



# 3<sup>rd</sup> International HYDROGEN TECHNOLOGIES Congress

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SCIENTIFIC PROGRAM

**March 15-18, 2018**  
Asia Beach Resort Hotel  
Alanya, Turkey



March 15, 2018

HALL - A	
08:00-09:00	Registration
09:00-09:30	<b>Opening Talks</b> <b>Hilmi Yurdakul</b> ( <i>Congress Chair</i> ) <b>İbrahim Dincer</b> ( <i>President, National Hydrogen Energy Association</i> ) <b>Ahmet Pinarbasi</b> ( <i>Rector, Alanya Alaeddin Keykubat University</i> )
09:30-10:15	<b>Overview Talk- İbrahim Dincer</b> <b>Alternative Dimensions of Hydrogen Energy and Future Directions</b>
10:15-11:00	<b>Keynote Speaker - Richard Baker</b> <b>Substituted Ceria-Based Materials for Applications in Solid Oxide Fuel Cell Electrolytes and Electrodes</b> <b>Chair: İbrahim Dincer</b>
11:00-11:15	<b>Coffee Break</b>
11:15-12:00	<b>Keynote Speaker - Wei-Hsin Chen</b> <b>Recent Development in Hydrogen Separation and Purification through Pd-based Membrane Systems</b> <b>Chair: Richard Baker</b>
12:00-13:30	<b>LUNCH</b>

March 15, 2018

HALL - A	
13:30-15:00	<b>Session 1A: Biological Hydrogen Production</b> Chair: Filiz Karaosmanoglu
13:30-13:45	<b>(004) Hydrogen Production by Agar-Immobilized R. Capsulatus in Panel Photobioreactor</b> Kamal Elkahlout, <u>Emrah Sagir</u> , Siamak Alipour, Harun Koku, Ufuk Gunduz, Inci Eroglu, Meral Yucel
13:45-14:00	<b>(0050) Effect of Operational Variables on Biological Hydrogen Production by Dark Fermentation from Palm Oil Mill Effluent Using Response Surface Methodology</b> <u>Azam Akhbari</u>
14:00-14:15	<b>(0053) Multi-Objective Evolutionary Polynomial Regression Technique in Prediction of Bio-Hydrogen Production by Dark Fermentation Process</b> <u>Azam Akhbari</u> , Shaliza Ibrahim, Mohsen Vafaeifard, Isa Ebtehaj, Milad Khosravi, Hossein Bonakdari
14:15-14:30	<b>(0157) HHO Enrichment of Bio-Diesohol Fuel Blends in a Single Cylinder Diesel Engine</b> Mustafa Kaan Baltacioğlu, <u>Raif Kenanoğlu</u> , Kadir Aydın
14:30-14:45	<b>(0072) Direct Current Assisted Dark Fermentative Hydrogen Gas Production from Acid Hydrolysed Waste Paper Towel</b> Gulizar Onaran, <u>Hidayet Argun</u>
15:00-15:30	<b>Coffee Break</b>

March 15, 2018

HALL - B	
13:30-17:30	Workshop – Hikmet Karakoc
	Opening Remarks
13:30-15:00	<p>Session-I</p> <p>Session Chair: Adnan Midilli</p> <ul style="list-style-type: none"> <li>• Battery Technology Overview – <b>Fatih Mutluel, TUBITAK MAM</b></li> <li>• Battery Thermal Management System (TMS) – <b>Cihad Furkan Salman, TUBITAK MAM</b></li> <li>• Battery Module/Package Development – <b>Ahmet Yayli, TUBITAK MAM</b></li> <li>• Battery Management System (BMS) – <b>Turev Sarikurt, TUBITAK MAM</b></li> </ul>
15:00-15:30	Coffee Break
15:30-17:00	<p>Session-II</p> <p>Session Chair: C. Ozgur Colpan</p> <ul style="list-style-type: none"> <li>• Analysis and Selection of Effective Battery Management System Architectures for Safety – <b>Melih Yildiz (Atilim University), T. Hikmet Karakoc (Anadolu University)</b></li> <li>• Electric Mobility and Li Ion Based BMS Adaptation in Bozankaya Buses – <b>Emrah Dal (Bozankaya), Dursun Cicek (Bozankaya)</b></li> <li>• Electrification Options in Aviation Systems – <b>Nader Javani (Yildiz Tech. University)</b></li> <li>• Maintainability and Safety Parameters for Battery Design – <b>Melih Yildiz (Atilim University), T. Hikmet Karakoc (Anadolu University)</b></li> </ul>

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HALL - C	
13:30-15:00	<b>Session 1C: Renewable Hydrogen Production</b> Chair: Hadi Ganjehsarabi
13:30-13:45	<b>(0192) Integrating of PEM Electrolyzer for Hydrogen Production in a Kalina Cycle Driven by Low-Grade Geothermal Energy</b> Hadi Ganjehsarabi
13:45-14:00	<b>(0097) Performance of Ni Incorporated Silica and Alumina Based Catalysts in Hydrogen Production from Biomass</b> Birce Pekmezci Karaman, Nurbanu Çakiryilmaz, Huseyin Arbag, Nuray Oktar, Gülşen Dogu, Timur Dogu
14:00-14:15	<b>(0030) Investigation of a Solar Driven Integrated TEG with PEM Electrolyzer System for Hydrogen Production</b> Murat Emre Demir, Ibrahim Dincer
14:15-14:30	<b>(0060) Hydrogen Production from Water as Photoelectrochemical by using Solar Light Irradiation</b> Rana Muhammad Zunain Ayaz, Duygu Akyüz, Özlem Uğuz, Irem Tanışık, Cevat Sarıoğlu, Fatma Karaca Albayrak, Ali Rıza Özkaya, Atıf Koca
14:30-14:45	<b>(0202) A Parametric Study on Exergetic Performance of Hydropower Integrated Hydrogen Production: A Case Study for East Black-Sea Region of Turkey</b> Adnan Midilli and Mert Ozsaban
15:00-15:30	<b>Coffee Break</b>

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HALL - A	
15:30-17:15	<b>Session 2A: Pyrolysis, Gasification and Plasma Hydrogen production</b> Chair: <u>Inci Eroglu</u>
15:30-15:45	<b>(0027) In-situ and Downstream Desulfurization Ability of PbO and ZnO During Pyrolysis and Hydrogenation of a High-sulfur Lignite</b> <u>Arzu Kanca</u> , Deniz Uner
15:45-16:00	<b>(0089) Ni Catalyzed Methane Pyrolysis for H2 Generation under Concentrated Solar Irradiation</b> Celal Guvenç Ogulgonen, Atalay Çalışan, Deniz Uner, Serkan Kincal
16:00-16:15	<b>(0068) Energy and Exergy Analyses of an Integrated Solar and Coal Gasification Combined Cycle for Hydrogen and Ammonia Production</b> <u>Ahmed Hasan</u> , Ibrahim Dincer
16:15-16:30	<b>(0098) Gasification of Sewage Sludge Enriched with Virginia Mallow for Higher Hydrogen Content in Syngas</b> <u>Anna Poskart</u> , Monika Zajemska, Stanisław Szwaja
16:30-16:45	<b>(0021) The Effects of Equivalence Ratio on a Downdraft Plasma Coal Gasifier</b> <u>Zeki Yilmazoglu</u> , Beycan Ibrahimoglu, Onurhan Gokalp
16:45-17:00	<b>(0155) Electrochemical Characterization of Carbon-Supported Bimetallic Pd-Zn Nanoparticles as Anode Catalyst for Direct Borohydride Fuel Cells</b> <u>Ramiz Gultekin Akay</u> , Merve Dogan Ozcan, Cenk Celik, Ayse Nilgün Akın
17:00-17:15	<b>(0222) Biohydrogen Production From Fruit And Vegetable Wastes Through Dark Dry Anaerobic Fermentation Under Thermophilic Condition</b> <u>Haris Nalakath Abubackar</u> , Okyanus Yazgın, Bensu Gunay, Kubra Arslan, Tugba Keskin Gundogdu, Nuri Azbar
17:15-17:30	<b>Coffee Break</b>

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HALL - C	
15:30-17:15	<b>Session 2C: Hydrogen Fuel Cells</b> Chair: Mehmet Suha Yazici
15:30-15:45	<b>(0014) Microwave Assisted Synthesis of Pt/MWCNT Catalyst for High Temperature PEM Fuel Cell</b> <u>Elif Damla Arica</u> , Yilser Devrim
15:45-16:00	<b>(0085) Performance of CVD Graphene Supported PtCo<sub>y</sub> Electrocatalysts for PEM Fuel Cell</b> <u>Fatma Gül Boyacı San</u> , Mehmet Suha Yazıcı
16:00-16:15	<b>(0005) A Field Application of a Fuel Cell Microgeneration Unit</b> <u>Cigdem Iyigün Karadag</u> , Atilla Ersöz, Fatma Gül Boyacı San, Betül Erdör Türk, Emin Okumuş, Murat Kılıç, Egemen Akar, Nilüfer Topuz, Salih Obut, Özgür Can Korkmaz, Derya Aydemir
16:15-16:30	<b>(0153) A Labview-FPGA Based Process Control and Power Conditioning Prototype Application of a Fuel Cell Powered Range Extender for Unmanned Aerial Vehicles</b> <u>Betul Erdor Turk</u> , Mustafa Hadi Sarul
16:30-16:45	<b>(0174) System Design and Optimization of a Hydrogen Fuel Cell Vehicle in the Different Road Models</b> Yakup Hames, <u>Kemal Kaya</u>
16:45-17:00	<b>(0016) Development of Effective Cooling System for High Temperature PEM Fuel Cell</b> <u>Yilser Devrim</u> , Kubra Pehlivanoglu, Omer Erdemir, Celal Yılmaz, Huseyin Devrim
17:00-17:15	<b>(0181) The Impact of Boron Nitride Nanoparticles on Hydrogen Uptake Capacity over MWCNTs</b> <u>Songul Kaskun</u> , Muhammet Kayfeci
17:15-17:30	<b>Coffee Break</b>

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17:45-18:30		POSTER Session 1 Chair: Ugur Akbulut
0055	<b>Modeling of Syngas Production from Biogas via Tri-reforming Process</b> <u>Reiyu Chein</u> , Wen Hwai Hsu	
0058	<b>Active Photocatalysts Designed by Sulphurization Method for Hydrogen Production</b> <u>Irem Tanışık</u> , Duygu Akyüz, Rana Muhammad Zunain Ayaz, Özlem Uğuz, Cevat Sarioğlu, Fatma Karaca Albayrak, Ali Rıza Özkaya, Atf Koca	
0093	<b>Comparison of LFS of H<sub>2</sub>, CH<sub>4</sub> at Elevated Temperatures</b> <u>Karol Grab Rogalinski</u> , Stanislaw Szwaja, Michal Pyrc, Michal Gruca	
0095	<b>A Low Cost, Continuous H<sub>2</sub>-CH<sub>4</sub> Sensor Assembly</b> <u>Celal Güvenç Oğulgönen</u> , Atalay Çalışan, Deniz Üner, Serkan Kınca	
0099	<b>Optimization of hydrogen release from anaerobic thermal processing of Virginia Mallow</b> <u>Anna Poskart</u> , Monika Zajemska, Stanislaw Szwaja, Aneta Magdziarz, Dorota Musiał	
0103	<b>Influence of Hydrogen Addition to Diesel Fuel on Smoke and Combustion Phases in a Compression Ignition Engine</b> <u>Stanislaw Szwaja</u> , Romualdas Juknelevicius, Michal Gruca, Michal Pyrc	
0105	<b>A Comparative Thermodynamic Analysis of Alternatively Proposed Different Fuel System Models using Jet A Fuel</b> <u>Muhammet Yilanlı</u> , Önder Altuntaş, Emin Açıkalp	
0107	<b>The Effect of Support Material on the Hydrogen Adsorption-Desorption Characteristics of Ru/SiO<sub>2</sub> and Ru/Vulcan Catalysts</b> <u>Mustafa Yasin Aslan</u> , Deniz Üner	
0110	<b>Metal-Organic Frameworks as Hydrogen Evolution Catalysts</b> <u>Selçuk Demir</u> , <u>Emine Ülker</u>	
0112	<b>Empirical Models for the Energy Consumption of Oil-in- Water Emulsion Treatment by Electro-coagulation Process</b> <u>Mohamed Tir</u>	
0115	<b>Management of Hybrid System Operating in Grid-connected and Standalone Mode</b> <u>Houria Boumaaraf</u> , <u>Billel Boumaaraf</u> , Abdelaziz Talha, Omar Bouhali	
0117	<b>Power Generation System Control of a Hybrid Renewable System PVT-diesel with Storage</b> <u>Billel Boumaaraf</u> , Houria Boumaaraf, Abdelaziz Talha, Mohamed Salah Ait Cheikh	
0119	<b>The Relationship Between Fuel Flow Rate and Pressure Drop in a Direct Methanol Fuel Cell with Parallel Channels</b> <u>Anil Can Turkmen</u> , Didem Demirtas, Hatice Esen, <u>Çenk Celik</u>	
0122	<b>Hydrogen Permeation Characteristics Through Palladium Membrane with/without Vacuum</b> <u>Shang Wei Lin</u> , <u>Wei Hsin Chen</u>	
0069	<b>Heat Transfer and Pressure Drop Characteristics of Different Structured Micro-Pin-Fin Reactors</b> <u>Evren Yılmaz Yakin</u> , Sinan Eren Yalcin, Tahir Hikmet Karakoc	
0190	<b>The Role of Temperature on Aluminium Oxide Embedded MWCNTs for Hydrogen Adsorption</b> <u>Songül Kaskun</u> , Muhammet Kayfeci	

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HALL - A	
09:30-10:15	<b>Keynote Speaker: Bruno G. Pollet</b> <b>Current Status of Hydrogen and Fuel Cells in Norway</b> Chair: Richard Baker
10:15-10:30	<b>Coffee Break</b>
10:30-12:00	<b>Session 3A: Thermodynamic Analysis of Hydrogen Technologies</b> Chair: Güngör Tuncer
10:30-10:45	<b>(0044) Thermodynamic and Economic Analyses of a Renewable Energy Based Hydrogen Production System</b> <u>Fatih Sorgulu</u> , Ibrahim Dincer
10:45-11:00	<b>(0047) Thermodynamic Performance Assessment of Integrated Solar Energy System with Hydrogen Production</b> <u>Fatih Yilmaz</u> , Murat Ozturk, Resat Selbas
11:15-11:30	<b>(0064) Geothermal and Solar Driven Multigeneration System for Sustainable Buildings: A Thermodynamic Analysis</b> <u>Tahir Abdul Hussain Ratlamwala</u> , Hamed Alimoradiyan
11:30-11:45	<b>(0184) Thermodynamic Analysis of a New Solar Power Tower Based Integrated System for Hydrogen Production and Liquefaction</b> <u>Yunus Emre YukseI</u> , Murat Ozturk, Ibrahim Dincer
11:45-12:00	<b>(0221) Thermodynamic Analysis of a Unique Integrated Photoelectrochemical System for Multigeneration Purposes</b> Canan Acar, Ibrahim Dincer
12:00-13:30	<b>LUNCH</b>

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HALL - B	
<b>10:30-12:00</b>	<b>Session 1B: Exergy Analysis of Hydrogen Energy Systems</b> Chair: Hikmet Karakoc
<b>10:30-10:45</b>	<b>(0096) Diagnosis and Improvement of Hydrogen Demand/Supply Processes using Combined Pinch and Exergy Analysis</b> Fatma Alyer, Zehra Özçelik
<b>10:45-11:00</b>	<b>(0023) Optimum Energy and Life Cycle Cost Evalautaiion of an Advanced Hydrogen Liquefaction Cycle Using Geothermal Power</b> <u>Ceyhun Yılmaz</u>
<b>11:00-11:15</b>	<b>(0065) Energy and Exergy Analyses of a Novel Ammonia Combined Power Plant Operating with a Gas Turbine and a Solid Oxide Fuel Cell</b> <u>Muhammad Ezzat</u> , Ibrahim Dincer
<b>11:15-11:30</b>	<b>(0079) A Parametric Study of the Performance of a Polymer Electrolyte Membrane Electrolyzer: Energy and Exergy Analyses</b> Ehsan Baniasadi, Ebrahim Afshari, Faeze Moradi Nafchi, <u>Nader Javani</u>
<b>11:30-11:45</b>	<b>(0041) Exergoeconomic Analysis and Optimization of a Concentrated Sunlight-based Integrated Photoelectrochemical Hydrogen and Ammonia Production System</b> <u>Yusuf Bicer</u> , Ibrahim Dincer
<b>12:00-13:30</b>	<b>LUNCH</b>

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HALL - C	
10:30-12:00	<b>Session 3C: Hydrogen Fuel Combustion</b> Chair: Stanislaw Szwaja
10:30-10:45	<b>(0092) Analysis of the Turbocharged Internal Combustion Engine with Over-expanded Cycle Fueled with CNG and Hydrogen</b> Karol Grab Rogalinski, Stanislaw Szwaja
10:45-11:00	<b>(0102) Dilution of Fresh Charge for Reducing Combustion Knock in the Internal Combustion Engine Fuelled with Hydrogen Rich Gases</b> Stanislaw Szwaja
11:00-11:15	<b>(0147) Simulation of a Novel Alternative Fueled Hybrid Electric Vehicle (AF-HEV) with Hydrogen Enriched Internal Combustion Engine</b> Hüseyin Turan Arat
11:15-11:30	<b>(0196) A Numerical Study of Mild Flameless Combustion of Methane/hydrogen Mixtures in a Furnace</b> Mehmet Salih Cellek
11:30-11:45	<b>(0150) Colloidal Synthesis and Characterization of CuInS<sub>2</sub> Nanoparticle for Solar Hydrogen Production</b> Cigdem Tuc Altaf, <u>Nurdan Demirci Sankir</u>
11:45-12:00	<b>(0131) Catalytic and Non-Catalytic Hydrogen Generation from Chemical Hydrides</b> Mehmet Sankir, Nazrin Abdullayeva
12:00-13:30	<b>LUNCH</b>

March 16, 2018

HALL - A	
13:30-15:00	<b>Session 4A: Borohydride Fuel Cells</b> Chair: Ramazan Solmaz
13:30-13:45	<b>(0215) Langmuir–Hinshelwood Kinetic Model to Capture the Manganese(0) Nanoparticles Supported on Ceria-catalyzed Hydrolysis of Sodium Borohydride</b> Sibel Duman, Saim Özkar
13:45-14:00	<b>(0148) Preparation And Characterization of Polyvinyl Alcohol/ Chitosan Blended Anion Exchange Membranes for Direct Borohydride Fuel Cells</b> <u>Tuncay Kadioglu</u> , Ramiz Gultekin Akay, Kursat Can Ata, Cenk Celik
14:00-14:15	<b>(0151) Novel Pd-Co/C Bimetallic Alloy Electrocatalyst for Direct Borohydride Fuel Cell Anode</b> <u>Cem Gozlu</u> , Cenk Celik, Ayse Nilgun Akın, Ramiz Gultekin Akay
14:15-14:30	<b>(0152) A Comparative Study on the Determination of Borohydride Permeability of Cation Exchange Membranes for DBFC</b> <u>Kursat Can Ata</u> , Tuncay Kadioglu, Ramiz Gultekin Akay, Cenk Celik
14:30-14:45	<b>(0241) Effect of Inlet Air Temperature on Exergetic Performance of Hydrogen Production from Car Tires via Plasma Gasification</b> Handan Demirçay, Merve Mehan, Muhammed Emin Topal, Yildiz Kalinci, Senol Bayraktar, Ugur Akbulut, Haydar Kucuk, Hayati Olgun, Adnan Midilli, Ibrahim Dincer
15:00-15:30	<b>Coffee Break</b>

March 16, 2018

HALL - B	
13:30-18:20	<b>Workshop – C. Ozgur Colpan</b>
	<b>Session Chair: İnci Eroğlu</b>
13:30-13:35	Welcoming Remarks / <b>C. Özgür Çolpan</b>
13:35-13:55	Overview of Hydrogen and Fuel Cell Related Research at CERL in UOIT / <b>Ibrahim Dincer</b>
13:55-14:15	The Development and Production of Fuel Cell from TEKSIS's Point of View / <b>Hüseyin Devrim</b>
14:15-14:35	PEM Type Fuel Cell Research at TOBB ETU / <b>Mehmet Sankır</b>
14:35-14:55	Advances in the Fuel Cell Research in Dokuz Eylül University / <b>C. Özgür Çolpan</b>
14:55-15:15	Hydrogen & Fuel Cell Research in Atılım University / <b>Yilser Devrim</b>
15:15-15:35	Advances in the Fuel Cell Research in Sen Research Group (SRG), Dumlupınar University / <b>Fatih Şen</b>
15:35-16:00	<b>Coffee Break</b>
	<b>Session Chair: T. Hikmet Karakoç</b>
16:00-16:20	Fuel Cell Research in Atatürk University / <b>Ayşe Bayrakçeken Yurtcan</b>
16:20-16:40	Hydrogen & Fuel Cell Research and Demonstration Activities at MAM Energy Institute / <b>Suha Yazıcı</b>
16:40-17:00	Studies on the Development of Directly Fed Fuel Cell Catalysts at Van YYU / <b>Hilal Demir Kıvrak</b>
17:00-17:20	PEMFC Studies in Recep Tayyip Erdogan University / <b>Adnan Midilli</b>
17:20-17:40	Advances in the Fuel Cell Research in Çukurova University <b>Ebru Erünel</b>
17:40-18:00	Direct Borohydride Fuel Cell Studies in Kocaeli University <b>Cenk Çelik and R. Gültekin Akay</b>
18:00-18:20	Research and Development of Microbial Fuel Cell Technology at Yıldız Technical University / <b>Bestami Özkaya</b>

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HALL - C	
13:30-15:00	<p><b>Session 4C: Material Applications for Hydrogen Energy Technologies</b>                      Chair: Emmanuel Iheanyichukwu Iwuoha</p>
13:30-13:45	<p><b>(0091) Wireless High-Speed Continuous Sensing of Hydrogen Leak by a Quadrotor Drone</b>                      Kazuo Matsuura, Masahiro Inoue, Yuta Segawa, Takaya Kimura</p>
13:45-14:00	<p><b>(0216) Green Dehydrogenation of Dimethylamine Borane Catalyzed by Nickel(0) and Copper (0) Nanoparticles</b>                      Hakan Demir, Ali Ozdemir, <u>Sibel Duman</u></p>
14:00-14:15	<p><b>(0229) Graphene Oxide/Metal Organic Framework Nanocomposite with Improved Electrocatalytic Activity for Hydrogen Evolution Reaction</b>                      Emmanuel Iheanyichukwu Iwuoha, Mogwasha Daphney Makhafola, Kabelo Edmond Ramohlola, Thabang Ronny Somo, Gobeng Release Monama, Mpitloane Joseph Hato, Kerileng Midred Molapo, Kwena Desmond Modibane</p>
14:15-14:30	<p><b>(0228) Copper(II) Phthalocyanine/Metal Organic Frameworks (Cupc/MOF) Composite with Improved Electrocatalytic Efficiency for Hydrogen Production</b>                      Emmanuel Iheanyichukwu Iwuoha, Gobeng Release Monama, Kwena Desmond Modibane, Kabelo Edmond Ramohlola, Kerileng Mildred Molapo, Mpitloane Joseph Hato, Mogwasha Daphney Makhafola, Gloria Mashao Mashao Mashao, Siyabonga Beizel Mdluli</p>
14:30-14:45	<p><b>(0218) Highly Effective PVP-stabilized Rh-Ru Bimetallic Nanoparticles for the Dehydrogenation of Methylamine-borane in Water</b>                      Mehmet Gulcan, Yaşar Karatas</p>
14:45-15:00	<p><b>(0128) Investigation of Hydrogen Fuel Usage Affects On Exergetic and Exergeeconomic Performances of a Turbojet Engine</b>                      Ozgur Balli, Yasin Şöhret, T. Hikmet Karakoc</p>
15:00-15:30	<p><b>Coffee Break</b></p>

March 16, 2018

HALL - A	
15:30-17:00	<b>Session 5A: Modelling and Analysis of Hydrogen Energy Technologies</b> Chair: Canan Acar
15:30-15:45	(0070) Kinetic and Electrochemical Analyses of a CuCl/HCl Electrolyzer <u>Reza Soltani</u> , Ibrahim Dincer, Marc A. Rosen
15:45-16:00	(0119) The Relationship Between Fuel Flow Rate and Pressure Drop in a Direct Methanol Fuel Cell with Parallel Channels Anil Can Turkmen, Didem Demirtas, Hatice Esen, <u>Cenk Celik</u>
16:00-16:15	(0088) Exergetic and Sustainability Analyses of Ammonia Usage in a Gas Turbine <u>Suleyman Kagan Ayaz</u> , Onder Altuntas
16:15-16:30	(0188) Thrust Modelling for a Solid Oxide Fuel Cell and Gas Turbine (SOFC/GT) Hybrid Propulsion System <u>Yasin Sohret</u> , Arif Hepbasli, T. Hikmet Karakoc
16:30-16:45	(0124) Exergetic Comparison of Various Flow Patterns in PEMFCs <u>Suha Orcun Mert</u> , Muhammed Mucahit Toprak
17:00-17:15	Coffee Break

March 16, 2018

HALL - C	
15:30-17:00	<b>Session 5C: Hydrogen Production-1</b> Chair: Figen Kadirgan
15:30-15:45	<b>(0028) Maturity Impact on Hydrogen Production from Natural Gas and Coal: Examples from Dadaş Shale and Zonguldak Coals</b> Samil Sen, Huseyin Kozlu, Ilyas Erdal Kerey, Gungor Celik
15:45-16:00	<b>(0031) Investigation of Hydrogen Production through Thermochemical Cycles</b> <u>Fatih Yilmaz</u> , Resat Selbas, Murat Oztruk
16:00-16:15	<b>(0062) Photoelectrochemical Hydrogen Production Using cd(1-x) znxs and Its Modifications with Graphene Derivatives</b> <u>Ozlem Uguz</u> , Duygu Akyuz, Rana Muhammad Zunain Ayaz, Irem Tanisik, Cevat Sarioglu, Fatma Karaca Albayrak, Ali Riza Ozkaya, Atif Koca
16:15-16:30	<b>(0073) Hydrogen Production from Melon and Watermelon Mixture by Dark Fermentation</b> Savas Turhal, Mansurali Turanbaev, Hidayet Argun
16:30-16:45	<b>(0166) Photocatalytic Hydrogen Production with Metal Oxide Bulk Structures</b> <u>Gizem Yanalak</u> , Abdalaziz Aljabour, Emre Aslan, Faruk Ozel, Imren Hatay Patir
16:45-17:00	<b>(0211) Hydrogen Gas Production from Wastewater by Electro-hydrolysis</b> <u>Serkan Eker</u> , Fikret Kargi
17:00-17:15	<b>Coffee Break</b>

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17:00-18:00	POSTER Session 2 Chair: Suha Orcun Mert
0145	Ordered Mesoporous Carbons (OMC) Synthesized by Self-assembly Method and the Effects of Acidity and Carbon Source to Surfactant Ratio <u>Silver Günes, Fatma Çiğdem Güldür</u>
0159	Bio-ethanol Reforming for Hydrogen and Methane Production <u>Yuji Ando</u>
0168	Electricity Generation and Wastewater Treatment with Microbial Fuel Cells Using Homemade Beer Wastewater <u>Ömer Faruk Coşkun, Kürşat Can Ata, Ramiz Gültekin Akay</u>
0182	Synthesis of Active and Reusable Nano Catalyst from Graphene Oxide (GO) Stabilized Pt-Ir Nanoclusters for DMAB Dehydrogenation Reaction at Room Temperature <u>Fatih Sen, Esra Kuyuldar, Betül Sen</u>
0183	Synthesis of Highly Active Pt-Rh Nanoclusters Stabilized on Graphene Oxide for Hydrogen Evolution Reaction <u>Fatih Sen, Esra Kuyuldar, Betül Sen</u>
0187	Energy and Exergy Analyses of an Integrated Hydrogen Production and Liquefaction System with Waste Material Gasification <u>Yunus Emre Yüksel, Murat Öztürk, Ibrahim Dinçer</u>
0191	A Comparative Study of Control Strategies for Vehicles with Hydrogen Fuel Cell/Battery/ Supercapacitor in the Electrical Grid-Independent Applications <u>Yakup Hameş, Kemal Kaya</u>
0200	Wood Char - Active Carbon Production for H <sub>2</sub> Adsorption and Storage <u>Yıldırım Tosun</u>
0209	Biohydrogen Upgrading Towards a Cleaner Energy Production <u>Emre Oguz Koroglu, Bestami Ozkaya, Ahmet Demir</u>
0217	Hydrogen Generation from the Hydrolysis of Dimethylamine-borane at Room Conditions by Using Polyvidone Protected Ruthenium Nanocatalyst <u>Mehmet Gülcan, Yaşar Karataş</u>
0224	Optimization of Thermal Pre-treatment Conditions By Box-Wilson Method For Dark Fermentative Biohydrogen Production From Fruit and Vegetable Wastes <u>Bensu Günay, Okyanus Yazgın, Kubra Arslan, Haris Nalakath, Tugba Keskin, Nuri Azbar</u>
0225	Analysis of Biohydrogen Production via Dry Anaerobic Digestion of Fruit and Vegetable Waste <u>Okyanus Yazgın, Bensu Günay, Haris Nalakath Abubackar, Tuğba Keskin Gündoğdu, Nuri Azbar</u>
0230	Phase Transition and Photoelectrochemical Properties of Copper Oxide Photoelectrodes Fabricated by Electrodeposition <u>İbrahim Y Erdoğan, Meral Balık, Veysel Bulut</u>
0231	Enhanced Photoelectrocatalytic Performance of ZnO/Cu <sub>2</sub> O Photoelectrodes <u>İbrahim Y Erdoğan, Ako Mahmood Qadir</u>
0239	The Investigation of Three-dimensional Copper Nanodomes as Anode Materials for Direct Methanol Fuel Cells <u>Fatih Baştürk, Handan Yüksel, Ramazan Solmaz</u>
0240	Pt, Pd and Ag Modified NiCuZn Raney Electrodes for Alkaline Water Electrolysis <u>Ramazan Solmaz, Ayşe Ongun Yüce, Ali Döner, Ibrahim Şahin, Gülfeza Kardeş</u>
0104	Energy and Exergy Analysis of 1 kW Self-humidified PEM Fuel Cell <u>Tayfun Özgür, Ali Cem Yakarıılmaz, Erdi Tosun, Mustafa Atakan Akar, Mustafa Özcanlı</u>
0244	Mg60Ni40 Alloy Synthesis and Investigation of Hydrogen Storage Properties <u>Gözde Bayazıt, Sefa Emre Sünbül, Sultan Öztürk, Kürşat İcin, Şadan Özcan</u>

March 17, 2018

HALL - A	
09:00-10:30	<b>Session 6A: Hydrogen Energy Applications-1</b> Chair: Can Ozgur Colpan
09:00-09:15	<b>(0007) H<sub>2</sub> Adsorption on Cu(I)-ZSM-5: Exploration of Cu(I)-exchange in Solution</b> Ismihan Altıparmak, Busra Karakaya, <u>Bahar Ipek</u>
09:15-09:30	<b>(0082) Coke Minimization over Mesoporous Alumina Supported Ni Catalyst in Dry Reforming of Methane</b> Huseyin Arbag
09:30-09:45	<b>(0212) Electrohydrolysis Application on Metal Plating Wastewater to Produce Hydrogen Gas</b> <u>Ebru Çokay</u> , Yasin Gürler
09:45-10:00	<b>(0040) Bimetallic Particles for Ethanol Electro-oxidation</b> <u>Hilal Demir Kivrak</u> , Ebru Ozkan, Burak Yapıcı, Sumeyye Dogan, Shekiba Muhammady, Ozlem Sahin
10:00-10:15	<b>(0134) Synthesis and Characterization of Electrocatalyst with Graphene and Multi-Walled Carbon Nanotube Support Material</b> <u>Guvenc Umur Alpaydin</u> , Elif Damla Arica, Yilser Devrim, Can Ozgur Colpan
10:15-10:30	<b>(0108) SnS Photo-electrodes Produced by Sulfurization of Electrodeposited Sn Films for Photo-electrochemical Water Splitting</b> Sercan Soyoz, Bulut Sahin, Selim Demirci, <u>Cevat Sarıoğlu</u>
10:30-10:45	<b>Coffee Break</b>

March 17, 2018

HALL - B	
09:00-10:30	<b>Session 2B: Hydrogen Evolution</b> Chair: Kazuro Matsuura
09:00-09:15	<b>(0057) The Effect of Co-catalyst and Novel Heterogeneous Active Photocatalysts for Hydrogen Evolution under Solar Energy</b> <u>Duygu Akyuz</u> , Ozlem Uguz, Irem Tanisik, Rana Muhammad Zunain Ayaz, Cevat Sarioglu, Fatma Karaca Albayrak, Ali Riza Ozkaya, Atif Koca
09:15-09:30	<b>(0094) Water Splitting through the Pb/PbO Cycle</b> <u>Atalay Calisan</u> , Celal Guvenc Ogulgonen, Deniz Uner, Serkan Kincal
09:30-09:45	<b>(0037) Comparison of Alcohol Electro-oxidation in Alkaline Medium</b> <u>Ozlem Sahin</u> , Ebru Ozkan, Hilal Demir Kivrak
09:45-10:00	<b>(0109) Zirconium Metal-Organic Framework Platform as a Heterogeneous Catalysts for Electrochemical Hydrogen Evolution</b> <u>Emine Ulker</u> , Selcuk Demir
10:00-10:15	<b>(0170) Hydrogen Evolution at the Water/DCE Interface Catalyzed by Cu<sub>2</sub>WS<sub>4</sub></b> Faruk Ozel, <u>Emre Aslan</u> , Adem Sarilmaz, Imren Hatay Patir
10:15-10:30	<b>(0171) The Hydrogen Evolution Reaction Catalyzed by Metal Oxide and Metal Sulfide Catalysts at Soft Interfaces</b> Emre Aslan, Gizem Yanalak, <u>Imren Hatay Patir</u>
10:30-10:45	<b>Coffee Break</b>

March 17, 2018

HALL - C	
09:00-10:30	<b>Session 6C: Hydrogen Energy and Technologies-1</b> Chair: Tanay Sıdkı Uyar
09:00-09:15	<b>(0038) Electrocatalytic Performance of Pd Based Bimetallic Catalysts for Methanol Oxidation Reaction</b> <u>Özlem Şahin</u> , Ebru Özkan, Rabia Esra Takır, Abdullah Nadeesh, Hilal Demir Kıvrak
09:15-09:30	<b>(0039) Structure Sensitivity of Direct Alcohol Electro-oxidation Reaction Catalysts</b> <u>Hilal Demir Kıvrak</u> , Ebru Ozkan, Ozlem Sahin
09:30-09:45	<b>(0013) Effect of Bipolar Plate Gas Flow Channel Pattern on Proton Exchange Membrane Fuel Cells Performance</b> <u>Celal Yılmaz</u> , Muhittin Bilgili, Yılser Devrim
09:45-10:00	<b>(0136) Performance Analysis of Compressor Assisted Single Effect Absorption Refrigeration Cycle Coupled with Helio-stat Field</b> <u>Chinedu Frank Okwose</u>
10:00-10:15	<b>(0175) Integration of Renewable Energy Systems with Hydrogen Technologies</b> <u>Alper Saydam</u> , Tanay Sıdkı Uyar
10:15-10:30	<b>(0243) Design of Thin Film Membranes for Intermediate-Temperature Hydrogen Separation</b> <u>Fatih Pişkin</u> , Tayfur Öztürk
10:30-10:45	<b>Coffee Break</b>

March 17, 2018

HALL - A	
10:45-12:00	Session 7A: Hydrogen Energy Policies and Strategies Chair: Sudi Apak
10:45-11:00	(0075) A Renewable Pathway Towards Increased Utilization of H <sub>2</sub> in Diesel Engines <u>Saket Verma</u> , Abhishek Suman, Lalit M Das, Shubhash C Kaushik, Sudhir K Tyagi
11:00-11:15	(0015) Turkey's Hydrogen Scenario and Hydrogen Production in the Thrace Basin versus Hydrogen Regulations and Standards Erhan Atay, <u>Sudi Apak</u>
11:15-11:30	(0090) Recent Trends of Hydrogen Utilization in Transportation <u>Kadir Aydın</u>
11:30-11:45	(0087) Maritime Industry and Future Hydrogen Production Preeti Parikh, <u>Yaqub Amani</u> , Charles Munsch
12:00-13:30	LUNCH
13:30- 18:00	SOCIAL PROGRAME (Damlataş Cave, Telpher Trip, Alanya Castle)

March 17, 2018

HALL - B	
10:45-12:00	<b>Session 3B: Hydrogen Production-2</b> Chair: Yilser Devrim
10:45-11:00	<b>(0071) Steam Methane Reforming in Micro-reactors under Concentrated Solar Irradiation</b> Atalay Çalışan, Celal Guvenc Ogulgonen, Deniz Uner, Serkan Kincal
11:00-11:15	<b>(0081) Hydrogen Generation from Solid State NaBH<sub>4</sub> by Using FeCl<sub>3</sub> Catalyst for Portable PEMFC Applications</b> Inci Eroglu, Asli Boran, Serdar Erkan
11:15-11:30	<b>(0100) Improvement of Operational Characteristics of Sesame Oil in a Compression Ignition Engine with Small Fraction of Hydrogen Enrichment</b> Tayfun Ozgur, Safak Yildizhan, Ceyla Ozgur, Kadir Aydın, Hasan Serin
11:30-11:45	<b>(0177) Effective TiO<sub>2</sub> Supported Cu-Complex Catalyst in NaBH<sub>4</sub> Hydrolysis Reaction to Hydrogen Generation</b> Dilek Kilinc
11:45-12:00	<b>(0195) Investigation of Hydrogen Generation from Sodium Borohydride Hydrolysis Reaction with Different Catalyst</b> Arife Saglam, Elif Damla Arica, Yilser Devrim
12:00-13:30	<b>LUNCH</b>
13:30- 18:00	<b>SOCIAL PROGRAME (Damлатаş Cave, Telpher Trip, Alanya Castle)</b>

March 17, 2018

HALL - C	
10:45-12:00	Session 7C: Hydrogen Energy and Technologies-2 Chair: Nader Javani
10:45-11:00	(0083) Preparation of Nanostructured $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> Films from Electrodeposited Fe Films for Photoelectrochemical Water Splitting Performance <u>Selim Demirci</u> , Cevat Sarioğlu
11:00-11:15	(0078) Experimental Characterization of Thin Electrolyte for Intermediate Temperature Solid Oxide Electrolysis Cell <u>Abdullah A. Alzahranj</u> , Ibrahim Dincer
11:15-11:30	(0084) Investigation of the Effect of Single Stage and Four-stage Clamping Pressure on Electrical Resistance of GDL <u>Mert Taş</u> , Gülşah Elden
12:00-13:30	LUNCH
13:30- 18:00	SOCIAL PROGRAME (Damlatas Cave, Telpher Trip, Alanya Castle)

March 18, 2018

HALL - A	
09:00-11:00	<b>Session 8A: Hydrogen Energy and Technologies-3</b> Chair: Kadir Aydın
09:00-09:15	<b>(0061) Hydrogen Storage Capacity Investigations of Pd Loading Ratio on MW-CNTs via Supercritical Fluid Deposition Method</b> <u>Ebru Erunal</u> , Fatma Ulusal, Sinan Büyükbayram, Selda Odabaşı, Bilgehan Güzel, Deniz Üner
09:15-09:30	<b>(0113) Enhancement of Hydrogen Charging in Metal Hydride-Based Storage Systems by Using Heat Pipe</b> <u>Muhammet Kayfeci</u> , Fawzi Elhamshri
09:30-09:45	<b>(0132) Artificial Neural Network Modelling of Hydrogen Storage Properties of LaNi<sub>4.75</sub>Al<sub>0.25</sub> alloys based metal hydride vessels</b> Muhammet Kayfeci, Fevzi Bedir, <u>Umrhan Elmas</u>
09:45-10:00	<b>(0074) Electrochemical Impedance Modelling of a SOFC Button Cell and Parametric Analysis of the Cell Electrical / Electrochemical Performance</b> <u>Yaser Mollaei Barzi</u> , Rafat Mohammadi
10:00-10:15	<b>(0135) Axane Commitment for a Sustainable, Reliable, and Field Proven Power Source through Partnership with Laboratories and Design Efforts</b> <u>Johan Andre</u> , Marian Chatenet, Frédéric Maillard, Laetitia Dubau, Lionel Flandin, Corine Bas, Gilles De Moor, Olivier Lottin, Eric Claude, Elisabeth Rossinot, Nicolas Caqué
10:15-10:30	<b>(0160) A Design of Automated HHO System for Optimum Volumetric Efficiency</b> Mustafa Kaan Baltacioglu, <u>Raif Kenanoglu</u> , Kemal Kaya, Yakup Hames, Ertugrul Baltacioglu
10:30-10:45	<b>(0172) Effect of Channel Bend in Serpentine Flow Field Design Pattern for PEMFC</b> <u>Mohammad Ziauddin Chowdhury</u> , Yahya Erkan Akansu, Omer Genc, Serkan Toros, Yusuf Sahin
10:45-11:00	<b>(0234) Effects of Rice Husk Particle Size on Biohydrogen Production under Solid State Fermentation</b> Serpil Özmiñçi, Zülfiye Veliöđlu Tosuner
11:00-12:00	<b>World Hydrogen Day and Closing Ceremony</b>

March 18, 2018

HALL - B	
09:00-11:00	<b>Session 4B: Applications on Hydrogen Energy and Technologies</b> Chair: Johan Andre
09:00-09:15	<b>(0197) An Investigation of the Mild Flameless Combustion Behaviour of Methane and Hydrogen Fuels under the Various Preheating Levels in a Furnace</b> Mehmet Salih Celtek
09:15-09:30	<b>(0173) Numerical Investigation of Conventional Flow Field Patterns in Proton Exchange Membrane Fuel Cell</b> Mohammad Ziauddin Chowdhury
09:30-09:45	<b>(0205) Metal-Schiff Base Complex Catalyst in KBH<sub>4</sub> Hydrolysis Reaction for Hydrogen Generation</b> Dilek Kılınc, Ömer Şahin
09:45-10:00	<b>(0233) Bio-Hydrogen Production from Waste Rice Husk Using Co-Culture</b> Serpil Özmişçi, Gülsün Gizem Taylan
10:00-10:15	<b>(0199) Mathematical Modeling of a Flowing Electrolyte-Direct Methanol Fuel Cell Using Comsol Multiphysics</b> Omer Faruk Atacan, David Ouellette, Deniz Yimaz, Pasa Yaman, <u>Can Ozgur Colpan</u>
10:15-10:30	<b>(0042) Development of a Mathematical Model for a HT-PEMFC Stack Based Cogeneration System</b> Yagmur Nalbant, Can Ozgur Colpan, Yilser Devrim
10:30-10:45	<b>(0125) Quasistatic Model Based Analysis of Direct Methanol Fuel Cell System for Hybrid Vehicular Applications</b> Mustafa Umut Karaoğlan, <u>Alper Can Ince</u> , Can Özgür Çolpan, Nusret Sefa Kuralay
10:45-11:00	<b>(0232) Turkey's Hydrogen Scenario and Hydrogen Production in the Thrace Basin versus Hydrogen Regulations and Standards</b> Sudi Apak
11:00-12:00	<b>World Hydrogen Day and Closing Ceremony in Hall A</b>





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# 3<sup>rd</sup> International HYDROGEN TECHNOLOGIES Congress

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