



## ORGANIZING COMMITTEE

### HONORARY CHAIRS

T. Nejat Veziroglu, USA

### FOUNDING CHAIR

Ibrahim Dincer, Canada

### CONFERENCE CHAIR

Tahir Abdul Hussain Ratlamwala, Pakistan

### TECHNICAL CHAIR

Khurram Kamal, Pakistan

### ORGANIZING COMMITTEE

Can Ozgur Colpan, Turkey

Aqueel Shah, Pakistan

Yusuf Bicer, Qatar

M. Asif, Pakistan

M. Akif Ezan, Turkey

Senthan Mathavan, U.K.

### ORGANIZING INSTITUTIONS

National University of Sciences and Technology (NUST)

National Hydrogen Association (NHA)

### COOPERATING INSTITUTIONS

International Association for Hydrogen Energy (IAHE)

Ontario Tech University

### UNDERGRADUATE STUDENT VOLUNTEERS

Ghulam Muhammad Palli (Team Lead)

Saad Karim (Vice Lead)

Taimur Shahzad Gill (Web Management Lead)

Muhammad Umar (Web Management Member)

Usama Bin Irsalan (Web Management Member)

Narmeen Sabah Siddiqui (Management Member)

Syed Umer Majeed (Publication Lead)

Niranjan Chawla (Management Lead)

Talha Aamir (Publication member)



# Sunday-11 December 2022



## CONFERENCE REGISTRATION

10:00 - 18:00  
(GMT+5)

SUNDAY - WEDNESDAY



# Monday-12 December 2022



	<p style="text-align: center;"><b>OPENING CEREMONY</b></p> <ul style="list-style-type: none"><li>• Dr. Tahir Abdul Hussain Ratlamwala (<i>Conference Chair</i>)</li><li>• Tauqeer Ahmed Khwaja (<i>Commandant PNEC-NUST</i>)</li><li>• Prof. Dr. Ibrahim Dincer (<i>President NHA</i>)</li><li>• Dr. Hamood Ur Rahman (<i>Director of Research and Development, NUST</i>)</li></ul>
10:30-10:50 GMT+5	<b>BREAK</b>
10:50-11:30 GMT+5	<p style="text-align: center;"><b>OVERVIEW TALK</b></p> <p style="text-align: center;"><b>TOPIC: HYDROGEN 1.0: A REVOLUTIONARY START</b></p> <p style="text-align: center;"><i>By: Prof. Ibrahim Dincer</i></p>
11:30-13:00 GMT+5	<p style="text-align: center;"><b>KEYNOTE SESSION 1</b></p> <ol style="list-style-type: none"><li>1. <b>TOPIC: PROGRESS AND CHALLENGES IN SOLID OXIDE ELECTROLYSIS FOR THE LOW CARBON ENERGY TRANSITION</b> <i>By: Prof. Nigel Brandon</i></li><li>2. <b>TOPIC: TRANSITION FROM FOSSIL TO RENEWABLE ENERGY AND THE ROLE OF HYDROGEN</b> <i>By: Prof. Andreas Züttel</i></li></ol>
13:00-15:00 GMT+5	<b>LUNCH</b>
15:00-16:10 GMT+5	<p style="text-align: center;"><b>INVITED SPEAKER SESSION 1</b></p> <ol style="list-style-type: none"><li>1. <b>TOPIC: DISTRIBUTED WASTE TO POWER GENERATION SYSTEM FOR HYDROGEN PRODUCTION</b> <i>By: Prof. Nadeem Sheikh</i></li><li>2. <b>TOPIC: LOW-HANGING FRUITS OF THE HYDROGEN ECONOMY</b> <i>By: Prof. Taufiq Khan</i></li></ol>
16:10-16:30 GMT+5	<b>BREAK</b>
16:30-18:00 GMT+5	<p style="text-align: center;"><b>KEYNOTE SESSION 2</b></p> <ol style="list-style-type: none"><li>1. <b>TOPIC: ADVANCES IN SUSTAINABLE HYDROGEN PRODUCTION WITH OFFSHORE APPLICATIONS</b> <i>By: Prof. Greg F. Naterer</i></li><li>2. <b>TOPIC: HYDROGEN FUEL CELL FOR SUSTAINABLE AVIATION</b> <i>By: Prof. Xianguo Li</i></li></ol>



10:00-10:45 GMT+5	<p align="center"><b>KEYNOTE TALK</b></p> <p align="center"><b>TOPIC: PHOTOCATALYTIC WATER SPLITTING TO PRODUCE SOLAR HYDROGEN ON A LARGE SCALE</b> By: <i>Prof. Kazunari Domen</i></p>		
10:45-11:30 GMT+5	<p align="center"><b>PARALLEL SESSION – 1</b></p>		
	<p align="center"><b>TRACK 1: RENEWABLE HYDROGEN</b></p>	<p align="center"><b>TRACK 2: FUEL CELL</b></p>	<p align="center"><b>TRACK 3: HYDROGEN PRODUCTION</b></p>
	<p><b>FROM VARIOUS BIO-SOURCES TO GREEN HYDROGEN PRODUCTION: A CRITICAL TECHNICAL COMPARISON AND DISCUSSION</b></p> <p><i>Letitia Petrescu, Stefan Cristian, Galusnyak, Calin-Cristian Cormos.</i></p> <p><b>SUSTAINABLE DEVELOPMENT IN GREEN ENERGIES, AND THE ENVIRONMENT</b></p> <p><i>Abdeen Omer</i></p> <p><b>A NUMERICAL STUDY ON THE DYNAMIC RESPONSE BEHAVIOR OF PROTON EXCHANGE MEMBRANE WATER ELECTROLYZERS UNDER RENEWABLE ENERGY FLUCTUATIONS</b></p> <p><i>Boshi Xu, Yang Yang, Jun Li, Xun Zhu, Liang Zhang, Qiang Liao.</i></p>	<p><b>A HYBRIDIZED SHIP-POWERING SYSTEM WITH FUEL CELLS USING HYDROGEN AND METHANE</b></p> <p><i>Shaimaa Seyam,, Ibrahim Dincer, Martin Agelin-Chaab</i></p> <p><b>DENSE METALLIC MEMBRANES FOR HIGH-DENSITY HYDROGEN PRODUCTION FROM DIFFERENT FEEDSTOCKS FOR PEM FUEL CELLS POWER GENERATION</b></p> <p><i>Edward Gobina, Habiba Shehu, Ifeyinwa Orakwe, Muktar Ramalan, Tamunotonye Williamwest, Woyintonye Igbagara, Idris Hashim, Priscilla Ogunlode, Ofasa Abunomah, Evans Ogoun, Florence Aisueni</i></p> <p><b>TRANSPORT-ENHANCED BIOINSPIRED METHANOL STEAM REFORMING MONOLITHIC CATALYST SUPPORT BASED ON TRIPLY PERIODIC MINIMAL SURFACES</b></p> <p><i>Jiaxuan Li, Yang Yang, Xun Zhu, Dingding Ye, Rong Chen, Qiang Liao.</i></p>	<p><b>ANALYSIS OF THE ENERGETIC, ECONOMIC, AND ENVIRONMENTAL PERFORMANCE OF HYDROGEN PRODUCTIONS</b></p> <p><i>Maurizio Fermeglia, Elena Barbera, Andrea Mio, Alberto Bertuccio, Alessandro Massi Pavan.</i></p> <p><b>PERFORMANCE ASSESSMENT OF A HYBRID SULFUR-BROMINE CYCLE-BASED HYDROGEN GENERATION FOR RESIDENTIAL USE</b></p> <p><i>Fatih Sorgulu, Ibrahim Dincer.</i></p> <p><b>SOLAR PHOTOVOLTAIC SYSTEMS THERMAL EFFICIENCY IMPROVEMENT THROUGH LOW-GRADE HEAT EXTRACTION AND HYDROGEN PRODUCTION THROUGH METHANOL STEAM REFORMING</b></p> <p><i>Saeed Iqbal, Ali Javaid, Muhammad Sajid, Muhammad Jawad Khan, Yasar Ayaz, Adeel Waqas</i></p>
11:30-11:45 GMT+5	<p align="center"><b>BREAK</b></p>		
11:45-13:00 GMT+5	<p align="center"><b>INVITED SPEAKERS SESSION 2</b></p> <p align="center"><b>1. TOPIC: GASIFICATION OF HIGH-ASH SEWAGE SLUDGE FOR HYDROGEN PRODUCTION: EXPERIMENTAL, SENSITIVITY, AND PREDICTIVE ANALYSIS</b> By: <i>Dr. Salman Naqvi</i></p> <p align="center"><b>2. TOPIC: MEMBRANE TECHNOLOGIES IN DECARBONIZED HYDROGEN PRODUCTION</b> By: <i>Dr. Prof. Adolfo</i></p>		
13:00-14:30 GMT+5	<p align="center"><b>LUNCH</b></p>		

14:30-16:00 GMT+5	<b>PARALLEL SESSION - 2</b>		
	<b>TRACK 4: MULTIGENERATION</b>	<b>TRACK 5: AI AND CONTROL IN HYDROGEN</b>	<b>TRACK 6: HYDROGEN STORAGE</b>
	<p><b>DEVELOPMENT OF A LINEAR FRESNEL-BASED MULTIGENERATIONAL SYSTEM WITH SOLID-OXIDE ELECTROLYSIS FOR HYDROGEN PRODUCTION</b></p> <p><i>Mert Temiz, Ibrahim Dincer.</i></p>	<p><b>AN ASSESSMENT OF HYDROGEN PRODUCTION BY HARVESTING WIND ENERGY IN A SUBURBAN ENVIRONMENT: A MACHINE LEARNING APPROACH</b></p> <p><i>Ali Javaid, Muhammad Sajid, Emad Uddin, Yasar Ayaz, Adeel Waqas.</i></p>	<p><b>RECONFIGURED METALLIC MEMBRANE TECHNOLOGY FOR MAINTAINING HYDROGEN CONCENTRATION BELOW 4% IN FUEL DEBRIS CANISTERS</b></p> <p><i>Edward Gobina, Habiba Shehu, Florence Aisueni, Tamunotonye Williamwest, Muktar Ramalan, Evans Ogoun, Priscilla Ogunlode, Woyintonye Igbagara, Idris Hashim, Ifeyinwa Orakwe, Ofasa Abunomah.</i></p>
	<p><b>AN INTEGRATED WASTE-TO-ENERGY MULTIGENERATION SYSTEM BASED ON PLASTIC WASTES PYROLYSIS</b></p> <p><i>Mohamed Ismail, Ibrahim Dincer.</i></p>	<p><b>THERMODYNAMIC ANALYSIS OF A GEOTHERMAL-BASED INTEGRATED MULTI-GENERATION SYSTEM AND PREDICTION OF OUTPUTS VIA BACK PROPAGATION NEURAL NETWORK USING MATLAB</b></p> <p><i>Abdul Shakoor, Tahir Hussain Ratlamwala, Khurram Kamal, Assad Anis</i></p>	<p><b>A COMPARISON ANALYSIS OF THE PRODUCTION AND STORAGE OF LIQUIFIED SYNTHETIC NATURAL GAS AND HYDROGEN WITH BOIL-OFF GAS RECOVERY</b></p> <p><i>Mohammed Al-Breiki, Yusuf Bicer.</i></p>
	<p><b>DESIGN OF A NEW CEMENT PLANT MULTIGENERATIONAL SYSTEM WITH HYDROGEN PRODUCTION</b></p> <p><i>Andre Bolt, Dr. Ibrahim Dincer, Dr. Martin Agelin-Chaab.</i></p>	<p><b>ENERGY AND EXERGY ANALYSIS OF RENEWABLE SOURCE MULTIGENERATION SYSTEM</b></p> <p><i>M. Murtaza Magsi, Talha Aamir, Zubair Ul Haq, Khalid Saleem, Mudassir Rasool, Tahir Abdul Hussain Ratlamwala, Khurram Kamal.</i></p>	<p><b>MXENE / NI POROUS COMPOSITES FOR HYDROGEN PRODUCTION AND ENERGY STORAGE APPLICATION</b></p> <p><i>Sergii Sergiienko, Daniela Lopes, Gabriel Constantinescu, Andrei Kovalevsky.</i></p>
	<p><b>THERMODYNAMIC ANALYSIS OF A PARABOLIC TROUGH SOLAR COLLECTOR (PTSC) BASED INTEGRATED MULTI-GENERATION SYSTEM.</b></p> <p><i>Ayyaz Ahmed Mirza, Sheharyar Waseem, Tahir Abdul Hussain Ratlamwala.</i></p>	<p><b>DESIGN AND ANALYSIS OF A MULTIGENERATION SYSTEM WITH CONCENTRATING PHOTOVOLTAIC THERMAL (CPV/T) AND PROTON EXCHANGE MEMBRANE FUEL CELL (PEMFC) WITH THE INCORPORATION OF PID CONTROLLER IN MATLAB/SIMULINK</b></p> <p><i>Saad Karim, Umer Majeed, Mohammed Sameer Bin Abrar, Tahir Abdul Hussain Ratlamwala, Khurram Kamal.</i></p>	<p><b>MATERIAL RELIABILITY IN HYDROGEN STORAGE APPLICATIONS AND TRANSPORTATION- A REVIEW</b></p> <p><i>Farhan Ashraf, Muntazir Abbas, Sarhan Al Shammari.</i></p>
16:00-16:15 GMT+5	<b>BREAK</b>		

<b>PARALLEL SESSION - 3</b>						
<b>TRACK 7: HYDROGEN POLICY</b>		<b>TRACK 8: NANOHYDROGEN</b>		<b>TRACK 9: RENEWABLE HYDROGEN</b>		
<b>16:15-18:00</b>  <b>GMT+5</b>	<p style="text-align: center;"><b>EFFECT OF CHANGE IN TARRIF AND TAX POLICIES ON PV SYSTEM FEASIBILITY FOR AN AVERAGE CONSUMER IN PAKISTAN</b></p> <p style="text-align: center;"><i>Abdul Kashif Janjua, Muhammad Shahzad Younis.</i></p>		<p style="text-align: center;"><b>INVESTIGATION OF H2 PRODUCTION FROM FLUE GAS METHANE REFORMING USING NANOPARTICLE MAGNESIUM OXIDE MODIFIED GAMMA ALUMINA MEMBRANE</b></p> <p style="text-align: center;"><i>Habiba Shehu, Edward Gobina, Ifeyinwa Orakwe.</i></p>		<p style="text-align: center;"><b>PERFORMANCE ENHANCEMENT OF A COMPACT SOLAR REFORMING MEMBRANE REACTOR ENHANCED WITH MULTI-HELICAL INSERTS</b></p> <p style="text-align: center;"><i>Xin-Yuan Tang, Yong-Jian Yang, Wei-Wei Yang, Ya-Ling He</i></p>	
	<p style="text-align: center;"><b>MEMBRANE TECHNOLOGY ENHANCING INTEGRATION OF HYDROGEN IN HARD-TO-ABATE SECTORS OF THE GLOBAL ECONOMY</b></p> <p style="text-align: center;"><i>Prof Edward Gobina, Habiba Shehu, Ifeyinwa Orakwe, Ayo Giwa, Adam Ben-Aron.</i></p>				<p style="text-align: center;"><b>RESPONSE SURFACE OPTIMIZATION AND TRANSIENT ANALYSIS OF A SOLAR METHANE REFORMING REACTOR WITH PASSIVE THERMAL MANAGEMENT</b></p> <p style="text-align: center;"><i>Yong-Jian Yang, Xin-Yuan Tang, Wei-Wei Yang, Ya-Ling He.</i></p>	
				<p><b>EVALUATION OF BIOELECTROCHEMICAL HYDROGEN PRODUCTION FROM VARIOUS FEEDSTOCK</b></p> <p style="text-align: center;"><i>Veera Gnaneswar Gude.</i></p>		
<b>17:00-18:00</b>  <b>GMT+5</b>	<p><b>KEYNOTE TALK</b></p> <p><b>TOPIC: TERNARY OXIDE SEMICONDUCTORS AND ALLOYS FOR SOLAR HYDROGEN GENERATION</b></p> <p style="text-align: center;"><i>By: Prof. Krishnan Rajeshwar</i></p>					



PARALLEL SESSION - 4			
TRACK 10: FUEL CELL		TRACK 11: HYDROGEN PRODUCTION	TRACK 12: MULTIGENERATION
<b>10:00-11:30 GMT+5</b>	<p><b>HYDROGEN TRANSPORT FROM GAS TO LIQUID PHASE (WATER): COMPARISON OF PALLADIUM AND PLATINUM MEMBRANE CATALYST SYSTEMS IN THREE-PHASE REACTIONS</b></p> <p><i>Ifeyinwa Orakwe, Habiba Shehu, Edward Gobina.</i></p>	<p><b>PRODUCTION AND USE OF HYDROGEN IN A PHOSPHORIC ACID FUEL CELL EMPLOYED IN A COMMERCIAL DOMAIN, ANALYSED USING A MATLAB/SIMULINK ENVIRONMENT</b></p> <p><i>Mohaimin Daud Channa, Muhammad Sohaib Umer, Muhammad Tehami Khan, Muhammad Haris, Khurram Kamal.</i></p>	<p><b>OPERATING VAPOR ABSORPTION CYCLE FROM TWIN SPOOL BIODIESEL POWERED GAS TURBINE EXHAUST</b></p> <p><i>Uzair Bhatti, Mustafa Maqsood, Hamza Aamir, Mohammad Fahad, Khurram Kamal, Tahir Ratlamwala.</i></p>
	<p><b>THIN FILMS: PREPARATION, CHARACTERIZATION, AND APPLICATION AS ANODE MATERIALS FOR DIRECT METHANOL FUEL CELLS</b></p> <p><i>Yeşim Aydın Dursun, Ramazan Solmaz, SERVİ DUT PEKMEZİ</i></p>	<p><b>N INNOVATIVE RENEWABLE ENERGY-BASED TRIGENERATION SYSTEM FOR ELECTRICITY, LNG, AND HYDROGEN PRODUCTION</b></p> <p><i>Muhammad Khan, Muhammad Abid, Mi Yan, Tahir Ratlamwala, Saadia Yousuf. A</i></p>	<p><b>ANALYSIS OF OCEAN THERMAL AND SOLAR ENERGY BASED MULTIGENERATION SYSTEM FOR SUSTAINABLE COMMUNITY: ENERGY AND EXERGY PERSPECTIVES</b></p> <p><i>Faraz Neakakhtar, Muhammad Umar Khan, Sheharyar Waseem, Mahesh Kumar, Tahir Abdul Hussain Ratlamwala.</i></p>
	<p><b>THERMODYNAMIC ANALYSIS OF HIGH-TEMPERATURE PROTON EXCHANGE MEMBRANE FUEL CELL (HT-PEMFC) WITH CONSIDERATION OF EFFICIENT ENERGY RECOVERY SYSTEM</b></p> <p><i>Muhammad Huzaifa Khan, Syed Ashir Ahmad, Salman Hashim Khan, Khurram Kamal, Muhammad Shakaib.</i></p>		<p><b>SIMULINK MODEL MULTI-GENERATION SYSTEM BASED ON PHOSPHORIC ACID FUEL CELL STACK, STEAM TURBINE, AND WIND POWER GENERATION</b></p> <p><i>Umer Fayhan, M Saad Ammar, Fazal E Ahad, M Umar Nawaz, Ahmer Ashfaq, Khurram Kamal.</i></p>
	<p><b>PEMFC WASTE HEAT INCORPORATED INTO THE REGENERATIVE RANKINE CYCLE</b></p> <p><i>Bilal Noor, Muhammad Zafar, Sarmad Saleem, Zain Abid, Khurram Kamal.</i></p>		<p><b>DESIGN AND THERMODYNAMIC ANALYSIS OF A MULTI-GENERATION SYSTEM PRODUCING HYDROGEN, ELECTRICITY, HEATING, AND COOLING.</b></p> <p><i>Muhammad Osama, Talha Siyal, Khurram Kamal, Tahir Abdul Hussain Ratlamwala</i></p>
	<p><b>MODELING AN EFFICIENT SHIP SYSTEM</b></p> <p><i>Hamza Malik, Khurram Kamal.</i></p>		<p><b>HYDROGEN PRODUCTION USING A MULTI-GENERATION SYSTEM WITH PID STABILISERS</b></p> <p><i>Armaghan Shahzad, Muhammad Ahmed, Yasir Qazi, Syed Muzzammil Ali, Khurram Kamal, Tahir Abdul Hussain Ratlamwala.</i></p>
<b>11:30-11:45 GMT+5</b>	<b>BREAK</b>		

		<b>PARALLEL SESSION - 5</b>		
		<b>Track 13: RENEWABLE HYDROGEN</b>	<b>Track 14: FUEL CELL</b>	<b>Track 15: HYDROGEN PRODUCTION</b>
<b>11:45-13:15</b> <b>GMT+5</b>	<b>HYDROGEN POTENTIAL FROM HYBRID SOLAR AND HYDRO-PIEZOELECTRIC ENERGY HARVESTING SYSTEM</b>	<b>PHOSPHORIC ACID FUEL CELL-BASED CCHP SYSTEM FOR A SUSTAINABLE COMMERCIAL FARM AND CROP RESEARCH FACILITY</b>	<b>NUMERICAL INVESTIGATION OF SUGARCANE BAGASSE AS POTENTIAL FEEDSTOCK IN PAKISTAN FOR BIOHYDROGEN PRODUCTION THROUGH GASIFICATION</b>	
	<i>Ali Javaid, Muhammad Sajid, Emad Uddin, Yasar Ayaz, Adeel Waqas.</i>	<i>Aleena Amin Khuwaja, Muhammad Aarsal, Muhammad Maaz, Zeeshan Khurshid, Khurram Kamal.</i>	<i>Abeer Fawad, Muhammad Abdul Qyyum , Absaar Ul Jabbar.</i>	
	<b>WATER FOOTPRINT OF RENEWABLE HYDROGEN PRODUCTION TECHNOLOGIES</b>	<b>Modeling and Simulation of Proton Exchange Membrane Fuel Cell (PEMFC) and utilizing its output in an Industry</b>	<b>PRODUCTION AND PERFORMANCE ANALYSIS OF HYDROGEN AS A FUEL BY ARTIFICIAL PHOTOSYNTHESIS WITH SOLAR ENERGY</b>	
	<i>Muhammed Iberia Aydin, Ibrahim Dincer.</i>	<i>Muhammad Umer, Muhammad Hassan Umar, Mohammad Khizar Saeed, Syed Maaz Ali, Khurram Kamal</i>	<i>Muhammad Ihsan Shahid, Muhammad Fahad Sheikh.</i>	
	<b>ULTRASONIC PRETREATMENT OF ALGAL BIOMASS FOR ENHANCED BIOGAS AND BIOHYDROGEN PRODUCTION VIA ANAEROBIC DIGESTION</b>	<b>CONCEPT DESIGN OF LOW-EMISSION FUEL CELL-BASED SHIP PROPULSION SYSTEM FOR THE MARITIME EXPORT INDUSTRY</b>	<b>ANALYSIS AND PERFORMANCE ASSESSMENT OF A HYDROGEN-PRODUCING MULTI-GENERATION SYSTEM INTEGRATED WITH A REHEAT BRAYTON CYCLE</b>	
	<i>Asad A. Zaidi, Sohaib Z. Khan, Hamad Almohamadi, Mohammad Rehan, Muhammad Abdul Qyyum.</i>	<i>Asif Raza, Muntazir Abbas, Syed Sajjad Haider Zaidi, Asif Khan</i>	<i>Syed Muzzammil Ali, Gopal Parkash, Armaghan Shahzad, Yasir Qazi, Khurram Kamal, Tahir Abdul Hussain Ratlamwala.</i>	
<b>OPTIMIZATION OF NAOH-UREA PRETREATMENT FOR BIOGAS ENHANCEMENT FROM KITCHEN WASTE ANAEROBIC DIGESTION</b>	<b>HOTEL POWER SUPPLY USING MOLTEN CARBONATE FUEL CELL</b>	<b>SYSTEMATIC ANALYSIS OF ENERGY OUTPUT FROM A PEMFC PERTAINING TO PROVIDING POWER TO THE ELECTRICAL GRIDS ALONG WITH STEADY OPERATIONS OF COLD STORAGE AND WATER TREATMENT PLANT</b>		
<i>Asad A. Zaidi, Sohaib Z. Khan, Hamad Almohamadi, Mohammad Rehan, Muhammad Abdul Qyyum</i>	<i>Muhammad Saad, Muhammad Ehsan, Muhammad Hanzala Ahmed, Armaghan, Khurram Kamal.</i>	<i>Aateka Khan, Daniyal Waheed, Ahmed Mohiuddin Rawaha Ashraf Pn, Khurram Kamal.</i>		
<b>ENERGY &amp; EXERGY ANALYSIS OF ELECTRICITY &amp; HYDROGEN GENERATION SYSTEM USING GEOTHERMAL SOURCED ORC WITH ZEOTROPIC MIXTURE FOR THE LOCAL DISTRICT IN PAKISTAN</b>				
<i>Muhammad Furqan Siddiqui, Ayyaz Ahmed Mirza, Muhammad Ali, Tahir Abdul Hussain Ratlamwala.</i>				
<b>13:15-14:30</b> <b>GMT+5</b>	<b>LUNCH</b>			

		<b>PARALLEL SESSION - 6</b>	
		<b>Track 16: RENEWABLE HYDROGEN</b>	<b>Track 17: FUEL CELL</b>
<b>14:30-16:00</b> <b>GMT+5</b>	<b>MULTI-OBJECTIVE OPTIMIZATION OF A GEOTHERMAL-BASED HYDROGEN PRODUCTION SYSTEM</b>	<i>Sheikh Muhammad Ali Haider, Tahir Ratlamwala, Khurram Kamal</i>	<b>USING A SOFC SYSTEM WITH COGENERATION TO POWER A COMMERCIAL SCALE POULTRY FARM</b>
	<b>MODELLING AND SIMULATIONS OF PEMFC ALONG WITH THE COMBINATION AND UTILIZATION OF VARIOUS RENEWABLE ENERGY RESOURCES TO PRODUCE POWER TO RUN A GREEN CAMPUS ON MATLAB SIMULINK</b>	<i>Usama Khan, Khuraam Kamal, Hammad Mushtaq Malik, Muhammad Bilal Masood, Sajid Bilal, Rao M Danish.</i>	<i>Muhammad Farooq, Syed Abbas Raza Zaidi, Abdul Ahad Hussain, Jaishree Rajput, Khurram Kamal.</i>
	<b>SIMULINK MODELLING OF WATER SEWAGE TREATMENT PLANT POWERED BY RENEWABLE ENERGY</b>	<i>Abdul Mateen, Abdul Rehman, Arhum Khalil, Fahad Ullah Awan, Khurram Kamal.</i>	
	<b>FEASIBILITY OF A RENEWABLE MULTI-POWER ENERGY SYSTEM INVOLVING THE USE OF FUEL CELLS IN A MULTI-PURPOSE FARM-HOUSE ENVIRONMENT VIA SIMULATION IN MATLAB/SIMULINK.</b>	<i>Ahmed Khan, Talhah Atiq, Talha Afzaal, Raja Abuhuraira, Khurram Kamal.</i>	
	<b>ANALYSIS AND PERFORMANCE EVALUATION OF A HYDROGEN-PRODUCING RENEWABLE BASED MULTI-GENERATION SYSTEM</b>	<i>Yasir Qazi, Syed Muzzammil Ali, Gopal Parkash, Armaghan Shahzad, Khurram Kamal, Tahir Abdul Hussain Ratlamwala.</i>	
<b>16:00-16:15</b> <b>GMT+5</b>	<b>CLOSING CEREMONY</b>		