



IHTEC
2024

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8th International HYDROGEN TECHNOLOGIES Congress

12-15 May 2024

Dicle University, Diyarbakır, Türkiye

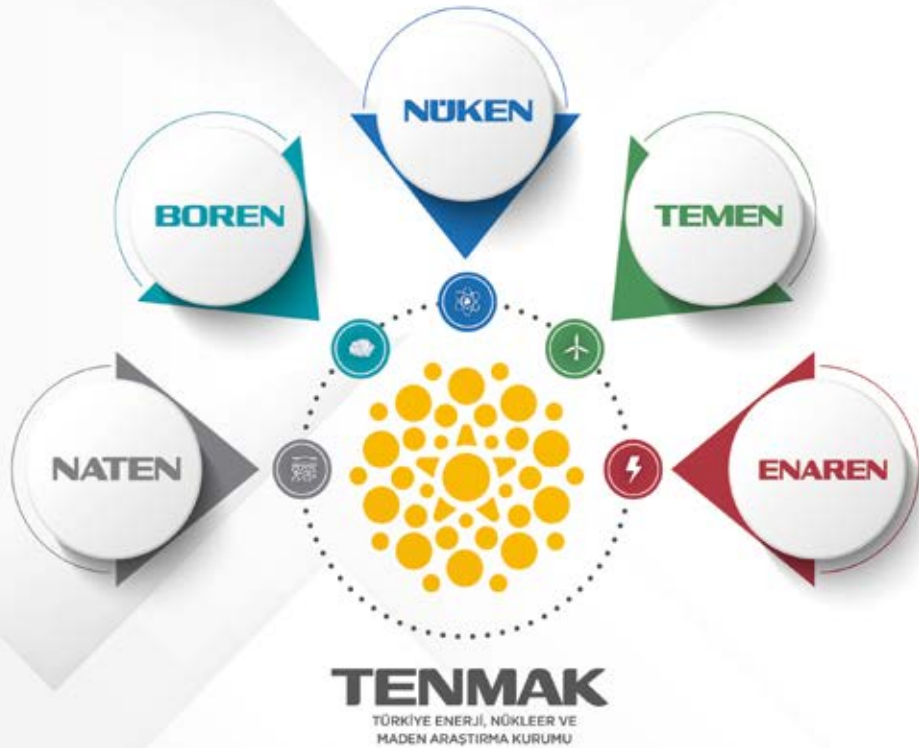
SCIENTIFIC PROGRAM



TENMAK
TURKISH ENERGY, NUCLEAR AND
MINERAL RESEARCH AGENCY

Day 1- Sunday May 12, 2024

ENERJİ, NÜKLEER VE MADEN TEKNOLOJİLERİNİN AR-GE KURUMU



	Registration Desk
13:00-17:00	Registration

Day 2 - Monday May 13, 2024

	HALL A
09:15-10:00	Opening Talks Heybet KILIÇ (Congress Chair) İbrahim DİNÇER (President, National Hydrogen Energy Association) Nedim TÜZÜN (Deputy General Manager, DEDAŞ) Gökhan Kürşat DEMİR (Deputy Production Manager, ETİ Bakır) Mehmet KARAKOÇ (Rector, Dicle University) Ali İhsan SU (Governor of Diyarbakir, to be confirmed)
10:00-10:35	Theme Speaker / Abdulkadir BALIKÇI (Energizing Türkiye's future:The Green Hydrogen Revolution)
10:35-10:55	Coffee Break
	Chair: Wei-Hsin Chen
10:55-11:35	Keynote Speaker / İbrahim Dincer (Hydrogen Energy Technologies: New Perspectives)
11:35-12:15	Keynote Speaker / Seeram Ramakrishna (Electrospun Nanomaterials for the Hydrogen Economy)
12:15-13:45	Lunch Board Meeting of Hydrogen Technologies Association (Invite only)

PARALLEL SESSIONS	
HALL A	HALL B
13:45-15:30	Session 1A: TENMAK Session
	Session 1B: Green Hydrogen-I
	Chair: Adnan Midilli
	Chair: Ramazan Solmaz
	<p>Turkish Energy, Nuclear and Research Agency (TENMAK) Bahadır SAYGI</p> <p>Energy and Technology Policies of TENMAK Celal ERBAY</p> <p>Funding Programmes of TENMAK Gülten ÖZÇAYAN</p>
	<p>(Invited Talk) Potential of membrane engineering in the field of hydrogen generation and purification: strategies to meet the targets of the European Clean Hydrogen Alliance in the framework of the European Green Deal / Adolfo Lulianelli</p>
	<p>#212 Evaluation of Hydrogen Energy Concept from Elementary School to University: Opinions of Energy Systems Engineers on Hydrogen Energy Concept / Eylem Kılıç</p>
	<p>📶 #37 Biohydrogen Production in a Biofilm Photobioreactor with Functionalized Microfiber Flock / Emrah Sagır, Harun Koku Tuba Bayramoğlu et.al.</p>
	<p>#47 Fabrication of Graphene Oxide Based Composite Membranes for Anion Exchange Membrane Water Electrolyzers / Yilser Devrim and Nisa Gökçen Önel</p>
	<p>📶 #48 A Novel Bi/W/Cd Photocatalyst for Hydrogen Production Via Water Splitting / Ceren Sakallı and Halit Eren Figen</p>
	<p>#187 Hydrogen andHydrogen TechnologiesinHealthcare Institutions / Duygu Yıldırım, CemHaydaroğlu, Burak Yıldırım, Mahmut TemelÖzdemir andOzan Erdinc</p>

PARALLEL SESSIONS	
HALL C	HALL D
Session 1C: Fuel Cells-I	Session 1D: Modeling, simulation and optimization-I
Chair: Bestami Özkaya	Chair: M. Sıraç Özerdem
<p>#31 Prediction of Short-Term Voltage Loss of PEM with Single-Step and Multi-Step LSTM Networks / Yurdagül Benteşen Yakut</p>	<p>#6 0-D Mathematical Modeling of Anion Exchange Membrane Water Electrolyzer / Ceren Celebi, Can Ozgur Colpan and Yilser Devrim</p>
<p>📶 #16 Investigation of a Sacrificial Template Material Suitable for Fabrication of Anode Support Microtubes in Microtubular Solid Oxide Fuel Cells / Ahmet Alp Sunecli, Cigdem Timurkutluk, Tolga Altan, Sezer Onbilgin and Bora Timurkutluk</p>	<p>#135 Analyzing Energy Efficiency in Hydrogen Energy from Agriculture: A Bibliometric Approach / Masud Kabir and Sami Ekici</p>
<p>#79 PEMFC Performance of Pt Catalyst Decorated on Heat-Treated Carbon Black / Ayşenur Öztürk Aydın and Ayşe Bayrakçeken</p>	<p>📶 #55 Exploring the Impact of Channel Geometry and Temperature on Solid Oxide Electrolyzer Cell Performance / Berre Kumuk</p>
<p>📶 #32 Investigation of the Current Effect on Electrochemically Deposited Pt Catalyst Properties for PEMFCs / Jülide Hazal Özdemir and Aysel Kantürk Figen</p>	<p>📶 #21 Development of Electrolytic Cation Exchange Integrated Reactor for H₂ Generation and CO₂ Extraction / Hilal Sayhan Akci Turgut and Ibrahim Dincer</p>
<p>#41 Integration of an SOFC with Closed Brayton and Rankine Cycles for Hydrogen Production: Thermodynamic Analysis and Heat Recovery Considerations / Mohammad Ali Sabbaghi, Ehsan Baniasadi and Hadi Genceli</p>	<p>#139 Evaluation of Exergy Efficiency of a PEM Fuel Cell System / Sinan Kapan, Zehra Ural Bayrak and Nevin Çelik</p>
<p>#201 2D Transition Metal Carbide (MXene) as Promising Catalyst for Fuel Cells / Emre Oguz Koroglu</p>	<p>📶 #104 Estimating the Remaining Useful Life of PEM Fuel Cell with LSTM Method / Mehmet İsmail Gürsoy</p>
<p>📶 #12 Investigation of Thermal Integration between Fuel Cell and Metal Hydride Hydrogen Storage Tank System for Lightweight Vehicles / Sera Ayten Çetinkaya, Mehmet Akif Ezan, Mustafa Umut Karaoğlan and Can Ozgur Colpan</p>	<p>#203 Energy Management in Microgrids with Hybrid Energy Storage Systems Utilizing Batteries and Proton Exchange Membrane/Fuel Cells / ÖmerFaruk Özcan, Heybet Kilic and Ömer Faruk Özgüven</p>

15:30-15:50 Coffee Break	
PARALLEL SESSIONS	
HALL A	HALL B
15:50-18:05	
Session 2A: Fuel Cells-II	Session 2B: Green Hydrogen-II
Chair: İnci Eroğlu	Chair: Nevin Çelik
#45 Boron-Based Hydrogen Storage Materials as a Hydrogen Source in Synthetic Fuel Production / Berfin Ekin Ülgen , Bilge Coşkuner Filiz, Korkut Açıklalın, Hülya Civelek Yörüklü and Aysel Kantürk Figen	#132 Synthesis of Titanium Dioxide (TiO ₂) Based Photocatalyst and Investigation of Hydrogen Production Activity / Beyza Yıldırım , Muhammed Iberia Aydın and Aysel Kantürk Figen
📶 #119 Enabling Interactive G2V and V2G Integration Through Smart Fault Protection and Bi-Directional Power Flow Control in EV Charging Stations / Samet Öner and Gokay Bayrak	#220 Second-Life Battery Utilization in Solar Power Plants: Economic Analysis, Revenue Optimization, and Profit Increase / Feyza Turan, Ali Rifat Boynueğri , Ali Furkan Tetik, Ozan Erdincand Yavuz Ates
#90 Proton Exchange Membrane Fuel Cell Applications of Multirotor UAV / Merve Yıldırım , Harun Koku and İnci Eroğlu	📶 #123 Optimization of Electrospinning Parameters to Get Nano Hematite Fibers as a Photo Anode for Hydrogen Production Through Water-Splitting / Sükrü Kaya and Cevat Sarıoğlu
📶 #69 Oxygen Mobility Behavior of Calcium Doped BaZrO ₃ Perovskite Electrocatalysts / Enes Emre Yılmaz, Elvan Burcu Koşma and Meltem Karaismailoğlu Elibol	#116 Fault Diagnosis Method for Polymer Electrolyte Membrane Fuel Cells Using Deep Learning Technologies / Meltem Yavuz Çelikdemir
📶 #27 De-noising of a Fuel Cell Hybrid Microgrid, Including Energy Generation, Consumption, and Storage Units / Sitki Akkaya, Mehmet Güçyetmez , Murat Uyar and Şekip Esat Hayber	📶 #33 Investigation of Hydrogen Production Performance of KBH ₄ Hydrolysis with Thin Film TiO ₂ Catalyst / Ayşenur Şeşe and Meryem Sena Akkus

PARALLEL SESSIONS	
HALL C	HALL D
Session 2C: Modeling, simulation and optimization-II	Session 2D: Renewable Hydrogen Technologies and Application-I
Chair: Muhsin Tunay Gençoğlu	Chair: İbrahim Kaya
#138 Catalyst Selection for Microplastic Photodegradation Via MCDM Analysis / Hülya Civelek Yörüklü	#185 Investigation of Hydrogen Production Potential by Using the Concentrated Multi-Junction Photovoltaic Solar Cell / Cihangir Kale and Hikmet Esen
#120 CFD Combustion Model Optimization for Hydrogen Blended Combustion in Furnace Experimental System / Onur Salcı and Semiha Öztuna	#51 Journey to a Sustainable Future: The Importance of Renewable Hydrogen in Industrial and Domestic Applications / Nesrin İlgin Beyazıt
#128 Design of a New MPPT Controller in PEM Fuel Cell System / Servan Marşil , Cem Haydaroğlu and Heybet Kilic	#53 Machine Learning Analysis of Biogas Tri-reforming for Syngas Production / Ahmet Coşgun, M. Erdem Günay and Ramazan Yıldırım
#130 A new controller design based on Fuel Cells / Serhat Doğan , Cem Haydaroğlu and Bilal Gümüş	📶 #68 Synthesis and Characterization of La and Ga Promoted Copper-Containing Catalysts for Methanol Steam Reforming Reaction / Orhan Özcan and Ayşe Nilgün Akın
#186 Thermodynamic Performance Assessment of PEMFC Powered Air to Water Heat Pump / Anil Erdogan , Ozge Ozcan Bilgilioglu, Oguz Yildirim, Suleyman Aykut Korkmaz, Omer Can Inci and Can Ozgur Colpan	#71 Operation modes and hup mutation determine H2 and PHB production in Rhodobacter capsulatus / Ertan Hoşafçı , Etkin Tarlan, Tuba Hande Ergüder Bayramoğlu and Harun Koku

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PARALLEL SESSIONS / Continued..	
HALL A	HALL B
Session 2A: Fuel Cells-II	Session 2B: Green Hydrogen-II
<p>#106 Fuel Cell and Battery Powered Brushless Direct Current Motor Control for Light Electric Vehicle Applications / Habip Şahin, Muhammed Sefa Çetin, Muhsin Tunay Gençoğlu and Ozan Erdinç</p>	<p>📶 #178 Electrochemical Hydrogen Production Activity of Self-Assembled Monolayer Film Prepared from Bingöl Walnut Leaf Extract on Copper Surface / Yeşim Aydın Dursun and Ramazan Solmaz</p>
<p>📶 #28 The Detection of Power Quality Change During Multiple Disturbances for Microgrid Protection and Fuel Cell Health / Sıtkı Akkaya, Mehmet Güçyetmez, Murat Uyar and Şekip Esat Hayber</p>	
<p>📶 #46 Optimum Design and Techno-economic Evaluation of PV Integrated On-Site Hydrogen Refueling Stations / Reyhan Atabay and Yilser Devrim</p>	<p>#192 Power to Hydrogen: Assessing the Transition of Electric Charging Stations to Green Hydrogen / Meltem Yavuz Çelikdemir and Hasan Gunduz</p>
<p>#113 Optimal Design of a Solar Powered On-Grid Hybrid Charging Station for Electric-Hydrogen Vehicles / Habip Şahin, Cihangir Kale and Hikmet Esen</p>	<p>📶 #5 Design and Thecno-Economic Analysis of a Combined Heat and Power System with Hydrogen Storage / Mehmet Ali Köprü, Dursun Öztürk and Burak Yıldırım</p>
19:00-21:00	Gala Dinner ()

PARALLEL SESSIONS / Continued..	
HALL C	HALL D
Session 2C: Modeling, simulation and optimization-II	Session 2D: Renewable Hydrogen Technologies and Application-I
<p>📶 #166 Renewable Energy Supported and Hydrogen Energy Storing Off-Grid Smart City Design / Emrullah Kocaman, Hüseyin Yağlı, Recep Yumrutaş, Ali Koç and Yıldız Koç</p>	<p>📶 #77 A Study on Geothermal-Based H₂S-FeCl Hybrid Process for Hydrogen Production and H₂S Removal / Sulener Asal, Adem Acir and Ibrahim Dincer</p>
<p>📶 #167 Development of Optimization-Based Energy Management System in Hybrid Charging Stations / Abuzer Çalışkan and Hasan Bektaş Perçin</p>	<p>#221 Enhanced Battery State-of-Health Estimation Using Artificial Intelligence and Multiple Charge/Discharge Features / Cafer Budak</p>
<p>#179 Advancing Power System Reliability with AI-Driven Monte Carlo Simulations for Hydrogen Fuel Cell Integration / Dogan Urgan and Gokhan Gungor</p>	<p>#174 Cooperative Games to Support the Development of the Hydrogen Economy / Sofía De-León Almaraz, Andrea Gelei and Tamás Solymosi</p>
<p>📶 #95 A New Approach to Determine Model Parameters of Proton Exchange Membrane Fuel Cells Using Convolutional Neural Network / Mustafa Tan and Cem Emeksiz</p>	<p>#129 Hydrogenation of Safflower Oil for Sustainable Biocomposite Production: Process Optimization and Characterization / Ercan Aydoğmuş and Cenk Yanen</p>

HALL A		
Chair: Fariborz Haghighat		
09:00-09:40	Keynote Speaker / Zhe Chen (Hydrogen- A Carrier in Future Clean and Sustainable Energy Systems)	
09:40-10:20	Keynote Speaker / Wei-Hsin Chen (Hydrogen Production and Separation Optimization for Decarbonization and Net Zero)	
10:20-10:40	Coffee Break	
PARALLEL SESSIONS		
HALL A	HALL B	
10:40-12:35	Session 3A: Company Overview Presentations-I Chair: Adnan Midilli Anton Paar Seda GİRAY ÖZEN Application and Sales Specialist TEK-SİS Hüseyin DEVRİM General Manager Bataryasan Enerji Mehmet Fatih KAYA General Manager Aspilsan Emre ATA Hydrogen and Fuel Cell Development Center Manager YEO Teknoloji Ali KELEŞ	Session 3B: Renewable Hydrogen Technologies and Application-II Chair: Mehmet Nergiz #121 Hydrogen Blended NG Fuelled a Process Heating Application / Onur Salcı , Semiha Öztuna and Mustafa İlbaş #217 Assessing the Environmental Footprint of Catalysts in Photoelectrochemical Hydrogen Production Through Life Cycle Analysis / Muhammed Iberia Aydin and Ibrahim Dincer #109 Supervised Learning Based PEM Fuel Cell Model / Soner Çelikdemir, Burak Özdemir and Mahmut Temel Özdemir

PARALLEL SESSIONS	
HALL C	HALL D
Session 3C: Energy, exergy and economic analyses-I Chair: HüseyinTuran Arat #10 A Comprehensive 4E Analysis and Multi-Objective Optimization of a Hybrid Trigenation System Powered by a Solar Tower and Wind Turbine for Producing Green Hydrogen, Electricity, and Cooling / Faizan Khalid and Syed Abuzar Suhail #49 Experimental Studies and Comprehensive Analysis of Energy, Exergy, Environmental, and Enviroeconomic Aspects of Diesel Fuel, Waste Tyre Pyrolytic Oil, and Oxy-Hydrogen Gas Mixture Used for Diesel Engine / Salih Özer , Halil Erdi Gülcan, Samet Çelebi and Usame Demir #54 Catalytic Activity of W-O and Fe-O in H ₂ S Decomposition / Yaren Ataseven , Mert Yekta Doğan, Sena Yaşyerli, H. Mehmet Taşdemir, Hüseyin Arbağ and Nail Yaşyerli	Session 3D: Conventional hydrogen technologies and applications Chair: Aysel Kantürk Figen #58 Colorless Distributed Combustion (CDC) Effects on Hydrogen – Methane Composite Fuel Mixture Combustion Characteristics / Osman Kumuk and Serhat Karyeyen #102 Thermodynamic Assessment of an Improved Solar Powered Multi-Generation System Using a Thermoelectric Generator / Mohammad Ali Sabbaghi, Ehsan Baniyasi and Hadi Genceli #110 Preparation and Performance Investigation of Self-supported CoB Catalysts for Sodium Borohydride Hydrolysis Reaction / Jülide Hazal Özdemir, Hüseyin Elçiçek, Görkem Kökkülünk and Oğuz Kaan Ozdemir

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PARALLEL SESSIONS / Continued..	
HALL A	HALL B
Session 3A: Company Overview Presentations-I	Session 3B: Renewable Hydrogen Technologies and Application-II
	<p>📶 #140 Heterojunction Cr₂O₃/Cu_o Photocathode for Photoelectrochemical Hydrogen Production / Ender Faki, Fatih Tezcan, Gökmen Sığircık and Gülfeza Kardaş</p>
	<p>📶 #152 Enhancing Operation Reliability of PV/PEMFC/Battery-Based Distributed Generation via Deep Supervised Learning Approach / Alper Nabi Akpolat</p>
	<p>📶 #154 Multi-optimization of Hydrogen Production of a Solar-based S-I Thermochemical Cycle / Ramazan Çakiroğlu, Gamze Şener, Oğuz Kaan Çinici and Adem Acır</p>
	<p>#164 Modeling and Control of the PEMFC Energized Mobile Robot / Tevfik Yiğit</p>
	<p>#171 Hydrogen-based Mobile Fast Charging Station for Disasters and Emergencies / Tevfik Yiğit, Hakan Celik and Zehra Ural Bayrak</p>
12:35-14:30	<p>Lunch Meeting Between Hydrogen Technologies Association and Companies (Invite only)</p>

PARALLEL SESSIONS / Continued..	
HALL C	HALL D
Session 3C: Energy, exergy and economic analyses-I	Session 3D: Conventional hydrogen technologies and applications
<p>#237 Impact of Green H2 on Global Warming and Production: Transportation Challenges / Zaheer Abbas</p>	<p>#155 Novel Bi₂S₃ and NiBiS₃ Electrocatalysts for Alkaline Hydrogen Evolution Reactions / Goncagül Aksaray, Mehmet Erman Mert, Başak Doğru Mert and Gülfeza Kardaş</p>
<p>#14 Hydrogen Fuel Quality, Testing, Reference Materials Production, Proficiency Testing Scheme / Erinc Engin, Thomas Bacquart, Abigail Morris and Pierpaolo Modugno</p>	<p>#157 NiP Cathode Catalyst for Alkaline Water Electrolyser / Goncagül Aksaray, Ender Faki, Yakubu Sawadogo Adam, Patrick Marcel Seumo Tchekwagep, Murat Farsak and Gülfeza Kardaş</p>
<p>#4 Assessing the Thermodynamic Examination of Solar Heliostat-based Multigeneration Plant Integrated with LNG Regasification Cycle for Hydrogen Generation / Fatih Yılmaz, Murat Ozturk and Resat Selbas</p>	<p>📶 #163 Design, Data Analysis and Prototype Manufacturing of Off-Grid Domestic Refrigerator Systems / Burak Halis Güneş, Bahattin Sevinçli, Ufukhan Acar, Tahsin Altuğ Özden, Olgun Konur, Suleyman Aykut Korkmaz, Anil Erdoğan and Rüstem Aşık</p>
<p>#161 Thermodynamic Analysis of the Integration of Reverse Osmosis Desalination, Reverse Electrodialysis and Photo-Chloralkaline System Using Renewable Energy for Enhanced Brine Management and Hydrogen Production / Nadira Salsabila, Muhammad Usman Sajid and Yusuf Bicer</p>	<p>📶 #162 The Effect of TiO₂ Coating on PEC Efficiency of Hematite Photoanode Produced by Thermal Oxidation of Electrodeposited Fe Thin Films / Uğur Oktay and Cevat Sarıoğlu</p>
<p>#9 A Sustainable Geothermal Based Multigeneration Plant for Green Hydrogen Generation; Energy and Exergy Analysis / Fatih Yılmaz, Murat Ozturk and Resat Selbas</p>	<p>📶 #175 Nano Iron Powder Usage in HHO Dry Cell Electrolyte Solution / Mustafa Kaan Baltacıoğlu and Onur Bulut</p>
<p>Lunch Meeting Between Hydrogen Technologies Association and Companies (Invite only)</p>	<p>Lunch Meeting Between Hydrogen Technologies Association and Companies (Invite only)</p>

PARALLEL SESSIONS	
HALL A	HALL B
14:30-16:15	<p>Session 4A: Company Overview Presentations-II</p> <p>Chair: Can Özgür Colpan</p> <p>Dicle Elektrik Ahmet KIRAT Deputy General Manager, DEDAŞ</p> <p>Filament Technology Yusuf Can UZ-CEO</p> <p>Hydrogenix Ali Rıza ARSLAN General Manager</p> <p>TRL Instruments Bülent ATAMER Consultant</p> <p>TÜPRAŞ Ela AYRAL R&D Researcher Project & Incentives Management- Clean Hydrogen Team</p>
	<p>Session 4B: Hydrogen vehicles-I</p> <p>Chair: Bilal Gümüş</p> <p>#44 Emission Analyses of Hydrogen Fuels Obtained From Different Sources for Various Vehicles / Sumeyya Ayca and Ibrahim Dincer</p> <p>#225 Thermal Performance of a Biogas-Fed Multi-generation Plant for Power, Cooling, and Hydrogen Generation with LNG Cold Energy Recovery / Shoab Khanmohammadi, Gamze Soy Turk and Onder Kizilkan</p> <p>#63 Accelerating Towards Hydrogen: A Qatar Scenario-Based Life Cycle Cost Comparison between Conventional, Electric, and Hydrogen Fuel Cell Vehicles / Yusuf Bicer, Carlos Mendez, Brenno Castrillon Menezes, Marcello Contestabile</p> <p>#224 A novel SOFC based multi-generation system with recompression sCO₂-BC, reheat tCO₂-RC, HDH unit and H₂ production / Gamze Soy Turk and Onder Kizilkan</p> <p>#80 Simulational Analyses of Hybrid Fuel Cell Locomotive / Mustafa Tunahan Başar, Mustafa Kaan Baltacıoğlu and Hüseyin Turan Arat</p> <p>#114 Comparative Environmental Impact Evaluation of Diesel Fuels and Liquid Hydrogen in Transportation / Assem Abdurakhmanova and Ibrahim Dincer</p> <p>#169 Fuel Cell Powered Visible Light Communication System Design / Yavuz Erol</p>
16:15-16:35	Coffee Break

PARALLEL SESSIONS	
HALL C	HALL D
Session 4C: Hydrogen storage and materials	Session 4D: Hydrogen thermodynamics
Chair: Sedat Bingöl	Chair: Mehmet Karakılıç
<p>#13 Characterisation of a Graphite Electrode Coated with a Nickel-Modified Nickel-Iron Alloy and Catalytic Effect in an Alkaline Medium / Ali Topak and Serap Toprak Döşlü</p> <p>#50 Hydrogen Storage and Metal Hydride Storage / Nesrin İlgin Beyazit</p> <p>#66 Retrofitting Analysis of LNG FSRU with On-Board Ammonia and Hydrogen Storage Tanks / Dindhya Andriani, Omer Abedrabboh and Yusuf Bicer</p> <p>#70 Effect of different Solvents on Hydrogen Production from Hydrolysis of Potassium Borhydride with a New and Active Ni-Based Catalyst Synthesized by Green Synthesis / Ömer Şahin, Selma Ekinci, Mehmet Sait İzgi and Erhan Onat</p> <p>#89 Well-Integrity Issues in the Underground Hydrogen Storage Sites / Sukru Mery and Hakkı Aydın</p> <p>#100 Optimizing Underwater Hydrogen PEMFC Applications: A 2-D Mathematical Modeling Framework for Metal Hydride-Based Hydrogen Storage Systems / Berna Sezgin, Tayfur Öztürk and İnci Eroğlu</p> <p>#141 Hydrogen Generation from Ethylenediamine Bisborane Solution with Metal Catalyst Coated on Metal Oxide / Reduced Graphene Oxide / Burak Uygur Mert Yorgun, Gülay Özkan and Göksel Özkan</p>	<p>#26 A Solar Integrated System with a New Hydrogen Generator / Mehmet Gursoy and Ibrahim Dincer</p> <p>#82 The Investigation of Hydrogen Production by Using Proton Exchange Membrane Electrolysis Cell Technology / Hacı Soğukpınar, İsmail Bozkurt, Serkan Çağ, Mustafa Yavaş, Ayhan Atız and Mehmet Karakılıç</p> <p>#83 A Superadiabatic Hydrogen Sulfide Combustion System for Clean Hydrogen Production / Muhammad Ishaq and Ibrahim Dincer</p> <p>#99 Developing Exergetic Sustainability Indicators of Anion Exchange Membrane Electrolyzer / Furkan Şengüler and Adnan Midilli</p> <p>#108 Investigation of the Effects of Hydrogen and Water Vapor Addition on Compression Engine Performance and Exhaust Emissions / Zafer Akbalık and Orhan Arpa</p> <p>#158 The Effect of Using Nanofluid in a Parabolic Trough Collector on Its Thermodynamic Performance and Hydrogen Production / Orhan Şahmerdan, Canan Cimsit and Müslüm Arıcı</p> <p>#159 The Performance Comparison of a Hydrogen Production System Utilizing Solar Energy with Nanofluid in Its Parabolic Trough Collector for Antalya and Kocaeli / Orhan Şahmerdan, Canan Cimsit and Müslüm Arıcı</p>
Coffee Break	Coffee Break

PARALLEL SESSIONS	
HALL A	HALL B
16:35-18:35	
Session 5A: Hydrogen in smart grids	Session 5B: Green Hydrogen-III
Chair: Mesut Şeker	Chair: Habip Şahin
(Invited Talk) Energy Ships for Hydrogen Production / Wolfram Reiners	📶 #42 Development of Electro-biomembrane Integrated Renewable-based System to Produce Fresh Water and Biohydrogen for Sustainable Communities / A. Yagmur Goren , Ibrahim Dincer and Ali Khalvati
	📶 #93 Investigation of Methane Catalytic Decomposition over Mesoporous Carbon Supported Ni/La Based Catalysts / Hazal Pınar Köse and Dilek Varışlı
#133 Impacts of Hydrogen Fuel Stations on Distribution Networks / Halil İbrahim Tekin and Bilal Gümüş	📶 #94 Development of Bimetallic Catalysts for CO _x -free Hydrogen Production by Microwave-Assisted Catalytic Methane Decomposition / Ceren Acar and Dilek Varışlı
📶 #145 Analysis of Real Grid Voltage Fluctuation Problem with Nickel Hydrogen Batteries Using DIGSILENT Program / Hulusi Faik Orhan and Abuzer Çalışkan	📶 #111 Synthesis of Cd _{0.7} Zn _{0.3} S/MoS ₂ Catalysts and Investigation of Their Activities in Photocatalytic H ₂ Production / İbrahim Kaba and Özge Kerkez Kuyumcu
#226 Applications and Challenges in High Pressure Gas Sorption / Seda Giray Özen	📶 #97 Leveraging Renewable Energy for Turkey's Future Hydrogen Supply Chain: A Stochastic Programming Model / Busenur Türkali Özbek , Ahmet Erdoğan and Mehmet Güray Güler

PARALLEL SESSIONS	
HALL C	HALL D
Session 5C: Fuel Cells-III	Session 5D: Hydrogen separation and purification
Chair: Zehra Ural Bayrak	Chair: Can Özgür Colpan
📶 #118 The Effective Parameter Estimation for a PEMFC Based on Archimedes Optimization Algorithm / Abuzer Çalışkan and Hasan Bektaş Perçin	#40 Development of Polybenzimidazole Containing MOF Membranes for Anion Exchange Membrane Water Electrolysis / Hasan Altınışık and Yılser Devrim
#131 Control Parameters Optimization of HHO Dry Cell by Metaheuristic Algorithms / Çağlar Conker and Mustafa Kaan Baltacıoğlu	📶 #75 Sonic Hydrogen Production: An Experimental Investigation / Moslem Sharifishourabi , Ibrahim Dincer and Atef Mohany
📶 #136 Use of Rotor Wound Synchronous Motor in Fuel Cell Electric Vehicles / Kıvanç Doğan , Ahmet Orhan and Abuzer Çalışkan	📶 #205 Activated Carbon from Sugar Beet Pulp for CO ₂ Capture / Fahriye Dönmez Dayı, Salahaldeen Aljafreh , Damla Dumlu and Nezihe Ayasşablona
📶 #146 Identifying the Battery Status and Battery Capacity in Discharge based on Battery Current by Machine Learning Methods / Yasin Sönmez	#56 Evaluation of Hydrogen Production by Cobalt Chloride Thermochemical Method in a Fusion Reactor / Medine Özkaya and Adem Acır
📶 #148 Comparative Analysis of YSZ and SCSZ Electrolytes in Solid Oxide Fuel Cells (SOFCs) with Novel PrCeMn Electrocatalyst / Esra Balkanlı Unlu , Meltem Karaismailoglu and Halit Eren Figen	

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PARALLEL SESSIONS / Continued..	
HALL A	HALL B
Session 5A: Hydrogen in smart grids	Session 5B: Green Hydrogen-III
#107 Evaluation of a Decarbonized Combined Heat and Power (CHP) Plant, Incorporating Photovoltaic Panels and Hydrogen Re-electrification / Maryam Karami, Parsa Fathi and <u>Parisa Heidarnejad</u>	#168 Some Policies About Green Hydrogen Use for Decarbonization of Steel Industry / <u>Ali Eren Aluç</u> and Adnan Midilli
#115 Exploring Novel Sustainable Energy Management Techniques: Unlocking the Potential of Black Sea Hydrogen Sulfide into Usable Energy / <u>Elifnaz Unay</u> , Bestami Özkaya, Doğukan Tunay and Oğuz Kaan Özdemir	#34 Hydrogen Transport Using Ammonia / <u>Miray Deşer Karip</u> and Mustafa Kaan Baltacıoğlu
#127 Analysis of a Microgrid with Hydrogen Storage from a Technoeconomic Perspective / <u>Elifnur Bayraktar</u> , Cem Haydaroğlu, Yahya Akil, Faruk Barlaz, and Heybet Kilic	#137 Thermodynamic Analysis of Hydrogen Production with Different Solar Collectors / <u>Arif Karabuga</u>
#150 Utilization of Modular Floating Offshore Energy Islands with High Green Hydrogen Penetration: A P2X example / <u>Alper Nabi Akpolat</u>	#191 Assessment of Sensitivity to Temperature and Feedstock Characteristics in Biomass Pyrolysis using Aspen Plus / <u>Kaan Erdem</u> , Duygu Gündüz Han and Adnan Midilli
18:35-19:40	Board Meeting of Hydrogen Technologies Association (Invite only)

PARALLEL SESSIONS / Continued..	
HALL C	HALL D
Session 5C: Fuel Cells-III	Session 5D: Hydrogen separation and purification
#149 Circle-Inspired Optimization Algorithm for Parameter Estimation in Photovoltaic and Fuel Cell Systems / <u>Süleyman Yıldız</u>	#147 Hydrogen Production with Cu-Cl Thermochemical Cycle Integrated into Next-Generation Nuclear Power Plant for Sustainable Cities / <u>Muhammet Mert Dincer</u> and Merve Ozturk.
#29 Silicotungstic Acid-Incorporated Waste Tire-Derived Activated Carbon Catalysts for DME Production / Altay Usta, Baris Tekce, <u>Ogun Tastan</u> and Birce Pekmezci Karaman	#189 HOPat: A New Feature Extraction Function Based on the Atomic Orbitals of the Hydrogen Atom / <u>Habip Sahin</u> , Şengül Doğan and Türker Tuncer
#15 Effects of Volume Fraction and Particle Size on Triple-Phase Boundaries in Solid Oxide Fuel Cell Anodes / <u>Emre Ucar</u> and Bora Timurkutluk	#61 Hydrogen Detection and Electrical Properties of Perovskite TiSiO ₄ Schottky Diode / <u>Lütfi Bilal Taşyürek</u> and Necmettin Kilinc
#105 Investigation of Hydrogen Production from Brine by Using Membrane Cell Process Technology / Hacı Soğukpınar, İsmail Bozkurt, <u>Serkan Cag</u> , Mehmet İsmail Gürsoy, Ayhan Atiz and Mehmet Karakılıçık	#73 Gas Leakage from Hydrogen Car Stored Tanks: A Bow-Tie Risk Analysis / <u>Mehmet Tunç</u> and Ramazan Solmaz

PARALLEL SESSIONS		
HALL A	HALL B	
09:00-10:25	<p>Session 6A: Sustainable hydrogen technologies</p> <p>Chair: Ramazan Solmaz</p> <p>(Invited Talk) Past, Present and Future of Polymer Electrolyte Membrane Electrolyzers for Green Hydrogen Production / Can Erkey</p>	<p>Session 6B: Renewable hydrogen technologies and applications-III</p> <p>Chair: Mehmet Karakılıçık</p> <p>#173 Off-grid cities with an Environmental Analysis Approach for Sustainability: A Review Considering Alternative Fuels, Renewable Energy Sources and Energy Storing / Emrullah Kocaman, İbrahim Furkan Korkmaz, Hüseyin Yağlı and Özkan Köse</p> <p>#176 Exergetic Sustainability Indicators of E-methanol Production depending on green hydrogen / Selçuk İnaç and Adnan Midilli</p> <p>#188 Fabrication of 3D Ordered Mesoporous 1T-phase MoS₂/C for Electrochemical Hydrogen Evolution / Derya Öncel Özgür and Filiz Aktı</p>
	<p>#17 Developing a Visible Light Communication System for Grid Protection in a Green Hydrogen Powered EV Charging Station / Murat Daş and Gokay Bayrak</p> <p>#195 Hydrogen Production of CaCl₂ and MgCl₂ Salts Through Chlor-Alkali Method / Serdal Damarseçkin, Mustafa Erden, Ayhan Atız, Hatice Karakılıçık and Mehmet Karakılıçık</p>	

PARALLEL SESSIONS	
HALL C	HALL D
<p>Session 6C: Hydrogen vehicles-II</p> <p>Chair: Hüseyin Turan Arat</p> <p>#124 Energy Management Strategy for Improving Flight Performance of Fuel Cell Hybrid Quadrotor UAV / Sencer Ünal and Murat Kayaoğlu</p>	<p>Session 6D: Syngas technologies</p> <p>Chair: Fatih Sorgulu</p> <p>#7 Syngas Reforming on Microwave Cracking Bed Following Bubbling Coal and Biomass Pyrolysis Tar Mix / Yildirim İsmail Tosun and Fethullah Chichek</p>
<p>#134 A Review of Performance, Combustion, and Emissions of Diesel Engines Fuelled with Hydrogen / Mert Gülüm</p>	<p>#22 Reactivity of Nickel Based Monolithic Catalyst in the Oxidative Steam Reforming of Biogas with H₂S / Merve Doğan Özcan, Orhan Özcan and Ayşe Nilgün Akın</p>
<p>#153 Comparison of Diesel and Fuel Cell Powered Locomotives in terms of Environmental and Technological Change / Kenan Doğan and Zehra Ural Bayrak</p>	<p>#25 CeCoO₃ as an Effective Catalyst Support for Ni in Methane Reforming Reactions / Atalay Calisan and Deniz Üner</p>
<p>#122 Performance Evaluation for an Hybrid E-scooter Worked with FC/Battery Integration / Sencer Ünal and Hilal Bıyık</p>	<p>#35 Heating Tubes Design for Parametric Study of Steam Reformer at Small Scale / Muhammed Murat Aksoy and Onder Kaska</p>

Continued on the next page

PARALLEL SESSIONS / Continued..	
HALL A	HALL B
Session 6A: Sustainable hydrogen technologies	Session 6B: Renewable hydrogen technologies and applications-III
#67 Enhancing Photocatalytic Partial Oxidation of Methane to Methanol: Experimental Investigation of 2D and Oxide Catalysts / <u>Amira Chebbi</u> , Alessandro Sinopoli, Ahmed Abotaleb and Yusuf Bicer	#198 Development of a High-Performance Fully Automatic PEM Water Electrolyser Control System for Solar Energy-Assisted Hydrogen Production / <u>Eda Nur Çakıraslan</u> , Emre Özdoğan, Eren Batuhan Orhan, Ahmet Altun, Murat Kisti and Mehmet Fatih Kaya
#160 Effects of Chemical Machining Characteristics of Aluminum as Metallic Bipolar Material / <u>Deniz Okka</u> and Orhan Çakır	#204 Steam Reforming of Sugar Beet Pulp in the Presence of Ni/Dolomite Catalyst for the Synthesis of Hydrogen-Rich Gas / <u>Tolga Kaan Kanatlı</u> , Nasrin Pourmoghaddam, Serkan Karadeniz and Nezihe Ayas
#78 A Floating SMR and Ocean-Based Community Energy System with Hydrogen and Molten Salt Storage / <u>Mert Temiz</u> and Ibrahim Dincer	#103 The Closed Loop Control for Enhanced Performance of Quasi-Switched Boost Inverters in PEM Fuel Cell-Based Residential Applications / <u>Melike Esen Güngör</u> , Ozan Gülbudak, Mustafa Gökdağ, Mehmet Özdemir and Ahmet Orhan
#81 Hydrogen Gas Production from Agropyron repens by Dark Fermentation / <u>Nurten Dilara Kaplan</u> and Hidayet Argun	#96 An Integrated Solution to Overcome Salt Lake Droughts with Hydrogen Production and Storage / <u>Dogan Erdemir</u> and Ibrahim Dincer
10:25-10:40 Coffee Break	

PARALLEL SESSIONS / Continued..	
HALL C	HALL D
Session 6C: Hydrogen vehicles-II	Session 6D: Syngas technologies
#170 Securing the Future a Comprehensive Study on the Implications of Cyber Intrusions on Battery Management in Fuel Cell Electric Vehicles / <u>Hasan Gunduz</u>	#52 Development of SBA-15/ Cordierite Monolith Supported Catalysts and Their Use in Hydrogen Production by Partial Oxidation of Methane / <u>İlke Ilıcak Bayraktar</u> and Halit Eren Fige
#24 Hetero-junction Catalysts for H ₂ -N ₂ Cyclic Energy Storage with Artificial Solar N ₂ Fixation / <u>Bilge Coskuner Filiz</u> , Korkut Açıkalın, Hulya Civelek Yoruklu, Murat Çalıřkan and Serço Sekis Yeřilkaya	#59 Numerical Study for Low-Emission Coke Oven System Using Combustion of Coke Oven Gas under CDC Conditions / <u>Osman Kumuk</u>
#76 Catalytic Ammonia Decomposition Over Nickel and Ruthenium Supported on Al ₂ O ₃ Pellets for Hydrogen Production / Ali Turgay řan, Mehmet Çakır and <u>Halit Eren Figen</u>	#193 Experimental Investigation of Distinct Surface Geometries of Nickel Coated 3D Printed Electrodes / <u>Ibrahim Eren Dincer</u> and Martin Agelin-Chaab
#218 Electroplating of Copper- Based Materials and Investigation of Their HER Performance / <u>Zeynep Kuyumcu</u> , Hurmus Gursu, Muhammed Iberia Aydin and Ibrahim Dincer	#202 A Strategy Study on Green Hydrogen Valleys / <u>Adnan Midilli</u>
Coffee Break	

PARALLEL SESSIONS	
HALL A	HALL B
10:40-12:15	Session 7A: Fuel Cells-IV
Chair: Hüseyin Turan Arat	Session 7B: Modeling, simulation and optimization-III
Chair: Hüseyin Turan Arat	Chair: Anil Erdoğan
#172 Comperative Evaluation of Non-Precious Material Catalysts for PEM Fuel Cells in Terms of Cost, Stability and Activity / Erman Çelik	📶 #182 Integrating RLS and FCS-MPC for Enhanced Control in Hydrogen Fuel Cell and Grid Inverter Systems / Sulman Shahzad and Muhammad Abbas Abbasi
📶 #177 Ni-Modified Self-Assembled Monolayer Films of Bingöl Pollen on Copper Substrate as a Novel Anode Catalyst for Methanol Electrooxidation Reaction / Yeşim Aydın Dursun and Ramazan Solmaz	📶 #60 Numerical Simulation of Methane Dry Reforming over Supported Nickel Catalyst / Ahmed Aheed Ali Mohammed, Mohammed Al-Marri and Anand Kumar
📶 #38 Maximizing Power Efficiency: The FC+PV+WT Hybrid Renewable Energy System / Ayşe Kocalmis Bilhan	#210 Current Sharing and Voltage Regulation Based on Dynamic Consensus Algorithm in PV-Fuel Cell-Battery Sourced DC Microgrid / İlhami Poyraz and Mehmet Emin Askerşablona
#206 Performance of Nanometric Ti/TiN Bilayer Cathodic Arc Evaporated Coating on 304SS as Bipolar Plate for PEMFC / Enis Furkan Uçar , Erkut Yılmaz and Özden Kısacık	📶 #112 Synthesis of CuS/CuInS ₂ /TiO ₂ Catalysts and Investigation of Their Activities in Photocatalytic H ₂ Production / Elif Tuğba Yılmaz, İbrahim Kaba and Özge Kerkez Kuyumcu
#211 Enhanced Performance Prediction for Proton Exchange Membrane Fuel Cells: A Comparative Study of LSTM and Conventional Methods / Masud Kabir and Sami Ekici	📶 #165 Use of Hydrogen as Secondary Fuel in Internal Combustion Engines: A Approach on Combustion, Performance and Emissions / Süleyman Şimşek and Muhammed Uçum
# 219 Proton Exchange Membrane Water Electrolysis System: Steady-State Modeling and Assessment / Nurettin Sezer and Sertac Bayhan	📶 #190 Alternative Fuel Mixtures and Sustainable Development: An Energy and Environmental Perspective Evaluation of Diesel, Biodiesel, and Alcohol Blends / Halis Deviren
#216 Modeling and Simulation Photovoltaic-Electrolyzer-Fuel Cell in Microgrids / Musa Yılmaz	#235 Green Hydrogen The Innovation of Green Energy / Syed Muhammad Ahmer Ali
12:15-12:35	Awards and Closing Ceremony
14:00-19:00	Sur İçi Cultural Trip

PARALLEL SESSIONS	
HALL C	HALL D
Session 7C: Energy, exergy and economic analyses-II	Panel Session
Chair: M. Ali Arserim	<p>Challenges and Opportunities for The Region in the New Hydrogen Economy (This panel will be held in Turkish)</p> <p>Moderator: Adnan MİDİLLİ İstanbul Technical University</p> <p>Panelists: Hüseyin DEVRİM TEK-SİS, Türkiye</p> <p>Can ERKEY Koç University, Türkiye</p> <p>Ali Rıza ARSLAN Hydrogenix, Türkiye</p> <p>Ragıp KIZILTAŞ TENMAK – Clean Energy Research Inst. (TEMEN)</p>
#199 Solar Tracking Systems Applications in Planar Solar Panels / Gizem Gül Katırcıoğlu , Mehmet Daş and Ebru Akpınar	
#208 Analysis and Assessment of a Biomass-Based Cogeneration System with Hydrogen-Fueled Gas Turbine / Fatih Sorgulu and Ibrahim Dincer	
📶 #142 Investigation of the Use of Carbon-Based Supports in the Catalytic Hydrolysis of Ethylenediamine Bisborane / Bensu Naz Örs , Gülay Özkan and Göksel Özkan	
#197 Economic and Strategic Evaluation of Underground Hydrogen Storage Areas / Hatice Karakilcik	
#228 Assessing the Environmental Footprint of Catalysts in Photoelectrochemical Hydrogen Production Through Life Cycle Analysis / Ayşe Kocalmis Bilhan	
📶 #57 One Step Towards a Green Future: Retrofitting of the Internal Combustion Engines for the Utilization of the Hydrogen Fuel / Hilmi Ersin Oktar , İbrahim Hakkı Tonyalı and Ahmet Hamit Apaydın	
#101 Hydrogen Quality Effect to Generator Performance / Kerim Kenan Kiremit	

Poster Session (Online)

#8 Syngas Desulfurization following Microwave Cycled Gas Bubbling on Coal and Biomass Pyrolysis / Yildirim İ. Tosun and Fethullah Chichek
#11 A System Design for CO ₂ Capture with Hydrogen and Methanol Production in a Cement Plant / Ibrahim Akgun and Ibrahim Dincer
#23 Biohydrogen and Biomethane Production Using An Integrated Bioelectrochemical and Anaerobic Digestion Reactor From Poplar and Cow Manure Wastes / Ahmet Faruk Kilicaslan, Aysegul Kara, Ibrahim Dincer and Ali Khalvati
#36 Design of a Novel Solar-Based Sustainable Energy System with Energy Storage / Ayse Sinem Meke and Ibrahim Dincer
#39 Electric Airplane Energy Storage and PEM Fuel Cell Island Airport Microgrid Load Frequency Control / Cem Haydaroglu
#43 Design and Simulation of a Novel Copper-Chlorine Thermochemical Cycle for Hydrogen Production / Sibel Uygun Batgi and Ibrahim Dincer
#62 Design of an Integrated Multigenerational Energy System for Oleic Acid and Hydrogen Production / Kubilay Karayel and Ibrahim Dincer
#64 Electrolytic Hydrogen Production with Coaxial Cylinder Electrolyzers: A CFD Study / Mohamed M. Ismail and Ibrahim Dincer
#65 Design and Analysis of a New Multigeneration System for a Hospital / Andre Bolt, Ibrahim Dincer and Martin Agelin-Chaab
#74 An Integrated Plant for Urea and Ammonium Acetate Production Designed with Renewables / Zunayed Zakir Arnab and Ibrahim Dincer
#91 Green Hydrogen Production System for A Village / Inci Eroglu, Harun Koku and Esra Gül Sendesen
#92 Techno-Economic Analysis of Green Hydrogen Integration in Smart Grids: Pathways to Sustainable Energy Systems / Muhammad Raza Zaffar, Mohsin Raza Zaffar, Sulman Shahzad and Heybet Kilic
#98 Case Study of a Self-Powered Building Using Hydrogen as an Energy Carrier / Inci Eroglu, Harun Koku and Mine Keles
#117 Green Hydrogen: A Keystone in Pathways to Decarbonized Offshore Power Transmission - Technologies, Policies, and Future Directions / Yusuf Yurtsever, Jalal Sahebkar Farkhani and Heybet Kilic
#125 Design and Theoretical-Economic Analysis of Hydrogen Storage Power System : The Case of Dicle University / Faruk Barlaz, Cem Haydaroglu, Yahya Akil and Heybet Kilic
#143 Determining the Hybrid Energy Potential of Türkiye's Blue Homeland in the Aegean Sea / Soner Çelikdemir and Mahmut Temel Özdemir
#144 Strategic Importance of Hydrogen within the Scope of Turkey's New Century Vision / Mehmet Firat Doğan

Poster Session (Online)

#180 A Recurrent Neural Network Model Predictive Control (RNN-MPC) Strategy for Efficient Energy Management in Hybrid Battery-Hydrogen Systems / Sulman Shahzad and Heybet Kilic
#181 Model-Free Predictive Control of a Hydrogen Energy Nano Grid System / Sulman Shahzad and Heybet Kilic
#183 Green Hydrogen: Innovations, Challenges, and Opportunities in a Low-Carbon World / Sulman Shahzad and Heybet Kilic
#209 Investigation of the Photocatalytic Activity of Pd(0) NPs-Decorated Benzene Ring Doped Nanosheet g-C ₃ N ₄ (Pd@BD-g-C ₃ N ₄) in the Hydrolysis Reaction of Ammonia Borane / Halil İbrahim Önal and Feyyaz Durap
#213 Power Flow Control for Renewable Energy Hydrogen based Dual Active Bridge used DC Microgrids / Heybet Kilic and Mehmet Emin Aske
#214 Utilizing Battery-Super Capacitor Energy Storage for Hybrid Photovoltaic, Wind, and Fuel Cell Systems / Mehmet Emin Asker
#215 Improving Power Quality in Microgrids with PEM Electrolyzer/Fuel Cell System / Heybet Kilic
#222 Evaluation of Hydrogen Transportation by Trucks in terms of Occupational Health and Safety: A Preliminary Hazard Analysis / Mehmet Tunç and Ramazan Solmaz
#223 Safety Risks in Solar-Hydrogen Energy System: Fine Kinney Risk Analysis / Mustafa Doğrubaş, Mehmet Tunç, İbrahim Yasin Erdoğan and Ramazan Solmaz
#227 The Energy Trilemma Approach Assessment of Hydrogen Production Potential in Türkiye /Kadir Akgün, Bestami Özkaya and Fatma Zehra Küçük
#229 Production of Black Phosphorus Doped Metal Chalcogen Hybrid Materials and Their Use in Photocatalytic Hydrogen Production / Ecem Nur Demirel, Bahadır Keskin and Atif Koca
#230 Small-Scale Electricity Generation with Biohydrogen using PEM Fuel Cell / Bugra Yilmaz, Barbaros Durmus and Muhsin Tunay Gencoglu
#231 Integrated System Design that Produces Electricity with Solar, Wind, Hydrogen and Biomass Energy / Bugra Yilmaz and Muhsin Tunay Gencoglu
#194 Classification of Organic and Recyclable Waste used in Green Hydrogen Production with Deep Learning Models / Hüseyin Firat

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