "**Enabling Hydrogen Fuel Cell Vehicles In Qatar: Optimizing Incentives Using A Life Cycle Cost Analysis", Mendez, Carlos, Brenno Castrillon Menezes, Marcello Contestabile, Yusuf Bicer	**#227 "**Novel Concepts for Using Underground Injection Control Wells for Carbon Removal", Ibrahim Mohamed, Omar Abou-Sayed, Anas Hassan
	#59 "Sustainability Assessment of Advanced Wind-Solar-Storage Systems For Achieving Industrial Net Zero", Seckin Karagoz	**#109** "An Update on Field Trials of Hydrogen Storage in Canadian Salt Caverns: Recent Progress and Challenges", Dehghanpour, Hassan; Yuan, Lin	**#07 "**Waste To Hydrogen: Application of Explainable Artificial Intelligence For Enhanced Understanding of Waste Biomass Gasification For Hydrogen Production", Mansoor Alruqi **#85 "**A novel compressed air and solid chemical energy storage system", Ishaq Muhammad, Dincer Ibrahim

15:45- 16:00
Coffee Break

14:00- 16:45

Poster session-1

#74 ELECTROCHEMICAL DEGRADATION STUDY OF 4-CHLOROPHENOL USING MAGNESIUM FERRITE CATALYSTS PREPARED BY SOLUTION COMBUSTION
Aromal Ashok

#89 ENGINEERING OF PT-FREE POROUS ONE-DIMENSIONAL CARBON DERIVED FROM AGRICULTURE WASTE FOR GREEN HYDROGEN PRODUCTION
Sara Adnan Mahmood

#90 TAILORED SYNTHESIS OF CARBON NANOFIBERS DERIVED FROM CELLULOSE AS EFFICIENT PT-FREE CATHODE FOR GREEN HYDROGEN PRODUCTION
Emna k Almohannadl

#69 ADVANCED ULTRATHIN CU-MOF/G-C3N4 HETEROJUNCTIONS FOR DUAL-FUNCTION CO_2 CONVERSION AND WASTEWATER TREATMENT THROUGH ENHANCED MICROBIAL ELECTROSYNTHESIS AND DYE REMOVAL
Abdul Hakeem Anwer Assem Taha Mohamed; Maroua Saadaoui. Abdelbaki Benamor

#70 INNOVATIVE DUAL-STRUCTURE ELECTROCHEMICAL SENSOR FOR ENHANCED NITRITE DETECTION IN FOOD AND WATER
Maroua Saadaoui; Abdul Hakeem Anwer; Assem TAHA Mohamed, Abdelbaki Benamor

#91 EVALUATION OF THE HEALTH CONSEQUENCES OF DOMESTIC WASTE IN QATAR THROUGH AN IN-DEPTH ANALYSIS OF ENVIRONMENTAL EXPOSURE AND SUSTAINABLE MANAGEMENT APPROACHES

Taif Mahmoud Alsalamah; Azzam Abu-Rayash; Muammer Koc

#217 MELAMINE-ASSISTED SYNTHESIS OF NICKEL-ENHANCED NITROGEN DOPED CARBON NANO-CATALYSTS FOR ALKALINE WATER SPLITTING REACTION

Easwari Padma Kumari, Anand Kumar, Faris Tarlochan and Mohammed Al-Marri

#218 TUNING GLYCINE-TO-NITRATE RATIOS IN FE/AL_2O_3 CATALYSTS FOR EFFICIENT METHANE CONVERSION TO COX-FREE HYDROGEN AND VALUED CARBON NANOTUBES

Assem Mohamed, Ali Sardar, Abdul Hakeem Anwer, Maroua Saadaoui, Abdelbaki Benamor and Muftah El-Naas

#219 INVESTIGATION OF GAS RESIDUALS IN SANDSTONE FORMATIONS VIA X-RAY CORE-FLOODING EXPERIMENTS: IMPLICATION FOR SUBSURFACE HYDROGEN STORAGE

Ahmed Fatah and Ahmed Al-Yaseri

#61 EVALUATING THE EFFICIENCY OF BIODIESEL PRODUCTION FROM MARINE MICROALGAL CONSORTIUM

Ehab Ibrahim

#231 SUSTAINABLE ENERGY SOLUTIONS: PV-HYDROGEN PRODUCTION AND STORAGE SYSTEMS FOR URBAN RESIDENTIAL APPLICATIONS

Z. Mohammadi1, P. Ahmadi1, M. Ashjaee, N. Javani

#104 MICROALGAE AS A SUSTAINABLE SOURCE FOR BIOENERGY STORAGE: ADVANCES AND FUTURE PROSPECTS

Ferkry, Amr Nasr

#23 APPLICATIONS OF MACHINE LEARNING ALGORITHMS IN BATTERY MANAGEMENT SYSTEM PARAMETERS ESTIMATION

Razi Astaraei, Fatemeh, Ghanbari Motlagh Saheb

#75 ADVANCED OXIDATION PROCESSES FOR PRETREATMENT AND FERMENTATION OF MIXED CULTURE MARINE ALGAE TOWARDS BIOFUEL PRODUCTION

Malak M Alsarayreh; Fares A Almomani

#78 SUSTAINABLE WASTEWATER MANAGEMENT AND BIOELECTRICITY PRODUCTION WITH PHOTOSYNTHETIC ALGAL MICROBIAL FUEL CELLS (PAMFC)

Arjumand S Bano ; Fares A Almomani

#71 BREAKING THE BARRIERS TOWARD LARGE-SCALE MICROALGAE-BASED BIO-HYDROGEN PRODUCTION

	Isra Osman Koko; Fares A Almomani; Sophia Ghanimeh **#64** ANAEROBIC DIGESTION OF COW MANURE FOR BIOGAS PRODUCTION *Elkahlout, Zainab I* **#114** A NOVEL FLY ASH GEOPOLYMER-BASED CATALYST FOR THE TREATMENT OF PHENOLIC WASTEWATER *Alawa, zinab fuad* **#94** WEARABLE ENERGY STORAGE DEVICES FOR GRASSROOTS SOCCER PLAYERS: TRACKING AND PERFORMANCE ANALYSIS Alaoui Mustapha, Fahad Abdulla Thani Al zarra **#235** PRETREATMENT OF AGRICULTURAL WASTE TO PRODUCE SINGLE CELL PROTEIN THROUGH FERMENTATION Asim Zukhruf, Shahzad Hafiz Muhammad Aamir, Rasool Kashif, Almomani Fares **#236** LIFE CYCLE COST ASSESSMENT OF HVAC-INTEGRATED DIRECT AIR CAPTURE FOR CO2 CONVERSION TO FORMIC ACID PRODUCTION Mir Namra, Banu Aliya, Ghiat Ikhlas, Amhamed Abdulkarem I., Bicer Yusuf, Al-Ansari Tareq
18:00- 20:00 **Galla Dinner**	

DAY 2	
Wednesday – December 04, 2024	
9:00 – 11:00	**Location: Building I-11** **Session Chair: Prof. Shaheen AlMuhtaseb** **WebEx Link (Password: cengcongress)**
	9:00-9:40 **Keynote Speaker: Prof. Fariborz HAGHIGHAT** **Integration of Thermal Energy Storage Systems with Buildings: Design and Operation**
	9:40-10:20 **Keynote Speaker: Prof. Qiang ZHANG** **The Promotion of Emerging Energy Materials for Next-Generation Batteries through Lithium Bond Chemistry**
	10:20-11:00 **Keynote Speaker 5: Dr. Alaa Al-Muhtaseb** **Waste-to-Energy: Innovating for a Sustainable Future**
11:00-11:15 **Coffee Break**	

Wednesday – December 04, 2024

	Main Hall: Building I-11	Room C245: Building I-11	Room C246: Building I-11
11:15 - 12:45	**Session 4: Hydrogen production and Storage, Material and Applications** Session Chair: **Dr. Donghyun Kim** Session Co-Chair: **Dr. Abdullah Alkhaledi** WebEx Link (Password: cengcongress)	**Session 5: Thermal Energy Storage** Session Chair: **Prof. Sabla Alnouri** Session Co-Chair: **Stoikos, Aristeidis** WebEx Link (Password: cengcongress)	**Session 6: Energy Storage in Renewable Energy Systems** Session Chair: **Prof. Hazim Qiblawey** Session Co-Chair: **Dr. Heba Alzaben** WebEx Link (Password: cengcongress)
	#207 "Black carbon and Hydrogen production from methane decomposition using plasma reactor", Enrique Rozas, Claudio Augusto Oller Nascimento, Meriellen Dias and Matheus Holanda	**#55** "Analysis And Optimization of A Tco2 Electrothermal Energy Storage System", Stoikos, Aristeidis; Kyriakides, Alexios-Spyridon ; Gravanis, Georgios; Trigkas, Dimitrios; Tsimpanogiannis, Ioannis N.; Voutetakis, Spyros	**# 54** "Integrating Energy Storage with Renewable Energy: Innovations in Life Cycle Analysis and Sustainability", Sumayya Abdul Rahiman
	#208 "Development of High-pressure Ammonia Decomposition Membrane Reactor", Paulo Cardozo Carvalho de Araújo, Antoniel Carlos Carolino Campos, Morgana Rosset, Rita Maria de Brito Alves, Jaqueline Elisabete Campelo Savoia and Claudio Augusto Oller Do Nascimento	**#08** "Heat Charge And Discharge Experiments Of Thermal Energy Storage For Heat Load Balancing In Domestic Hot Water System", *Hyung-Yong Ji; Dongho Park*	**#45** "Flare Gas Recovery For Power And Clean Water Production Using Integrated Concentrated Solar Power And Direct Oxy-Fuel Combustion", Al-Ammari, Wahib A; Sleiti, Ahmad; Kumar, Laveet; Rezaei-Gomari, Sina; Azizur Rahman , Mohammad
	#221 "Hydrogen Geostorage Modelling in Shaly Sandstone: Artificial Aquifer Study", Galymzhan Serikov, Azza Hashim Abbas, Yermukhan Zhuniskenov and Afeez Gbadamosi	**#88** "Investigation of Phase Change Material-Based Thermal Storage System For Phosphoric Acid Fuel Cell Operation", Karayel Kublay G.; Dincer Ibrahim	**#09** "Environmental Impacts Of Geothermal Energy: A Review Of Recent Progress", Alzaben, Heba; Mashagbeh, Mohammad
	#210 "LH2 Tanker For The Hydrogen Economy - Design And Power", Abdullah Alkhaledi	**#34** "Simulation-Based Model For Calculating Thermal Conductivity Of Sodium Acetate Hydrate For Thermal Energy Storage Applicstions", Mohamad H. H. Deifalla	**# 67** "Multi-Objective Layout Optimization For A Multi-Body Wave Energy Converter Array", Nikoo, Mohammad Reza; Karani, Mohammad Mehdi Hoseini ; Pirooz, Hooshang Dolatshahi ; Al-Saadi, Saleh N; Gandomi, Amir
	#211 "Modeling Tri-Reforming of Methane for Carbon Dioxide Utilization and Hydrogen Production", Ahmed Ashour, Mohamed Sufiyan Challiwala, Benjamin Wilhite and Nimir Elbashir	**#36** "Thermal Energy Storage Incorporated Into A Renewable Energy System For A Sustainable Community", Sharifishourabi Moslem; Dincer Ibrahim, Mohany Atef	**#103** "Low-temperature heat driven water desalination system employing an ejector enhanced ORC system", Riaz, Fahid
	#213 "Material Innovations and Reactor Design Strategies for Solar Hydrogen Production", Amer Hakki, Konstantinos Kakosimos, Suhde Makki and Ahmed Eisa Elbasheer Abbas	**#73** "A Solar-Driven Trigeneration System With Thermal Energy Storage Option, Uygun Batgi, Sibel; Dincer Ibrahim	**#18** "Solar Energy Storage and Fuel Production via Thermochemical H2O/CO2 Splitting Using Combustion Synthesized Perovskite Oxides", Rahul Bhosale
	#44 " Thermo-Economic Analysis Of A Novel P2x Polygeneration System For Hydrogen, Ammonia, And Methanol Production With Near-Zero Emissions", Sleiti, Ahmad; Al-Ammari, Wahib A; Rezaei-Gomari, Sina; Azizur Rahman , Mohammad	**#230** "A Cogeneration System Coupled With Thermal Energy Storage Option", Ayoub Mohamad, Dincer Ibrahim	**#10** "Thermochemical Solar Energy Storage in the form of Hydrogen via Metal Oxide/Metal Sulfate Water Splitting Cycle", Rahul Bhosale

13:00- 14:00
Lunch: Building I-11

Wednesday – December 04, 2024			
	Main Hall: Building I-11	**Room C245: Building I-11**	**Room C246: Building I-11**
	Session 7: Energy Storage Technologies Session Chair: **Dr. Yusuf Bicer** Session Co-Chair: **Prof. Shaheen AlMuhtaseb** WebEx Link **(Password: cengcongress)**	**Session 8: Hydrogen production and Storage, Material and Applications** Session Chair: **Dr. Mohamed Haouari** Session Co-Chair: **Dr. Zeinab Jawad** WebEx Link **(Password: cengcongress)**	**Session 9: Hydrogen Storage, Material and Applications** Session Chair: **Prof. Ahmad Sleiti** Session Co-Chair: **Dr. Mira Chitt** WebEx Link **(Password: cengcongress)**
14:00 - 15:15	***Invited Talk*** **"**Energy Storage Systems for Decarbonization in Transport, Heating and Cooling and Renewable Energy Integration", Behnam M. Ivatloo **#21 "**Thermodynamic Assessment of Pole-Integrated Lifepo4 Energy Storage System For Arid And Non-Maintainable Locations – A Case Study In Qatar ", A'amar, Khaled Walid; Bicer, Yusuf; Al-Ansari, Tareq **#203 "**Evaluating the catalytic activity and stability of Mo-Me (Me = Fe, Co, and Ni) mixed oxide catalysts for methane decomposition into hydrogen and graphene sheets", Ahmed Awadallah, Mostafa Azab, Ateyya Aboul-Enein, Salah Hassan **#86 "**Experimental and Modeling Insights into Hydrogen Adsorption on Mg-Ni/Zeolite Material", Al-Tal, Rahada; Faqir, Naim; Shawabkeh, Reyad A **# 35 "** Utilization of A Novel Graphite Supported Bioplastic In Supercapacitor Applications", Goren Aysegul Yagmur, Dincer Ibrahim	**#201 "**Exploring Environmental Potential with Coffee Waste-Derived Biochar for Gas Adsorption and Hydrogen Production: A Systematic Review", Rabita Mohd Firdaus, Muhammad Azhari Mazlan, Farihahusnah Hussin, Lai Ti Gew and Mohamed Kheireddine Aroua **#202 "**Advances in Green Hydrogen Production through Seawater Splitting", Gowhar A. Naikoo, Mustri Bano, Israr U. Hassan **#204 "**Photocatalytic butanol reforming to hydrogen production using Ag2O/TiO2 composite catalysts: Effects of Ag2O loading, calcination temperature, and reaction parameters", Thabelo Nelushi, Tumelo Seadira and Gullapelli Sadanandam **#205 "**An experimental study on hydrogen generation from crude oil using MAT unit", Mohamed Hanfi, Olalekan Alade, Abdulkadir Tanimu, Mohamed Mahmoud and Sulaiman Alarifi **#206 "**Hydrogen Gas Production from Natural Iron Ores: Evaluation of Flow Assurance Potentials and Security", Isah Mohammed, Abdulwahab Bello, Mohamed Mahmoud, Dhafer Al-Shehri	**#29 "**Hydrogen's Role in Clean Energy Transitions: From Production to Application", Khraisheh, Majeda **#216 "**iiMAR (Intensified Integrated Membrane- Adsorptive Reactor) for Simultaneous Carbon Capture and Hydrogen Production", Seckin Karagoz **#31 "**Strategic Development of Graphitic Carbon Nitride for Green Hydrogen Production in the GCC Region", Khraisheh, Majeda **#32 "** Enhanced Green Hydrogen Production Using Layered Double Hydroxide-Modified g-C3N4 Nanostructures Under Solar Irradiation", Khraisheh, Majeda; Selvara, Rengaraj **#41 "** A Swot Analysis of Various Hydrogen Energy Storage Options: Export To Import Site", Kumar, Laveet; Sleiti, Ahmad **#04** "Techno-enviro-economic Analysis of a New Hybrid Photovoltaic Thermal Solar Collector-Fuel Cell System for Hydrogen, Heat and Power Generation", Bashar Shboul; Mohamad E. Zayed; Ahmed Abdelrazik; Mohammad Alrbai, Fares A Almomani
15:15-15:30 **Coffee Break, Poster Session 2**			

	Main Hall: Building I-11	Room C245: Building I-11	Room C246: Building I-11
15:30-16:45	**Session 10: Electrochemical Energy Storage** Session Chair: **Prof. Alaa Al-Muhtaseb** Session Co-Chair: **Dr. Hafiz Muhammad Uzair Ayub** WebEx Link (Password: cengcongress)	**Session 11: Hydrogen production and Storage, Material and Applications** Session Chair: **Prof. Fadwa Eljack** Session Co-Chair: **Dr. Muneer Abad** WebEx Link (Password: cengcongress)	**Session 12: Energy Storage Technologies** Session Chair: **Dr. Anand Kumar** Session Co-Chair: **Dr. Dai Liming** WebEx Link (Password: cengcongress)
	Invited Talk "Enhancing Osmotically Driven Membrane Processes with Durable Osmosis Membranes for Integration into Water Electrolysis Systems", Suwaileh, Wafa	**#215 "**Design and assessment of a green hydrogen refueling station for heavy-duty fuel cell electric vehicles", Nurettin Sezer, Sertac Bayhan	**#99 "**A Machine-Learning Approach for Nonlinear Vibration Prediction of Mining Risers Used in Deep-Sea Hydrate Exploitation", Dai, Liming; Guo, Xiaoqiang; Li, Yingwei; Li, Xinye
	#16 "Determining The Optimal Radius Value of A Gold Nanoparticle Embedded In A One-Side Sensitive Solar Cell Using Sentaurus Tcad Software", Mirzaalimov, Navruzbek; Aliev, Rayimjon; Komilov, Murodjon; Mirzaalimov, Avazbek; Ziyoitdinov, Jakhongir; Qahramonova, Shokhida; Khonbutayeva, Dilnoza	**#30 "**Revolutionizing Hydrogen Production: The Role of Carbon Nanomaterials in Photocatalytic Water Splitting", Khraisheh, Majeda **# 26 "** Hydrogen Storage Systems in Oman: Potential and Challenges", Mira Chitt	**# 93 "**Facile surface treatment and decoration of graphene—and chitosan-based 3D polymeric sponges for high-performance separation of heavy oil-in-water emulsions in Qatar", Helally, Mohammed ; mohamed, Raneem; Alhamdan, Manal B.; Baloochi, Zainab ; Alani, Marwa; Subhi Alardah, Ala Husam ; Manawi, Yehia ; H. R. Sliem, Mostafa ; Al-Qahtani, Noora
	#22 "Dimethyl Ether Production From Methanol Over A New Formulating Catalyst", Al-Muhtaseb, Alaa H; Al-Mahrami, Khansaa; Al-Hinai, Amer; Al-Rawahi, Nabeel	**#15 "**Evaluation Of Cryogenic Energy Storage For Liquid Hydrogen Cold Energy Recovery Cycle In A Renewable Fsru", Andriani, Dindha; Bicer, Yusuf	**#228 "**Adsorption and Diffusion Behavior of H2/CO2 and H2/CH4 in Sandstone-Rich Clay Shale Reservoirs: An Insight from Molecular Dynamics Simulation", Alankaa Al-Harbi, Safwat Abdel-Azeim, Mohammed Al-Marri, Mohammed Saad, Golibjon Berdiyorov, Abdulkarem Amhamed, Ibnelwaleed A. Hussein
	# 58 "Electrochemical Reduction Of Co2 (Ecrc) On Synthesized Zn And Mn3o4 (Anode) Electrocatalysts In Nahco3 Electrolyte", viyyapu, shyam kumar yadav; Kumar, Anand; Al-marri, Mohammed J; Saad, Mohammed A H S	**#220 "**Influence of Cushion Gas on Gas Residual during Drainage Displacement in Sandstone Rocks: Application to Subsurface Hydrogen Storage", Ahmed Fatah, Ahmed Al-Yaseri	**#46 "**A Novel Solar Energy-Based Hydrogen Generator Integrated With Battery Storage", Gursoy, Mehmet, Dincer Ibrahim
	#220 "Influence of Cushion Gas on Gas Residual during Drainage Displacement in Sandstone Rocks: Application to Subsurface Hydrogen Storage", Ahmed Fatah, Ahmed Al-Yaseri	**#212 "**Piston Reactor for Blue Hydrogen Production through Gas-Phase Steam Methane Reforming and Autothermal Reforming Routes", Aya Abousrafa, Mary Katbeh, Patrick Linke and Mamoun Al-Rawashdeh	**#113 "**Development Of Mose2@V2o5 Heterostructure: An Efficient Dual Functional Electrocatalysts Fot Her/Oer In An Alkaline Electrolyte", Bashir Ambreen, Munawar Tauseef, Yan Chang-Feng, Rafaqat Muhammad, Alim Khan Shoukat, Koc Muammer, Iqbal Faisal
			#84 "A Solar-Driven Reactor System With Ocean Carbon Dioxide And Compressed Hydrogen Storage", Akci Hilal; Dincer Ibrahim

DAY 3

Thursday – December 05, 2024

	Main Hall: Building I-11	Room C245: Building I-11	Room C246: Building I-11
09:00 – 10:30	**Session 13: : Electrochemical Energy Storage Systems** Session Chair: **Prof. Ramazan Kahraman** Session Co-Chair: **Dr. R. A Shakoor** WebEx Link (Password: cengcongress)	**Session 14: Energy Storage Systems** Session Chair:, **Dr. AbdulRahman Ghannoum** Session Co-Chair: **Dr. Arjumand S Bano** WebEx Link (Password: cengcongress)	**Session 15: Energy Storage Technologies** Session Chair: **Dr. Katia Ayouz,** Session Co-Chair: **Dr. Tang, Wenxian** WebEx Link (Password: cengcongress)
	#12 "Cost Effective Synthesis Of Layered Oxide Cathode For Sodium-Ion Batteries", Moossa, Buzaina*; Qureshi, Ahsan Ishtiaq; Gayara, R.A. Harindi; Siddig Ali, Muntaha Elsadig; Khan, Talha ; Al- Qaradawi, Siham ; Kahraman, Ramazan; Shakoor, R. A. **#13** "Novel Nasicon Based Cathode Materials For Sodium-Ion Batteries", Moossa, Buzaina; Shahid Ullah Akther, Tahmina; Shakoor, Wajeha; Qureshi, Ahsan Ishtiaq; Kahraman, Ramazan; Shakoor, R. A. **#79** "Thermal Management of Lithium-Ion Battery Pack At Extreme Weather Conditions Using Phase Change Materials", Sadrameli, Seyed Mojtaba; Azizi, Yazdan **#33** "Effect of Silicon Nanoparticule Addition On Electrochemical Performance Of Li4ti5o12 As Anode Material For Lib", Merazga, saloua saloua **#112** "G-C3n4-Modulated Cdse-Mn2o3/G-C3n4 Nanosheets As Efficient Alkaline Oer And Her Electrocatalyst For Water-Splitting", Munawar Tauseef , Bashir Ambreen, Yan Chang-Feng , Rafaqat Muhammad, Tong Yongfeng , Khan Shoukat Alim, Koc Muammer, Iqbal Faisa **#92** "Evaluating The Viability of Second-Life Batteries For Peak Shaving: A Case Study of Iran", Piryaei, Zahra; Shahidi, Poroushat; Alvari, Yazdan; Mosayyebi Jirhandeh, Abolghasem; Zandi, Majid **# 233** Experimental characterization of Methylamine–Water–Hydrogen single-pressure absorption refrigeration system, Ben Ezzine Nizar, Arfaoui Haifa, Bellagi Ahmed	**#42** "Parametric Analysis Of Micro Compressed Air Energy Storage System", Chandio, Mohammad Waqas ; Memon, Abdul Ghafoor; Sleiti, Ahmad; Kumar, Laveet **#43** "Cladding Thickness Estimation For Etched Optical Fiber Battery Sensors", Ghannoum, AbdulRahman; Awad, Omar; Nieva, Patricia **#95** "Incorporation of Battery Storage To Better Manage Hydrogen Production Costs", Erdemir, Dogan; Dincer, Ibrahim **#97** "A Synchronized Energy Storage System For Sustainable Greenhouses", Erdemir, Dogan; Dincer, Ibrahim; Bicer, Yusuf **#37** "Energy-Based Sensitivity Analysis: Ionic Liquid And Amine Integration For Biomethane Production With Combined Heat And Power", Salman Raza Naqvi **# 38** "Copper Selenium Loaded Biochar Derived From Date Seed For High Performance Supercapcitors", Salman Raza Naqvi	**#40** " Experimental Investigation of the Underwater Compressed Air Energy Storage System in the Red Sea, Saudi Arabia", Tang, Wenxian **#39** "Synthesis And Characterization of Nio/V2o5 Composite As Electrode Material", Katia, Ayouz **# 66** "Evolution & Viability Of Renewables And Energy Storage Projects In India", Pallickadavil, Avanthika Satheesh **#111** "The Potential Of 3d-Printed Periodic Lattices For High-Efficiency Hydrogen Electrolysis", Khan Shoukat Alim. Koc Muammer **#80** "Bioethanol and Bioproducts from Brewery and Food Wastes: Sustainable Fuel Alternatives for Environmental Impact Reduction and Energy Crisis Mitigation". Ul-Islam, Mazhar, Khan Shaukat **#87** "Long Short-Term Memory (LSTM) Analysis of Lithium-ion Batteries with PCM Cooling Systems", Örs, Enes F; Javani N. **#110** "Cu-Doped Srnio3 Perovskite Nanocrystals For Overall Water-Splitting And Supercapacitor Applications", *Rabbani Abdul Waheed, Bashir Ambreen, Munawar Tauseef,* Yan Chang-Feng, *Alim Khan Shoukat, Koc Muammer, Iqbal Faisal*
10:30- 10:45 **Coffee Break**			

	Main Hall: Building I-11	Room C245: Building I-11	Room C246: Building I-11
10:45 - 12:15	**Session 16: Energy Storage in Renewable Energy Systems** Session Chair **Dr. Kamel Eid** : Session Co-Chair: **Prof. Reyad Shawabkeh** WebEx Link **(Password: cengcongress)**	**Session 17: Energy and Sustainability** Session Chair: **Dr. Donghyun Kim** Session Co-Chair: **Prof. Muftah AlNaas** WebEx Link **(Password: cengcongress)**	**Session 18: Energy and Sustainability** Session Chair: **Dr Mustafa Nasser** Session Co-Chair: **Dr. Ayoub, Syed** WebEx Link **(Password: cengcongress)**
	#14 "Challenging Impact of Side-By-Side Twin Phase Change Materials In Hybrid Photovoltaic/Thermal Solar System For Thermal Management And Functionality Improvement", Abdelrazik, Ahmed; Shboul, Bashar **#20 "**Nanoribbon modification for selective gas adsorption", AYESH, Ahmad I. **#24 "**Transformation Of Kitchen Waste Oil To Green Fuel In The Presence Of Novel Heterogeneous Catalysts", Jamil, Farrukh ; Abu Jrai, Ahmad; Al-Muhtaseb, Alaa H; Myint, Myo Tay Zar; Al-Abri, Mohammed; Al-Hajri, Rashid **#27 "**Optimization and Performance Analysis of Photovoltaic/Thermal Integrated with Direct Contact Membrane Distillation under Varied Flow Rates Using Genetic Algorithm (GA) and Particle Swarm Optimization (PSO)", Maqbool, faisal **#01** "Modeling Hydrogen Production And Storage From Food Wastes Using A Combined Gasifier And Sorption-Enhanced Reformer In Aspen Plus", Ataş Ali, Javani Nader, Yücel Özgün **#96 "**Assessment of An Integrated Biohydrogen Production And Storage System For Refueling Station", Kilicaslan, Ahmet Faruk; Dincer, Ibrahim **#02 "**Techno-economic Assessment of a Photovoltaic Thermal Collector Integrated with a Horizontal Axis Wind Turbine: Combined Heat and Power Generation Application", Shboul, Bashar; Zayed, Mohamed E.; Usman, Muhammad ; Tariq, Rasikh; Alrbai, Mohammad; Almomani, Fares A.	**#51 "**Advanced GC-MS-SIM Analysis Of Bisphenol-A And Phthalic Acid Esters In Qatar's Seawater And Bottled Water Under Extreme Conditions", Alani, Marwa; Al-Qahtani, Noora **#52 "**The Development And Evaluation of Electrospun Polyacrylamide/Chitosan Nanofibers As Wound Healing Scaffolds", Alardah, Ala ; Mohamed, Asma ; Kadavil, Hana; Younes, Husam; Al-Qahtani, Noora **#53** "AI-Powered Precision Agriculture: A Real-Time Monitoring And Optimization System For Arid Environments", Darwish, Mohammed; Baloochi, Zainab A; Kuna, Mennatalla; Al-Qahtani, Noora **#17** "Optimal Settlement Model of Energy and Reactive Power Market Using Stochastic Programming", Alghassab, Mohammed; Alghassab, Mohammed **#77** "Bridging the Gap: Connecting Pore-Scale and Continuum-Scale Simulations for Immiscible Multiphase Flow in Porous Media", Ebadi, Mohammad; Berdiyorov, Golibjon; Hussein, Ibnelwaleed A. . **# 234** "Experimental Investigations and Numerical Simulations of Heat Driven Commercial Absorption Chiller", Arfaoui Haifa, Ben Ezzine Nizar, Bouldila Salwa, Lazaar Mariem	**#47** "Health And Environmental Impacts Of Disposable Paper Cups: An Analysis Of Microplastic And Phthalate Contamination In Qatar", Alhamdan , Naval ; Mohamed, Asma ; Alani, Marwa; Mohamed, Raneem ; Alardah, Ala; Al-Qahtani, Noora **#48 "**Controlled Synthesis of Porous SnO2 Microsphere For Ethanol Sensor", Abdu, Hassan Idris; Almamoun, Omer ; Guo, Yaodong ; Ren, Jiayu ; Zhang, Xiaowen ; Huang, Di ; Si, Kaili ; Zhang, Siyang ; Eid, Kamel **#49 "**Hands-On Training And Characterization Of Compounds Using NMR Spectroscopy", Kuna, Mennatalla; Almasharfi, Aljouri ; Mansour, Ameen; Mohammed, Aman; Smati, Zainab; Haque, Dr. Anzarul; Al-Qahtani, Noora **#83 "**Improving CO2 Electroreduction With Cu-Ni Nanoalloy-Coated Mesoporous Carbon Catalysts: A Promising Approach For Sustainable Energy Production And Carbon Dioxide Mitigation Alhamdan, Manal B; Bahgat Radwan, Ahmed; K Hassan, Mohammed; Al-Qahtani, Noora **#25 "**A Radiolytic Approach To Crosslink Gels: Radiolytically-Crosslinked Resorcinol-Formaldehyde Gels", Awadallah-F, Ahmed; Al-Muhtaseb, Shaheen A. **#03 "**Thermo-economic Analysis of Solar Parabolic Trough Combined with Organic Rankine Cycle and Anaerobic Biogas for a Single Effect Evaporator Distillation Process and Power Generation", Shboul, Bashar*; Zayed, Mohamad E. ; Alrbai, Mohammad ; Al-Dahidi, Sameer ; Almomani, Fares A

11:00- 13:00	**Poster session-2** **#11** DEVELOPMENT OF DOPED IRON OXIDES FOR THE COMBINED SOLAR ENERGY STORAGE AND FUEL PRODUCTION VIA H2O/CO2 SPLITTING REDOX CYCLE *Rahul Bhosale* **#214** MODIFICATION OF NICKEL-COPPER CATALYTIC SYSTEMS FOR ENHANCING HYDROGEN PRODUCTION IN TRI-REFORMING OF METHANE: THE ROLE OF PROMOTERS AND SYNTHESIS TECHNIQUES, *Sarah Eldakrouri, Hanif Choudhury and Nimir Elbashir* **#19** STORAGE OF SOLAR ENERGY IN THE FORM OF FUELS VIA METAL OXIDE DRIVEN CHEMICAL LOOPING REFORMING OF CH4 AND H2O/CO2 SPLITTING PROCESSES *Rahul Bhosale* **#56** DEVIATIONS FROM AVERAGE TEMPERATURE DURING HYDROGEN REFUELING PROCESS ACCORDING TO SAE J2601 PROTOCOL *Gyu Seok Shim; Hyo Min Seo; Byung Heung Park* **#60** SURFACE MODIFICATION OF BIOCHAR FOR ENERGY STORAGE APPLICATIONS: MINI REVIEW *Yara Soltan; Fares A Almomani; Mustafa Nasser* **#63** STUDY OF ELECTROLYTE TEMPERATURE EFFECT ON THE CATALYTIC ACTIVITY OF RARE EARTH (SAMARIUM) METAL DOPED NICKEL NANOSTRUCTURES FOR OXYGEN EVOLUTION IN ALKALINE CONDITION *Easwari Padmakumari* **#68** OPTIMIZING HYDROGEN PRODUCTION VIA THERMOCHEMICAL WATER SPLITTING USING $LAMNO_3$ PEROVSKITE *Ghena Hassan Albatarni Arjumand S Bano; Fares A Almomani* **#225** ASSESSING THE ECONOMIC VIABILITY AND ENVIRONMENTAL BENEFITS OF NATURAL GAS AND GREEN HYDROGEN BLENDING *Hafiz Muhammad Uzair Ayub and Sabla Y. Alnouri* **#226** TECHNO-ECONOMIC AND ENVIRONMENTAL ASSESSMENT OF NEWLY SYNTHESIZED PRE-COMBUSTION CO2 CAPTURE SYSTEM USING NOVEL IONIC LIQUIDS FOR H2 PRODUCTION *Sadah Mohammed and Fadwa Eljack* **#62** The Prospective of Methyl Tert-Butyl Ether Production Directions Ayoub, Syed, Zeinab Abbas Jawad **#239** ECO-FRIENDLY REMEDIATION: HARNESSING HEMP ROPE FOR EFFICIENT ENGINE OIL REMOVAL FROM OIL-WATER EMULSIONS Edrees Adam Rania, Alahmad Hanin, Alomar Tamara, Hameed Bassim, Almomani Fares, Al-Ghouti Mohammad, Han Dong Suk

12:30-13:00 **Closing Ceremony**
13:00-14:00 **Lunch**
16:00-19:30 **Social Event: Doha Tour**