



# 8th International Conference on Renewable Fuels, Combustion and Fire (FCE'21) FINAL PROGRAM

<b>FCE'2021 WILL BE COMPLETELY HELD THROUGH ZOOM.</b>	
<b>MEETING ID: 8063390376</b>	
<b>PASSWORD: Gazi1926</b>	
<b>FRIDAY 5 MARCH 2021</b>	
09:30 – 09:45	<b>OPENING SPEECH:</b> <b>Prof. Dr. Mustafa İlbaş, Conference Chair</b>
<b>INVITED SPEAKERS</b>	<b>Chair: Prof. Dr. Hakan S. Soyhan</b>
09:45 – 10:10	Prof. Dr. Roger Cracknell, Shell's Technology Expert, UK <b>Development of Surrogate Fuels for Gasoline Containing Isopentane</b>
10:10 – 10:35	Prof. Dr. Shouyin (Ian) Yang, National Formosa University, Taiwan <b>Combustion and Chemical Characteristics of mixture of Butanol and Bio-oil</b>
10:35 – 11:00	Prof. Dr. Ashwani K. Gupta, University of Maryland, USA <b>Synergistic Effects in Steam Gasification of Combined Biomass and Plastic Waste Mixtures</b>
11:00 – 11:10	<b>BREAK</b>
<b>SESSION I.1</b>	<b>Chair: Prof. Dr. Shouyin (Ian) Yang</b>
11:10 – 11:25	Improvement of Gasoline Methanol Blends Performance in Spark Ignition Engine Using Various Ignition Timing and Injection Duration Settings <b>Ravi Farkhan Pratama, Cahyo Setyo Wibowo, Nur Allif Faturahman, Edy Hartulistiyo</b>
11:25 – 11:40	Effect of Swirl Number on Partially Premixed Swirl Stabilized CH <sub>4</sub> -H <sub>2</sub> Flames <b>Dilay Güleriyüz, Emre Böncü, Tahsin Berk Kıymaz, Mehmet Karaca, Barış Yılmaz, Christophe Allouis, İskender Gökalg</b>
11:40 – 11:55	Evaluating The Cyclic Variability of A Multi-Cylinder Flex Fuel Engine by Using Wavelets <b>Fazal Um Min Allah*, Caio Henrique Rufino, Waldyr Luiz Ribeiro Gallo, Clayton BarcelosZabeu</b>
11:55 – 12:10	Determination of Optimum Operating Conditions of Single Cylinder Gasoline Engine Using Fusel Oil/Gasoline Fuel Blends by Taguchi <b>Süleyman Şimşek, Samet Uslu*, Mustafa Bahattin Çelik</b>
12:10 – 12:25	Evaluating the effects of variable valve timing for a flex-fuel engine <b>Fazal Um Min Allah, Waldyr Luiz Ribeiro Gallo</b>
12:25 – 12:40	Experimental Investigation of Combustion Characteristics of Premixed Biogas Flames <b>Ilker Sivri, Harun Yılmaz, Omer Cam, Ilker Yılmaz</b>
12:40 – 13:40	<b>LUNCH</b>

<b>SESSION I.2</b>	<b>Chair: Prof. Dr. Yueh-Heng Li</b>
13:40 – 13:55	The Effects of Variable Pilot Diesel Injection on Engine Performance and Emissions Operating with HHOCNG Fuel Enrichment <b>Mikail Hocaoglu, Hüseyin Turan Arat*, Mustafa Kaan Baltacioğlu</b>
13:55 – 14:10	Optimization of Spark Ignition Engine Parameters for Efficient Use of i-AMYL Alcohol/Gasoline Fuel Blends by Response Surface Methodology <b>Samet Uslu*, Süleyman Şimşek, Mustafa Bahattin Çelik</b>
14:10 – 14:25	Comparative Efficiency Analyses of Oil Filters on Internal Combustion Engines <b>Onur Atar, Hüseyin Turan Arat*, Bahattin TANÇ</b>
14:25 – 14:40	Investigation of Combustion Performance and Exhaust Emissions of An Internal Combustion Engine with Open Source Code-PYTHON; Review Study <b>Mustafa Hakan Özyirmidokuz*, Bilge Albayrak Çeper</b>
14:40 – 14:55	The study of Combustion Parameters of A Common Rail Diesel Engine Fueled with Canola Oil Methyl Ester/Ethanol Blends <b>Mehmet Akcay*, İlker Turgut Yılmaz</b>
14:55 – 15:10	Comparison Between The Mass Fractions of CO <sub>2</sub> Emitted by Four Different Fuels <b>Brahim Mahfouda*</b>
<b>15:10 – 15:20</b>	<b>BREAK</b>
<b>SESSION I.3</b>	<b>Chair: Assoc. Prof. Dr. Chih-Yung Wu</b>
15:20 – 15:35	Experimental Investigation of The Effect of The Electromagnetic Field on The CH <sub>4</sub> Flame <b>Ozan Öztürk, İlker Yılmaz, Buğrahan Alabaş</b>
15:35 – 15:50	Disposal of H <sub>2</sub> contained chemical munitions with plasma technology <b>Caner Dereli* And Murat Şahin</b>
15:50 – 16:05	Improving The Performance of Internal Combustion Engines with ORC System <b>Özgür Solmaz, Eşref Baysal, Mert Ökten*, Habib Gürbüz</b>
16:05 – 16:20	Prediction and Optimization of Performance and Exhaust Emission Characteristics of A Diesel Engine Operating with A Mixture of Diesel Fuel and Waste Oil Biodiesel Using ANN and RSM Techniques <b>Mehmet Ali Biberici*, Hüseyin Gökçe, Mustafa Bahattin Çelik</b>
16:20 – 16:35	Numerical Investigation of Premixed Methane and Ammonia Combustion in A Two Inlet Cyclone COMBUSTOR <b>Abdulkadir Bektas*</b>
16:35 – 16:50	Examination Of The Use Of Bioalcohol Obtained From Waste Figs (Ficus Carica) As Fuel in A Thermal Barrier Coated Engine <b>Salih Özer*, Erdinç Vural, Serkan Özel</b>
<b>16:50 – 17:00</b>	<b>BREAK</b>
<b>SESSION I.4</b>	<b>Chair: Prof. Dr. Roger Cracknell</b>
17:00 – 17:15	Comparison of Diesel No 2 Fuel with New Biodiesel Fuel From Waste Oils in Terms of Fuel Properties <b>İbrahim Yıldız, Hakan Caliskan*, Kazutoshi Mori</b>
17:15 – 17:30	Effect of Addition of Fuel Oil/Toluene/Diethyl Ether to Diesel Fuel on Combustion Parameters (has been transferred to the last day and the session of the conference) <b>Mehmet Akçay, Salih Özer*, Erdinç Vural</b>
17:30 – 17:45	Volatility Characteristics and Oxygenate Content of Gasoline-Ethanol Fuel Blends on Varying 88, 90, 92 RON Gasoline with Different Ethanol Percentage <b>Yoshua Lian Calvin, Pandega Atana Tamma Hariyanto, Addarda Irsyad Usman, Muchalis Masuku, Cahyo Setyo Wibowo, Nur Allif Fathurrahman, Maymuchar, Riesta Anggarani, Bambang Sugiarto*</b>
17:45 – 18:00	6-Step Global-Kinetic Deposition Model for JP-8 Fuel <b>Şengün Kaan Can*, Yakup Erhan Böke</b>
18:00 – 18:15	Investigation on Combustion Characteristics of a Diesel Engine Fueled with Diesel, Biogas, and MCNT

	<b>M.R. Atelge*, Esenay Arslan, Serdar Abut, Selahaddin Orhan Akansu, A.E. Atabani, Nafiz Kahraman, Sebahattin Ünal</b>
18:15 – 18:30	Impact of Gasoline-Biodiesel Fuel Blends on The Performance and Emissions of A Spark Ignition Engine <b>H. Enes Fil, Alparslan Bozkurt, S. Orhan Akansu,</b>
<b>SATURDAY 6 MARCH 2021</b>	
<b>INVITED SPEAKERS</b>	<b>Chair: Prof. Dr. Mustafa İlbaş</b>
09:30 – 09:55	Prof. Dr. Ahmet Yozgatlıgil, TUBITAK Vice President&METU, Turkey <b>Microgravity Combustion and Fire Safety in Space</b>
09:55 – 10:20	Prof. Dr. Yueh-Heng Li, National Cheng Kung University, Taiwan <b>Synergetic Combustion Behavior of Aluminum and Coal Addition in Hybrid Iron-Methane-Air Premixed Flames</b>
10:20 – 10:45	Prof. Dr. İskender Gökalp, Research Director at ICARE-CNRS Orleans France & METU <b>How to Re-Frame Combustion Studies for The Post-Fossil Fuels and Post-Covid World</b>
10:45 – 10:55	<b>BREAK</b>
<b>SESSION II.1</b>	<b>Chairs: Prof. Dr. Yüksel Kaplan / Assoc. Prof. Dr. Bora Timurkutluk</b>
10:55 – 11:10	Oil Market Sector Report of The Marmara Region in January 2020: A Review <b>Cemil Koyunoğlu*, Hakan Serhad Soyhan</b>
11:10 – 11:25	Fiber Optic Humidity Sensor for Condensation Detection In A New Generation Biogas Reactors <b>Murat Şahin, Şekip Esat Hayber</b>
11:25 – 11:40	Development of Flow Plate Design Used for PEM Fuel Cell Using CFD <b>Murat Şahin, Burak Berk Başkaya</b>
11:40 – 11:55	Optimization of Unitized Regenerative PEM Electrolyzer/Fuel Cell <b>Nebi Yelegen*, Abdulkadir Bektas, Selahattin Çelik, Yüksel Kaplan</b>
11:55 – 12:10	Numerical Simulation of Direct Ammonia Feed Anode Supported Flat-Tubular Solid Oxide Fuel Cell (AS-FT-SOFC) <b>Mustafa İlbas, Molla Asmare Alemu, Fethi Mustafa Cimen</b>
12:10 – 12:25	The Effect of Electrolyte Type on Performance of Hydrogen Fueled Solid Oxide Fuel Cells <b>Berre Kumuk, Molla Asmare Alemu</b>
12:25 – 13:25	<b>LUNCH</b>
<b>SESSION II.2</b>	<b>Chairs: Prof. Dr. İskender Gökalp</b>
13:25 – 13:40	Numerical Investigation of A Model Flat-Tubular Solid Oxide Fuel Cell (has been transferred to the last day and the session of the conference) <b>Fethi Mustafa Cimen, Molla Asmare Alemu, Berre Kümük, Mustafa İlbaş*</b>
13:40 – 13:55	Turkish Calcined Red Mud (TCRM) As A Low Cost Oxygen Carrier For Chemical Looping Combustion (CLC) <b>Merve Durmaz, Nesibe Dilmaç*, Ömer Faruk Dilmaç</b>
13:55 – 14:10	Obtaining Combustion Behavior of Several Municipality Waste Via Products Using Fuelsim-Average V1.1 Program <b>Cemil Koyunoğlu*, Hakan Serhad Soyhan, Hüseyin Karaca</b>
14:10 – 14:25	One Dimensional Engine Modeling and Calibration Optimization: Racing Car Gasoline Engine Case <b>Ayberk Peker, Orkun Özener, Alp Tekin Ergenç</b>
14:25 – 14:40	A Comparative Evaluation of Biodiesel Feedstocks: From First to Third Generation <b>Huseyin Sanli*, Ertan Alptekin, Mustafa Canakci</b>

14:40 – 14:55	Feasibility Study on The Combustion of Low-Rank Coal in the Pulverized Coal-Fired Power Plant in Turkey <b>Mehmet Tontu</b>
14:55 – 15:05	<b>BREAK</b>
<b>SESSION II.3</b>	<b>Chairs: Prof. Dr. Ahmet Yozgatligil / Dr. Feyza Kazanç</b>
15:05 – 15:20	Determination of Elements in The Deposit Formed in the Combustion Chamber of Gas Engine Utilizing Landfill Gas <b>Orhan Sevimoğlu*, Özge Östürk</b>
15:20 – 15:35	Internal Recirculation Effects on Flameless Combustion of a Hydrogen-Rich Gaseous Fuel <b>Alparslan Ilbas, Mustafa Bahadır Ozdemir, Serhat Karyeyen</b>
15:35 – 15:50	Effect of Acoustic Enforcement on The Instability of Propane Flame <b>Kamil Mutlu And Murat Taştan</b>
15:50 – 16:05	Numerical Analysis of Kerosene Fuelled Colorless Distributed Combustion (CDC) in A Model Swirl Gas Turbine Combustor <b>Mustafa Ilbas, Osman Kumuk, Serhat Karyeyen</b>
16:05 – 16:20	Effects of H <sub>2</sub> Addition to Gaseous Fuels Obtained from Domestic Sources at Different Pressures in Colorless Distributed Combustion (CDC) <b>Murat Şahin*</b>
16:20 – 16:35	Air Preheating Effects on Colorless Distributed Combustion Conditions for H <sub>2</sub> -Enriched CH <sub>4</sub> Combustion <b>Kenan Bilgin Kekeç*, Serhat Karyeyen</b>
16:35 – 16:45	<b>BREAK</b>
<b>SESSION II.4</b>	<b>Chair: Prof. Dr. Veli Çelik / Dr. Orhan Özçelik</b>
16:45 – 17:00	Effect of Oxygen Enrichment on Flame Instability and Emission Behavior for A High Hydrogen Content Fuel Mixture <b>Güven Tunç, Murat Taştan, İlker Yılmaz, Buğrahan Alabaş</b>
17:00 – 17:15	Investigation of Performance and Emission Characteristics Fueled by Diesel, Diesel- Tio <sub>2</sub> and Diesel Ash in A Diesel Engine <b>Alparslan Bozkurt, M.İlhan İlhak, S. Orhan Akansu</b>
17:15 – 17:30	Influence of Biomass Thermal Pre-Treatment on The Particulate Matter Formation During Pulverized Co-Combustion with Lignite Coal <b>Duarte Magalhaes, Feyza Kazanç*</b>
17:30 – 17:45	A Dual Functional Tea Factory Waste Supported Cu Material As High Performance Supercapacitor Electrode and Hydrogen Production Catalyst <b>Saliha Özarslan, M. Raşit Atelge, Mustafa Kaya*, Sebahattin Ünal</b>
17:45 – 18:00	Numerical Investigations on Flashback Limits Of Premixed Hydrogen-Methane-Air Laminar Flames <b>Tahsin Berk Kıymaz, Emre Böncü, Dilay Güleriyüz, Mehmet Karaca, Barış Yılmaz, Christophe Allouis, İskender Gökarp</b>
18:00 – 18:15	Life Cycle Assessment (LCA) For Establishment of Adding (1, 10, And 100 Ton Raw Coal Co-Liquefaction) Energy Facility to Afşin-Elbistan B Powerplant <b>Cemil Koyunoğlu*, Hakan Serhad Soyhan, Hüseyin Karaca</b>

## SUNDAY 7 MARCH 2021

<b>INVITED SPEAKERS</b>	<b>Chair: Assoc. Prof. Dr. Serhat Karyeyen</b>
09:30 – 09:55	Assoc. Prof. Dr. Mansour Al Qubeissi (CU, UK) Prof. Dr. Hakan Serhad Soyhan (SAU, Turkey, President, The Combustion Institute of Turkey) <b>Improved Predictions of Processes Preceding/Exceeding The Onset of Combustion</b>
09:55 – 10:20	Assoc. Prof. Dr. Chih-Yung Wu, National Cheng Kung University, Taiwan <b>The Effect of Water Content on the Methanol Spray Combustion</b>
10:20 – 10:30	<b>BREAK</b>
<b>SESSION III.1</b>	<b>Chair: Prof. Dr. Nafiz Kahraman</b>
10:30 – 10:45	Modelling DME Production from Synthetic Gases with A Fixed Bed Reactor: A CFD approach <b>Cemil Koyunoğlu*, Hakan Serhad Soyhan, Hüseyin Karaca</b>
10:45 – 11:00	Production of Tea Factory Waste Treated with NaOH As A Dual Material: Its Application As Supercapacitor Electrode and Sodium Borohydride Methanolysis Catalyst <b>Saliha Özarslan, M. Raşit Atelge, Mustafa Kaya*, Sebahattin Ünal</b>
11:00 – 11:15	Numerical Modeling of the Lignite Oxy-Combustion in A Lab-Scale Pressurized Bubbling Fluidized Bed <b>Burcu Ayşe Öner, Zeynep Bektaş, Barış Yılmaz*</b>
11:15 – 11:30	Full-Scale CFD Model of Two-Stroke Marine Diesel Engine <b>Enes Fatih Pehlivan*, İsmail Altın</b>
11:30 – 11:45	Numerical Simulation of Biocoal Blended Lignite Combustion in A Pressurized Bubbling Fluidized Bed <b>Zeynep Bektaş, Burcu Ayşe Öner, , Barış Yılmaz*</b>
11:45 – 12:00	Modeling and Experimental Verification of Lignite Oxy-Combustion in a CFB <b>Duygu Gündüz Raheem, Barış Yılmaz, Sibel Özdoğan</b>
12:00 – 13:00	<b>LUNCH</b>
<b>SESSION III.2</b>	<b>Chair: Prof. Dr. İlker YILMAZ</b>
13:00 – 13:15	Effect of Start of Injection on Performance in Compression Ignition Engine by Using AVL Fire <b>Esenay Arslan, Bilge Albayrak Çeper, Nafiz Kahraman, S.Orhan Akansu</b>
13:15 – 13:30	Natural Gas Market Sector Report of The Marmara Region for 2019: A Review <b>Cemil Koyunoğlu*, Fikret Yüksel</b>
13:30 – 13:45	Comparison of electricity production industry via energy efficiency quality method (EEQM) for the Turkey and Marmara region <b>Cemil Koyunoğlu*, İsmail Adak</b>
13:45 – 14:00	CFD Simulation of Flowfield and Turbulence Interaction in An Ammonia Fueled Combustor under Different Combustion Conditions <b>Mustafa İlbaş, Ozan Kekül*, Serhat Karyeyen</b>
14:00 – 14:15	Effect of Adding Carbon Nanotube on The Combustion of Diesel and Diesel-Natural Gas Mixture <b>Esenay Arslan,*, M.Raşit Atelge, Nafiz Kahraman, Sebahattin Ünal, Bilge A. Çeper</b>
14:15 – 14:25	<b>BREAK</b>
<b>SESSION III.3</b>	<b>Chair: Assoc. Prof. Dr. Hamit Solmaz</b>
14:25 – 14:40	Evaluation of Pollutant Emissions Generated at Bus Stops <b>Orkun Özener*, Muammer Özkan*, Onur Gezer*</b>
14:40 – 14:55	Liquefied Petroleum Gas (LPG) Market Sector Report of The Eastern Anatolia Region in 2020: A review <b>Cemil Koyunoğlu*, Hüseyin Karaca</b>

14:55 – 15:10	Bus Fires Safety, Causes and Prevention <b>Habib Kaymaz</b>
15:10 – 15:25	Modeling of Vehicle Fire in A Natural Ventilated Tunnel <b>Nureddin Dinler*, Betül Demirci**</b>
15:25 – 15:40	Large Eddy Simulation of A Bluff Body Stabilized Premixed Flame <b>Mustafa Sengul, Ayse Gul Gungor*,</b>
15:40 – 15:50	<b>BREAK</b>
<b>SESSION III.4</b>	<b>Chair: Dr. Nureddin Dinler</b>
15:50 – 16:05	Numerical Investigation of A Model Flat-Tubular Solid Oxide Fuel Cell <b>Fethi Mustafa Çimen, Berre Kümük, Mustafa İlbaş</b>
16:05 – 16:20	Effect of Addition of Fuel Oil/Toluene/Diethyl Ether to Diesel Fuel on Combustion Parameters <b>Mehmet Akçay, Salih Özer*, Erdinç Vural</b>
16:20 – 16:35	Synthesis and Characterization of LaNiMO <sub>3</sub> (M=Mn, Co, Cu, Ag) Perovskite Catalysts For Total Oxidation of Methane <b>Esra Bulagay, Filiz Balıkcı Derekaya</b>
16:35 – 16:50	Effect of Intake Temperature and EGR on Combustion and Exhaust Emission Characteristics in Dual-Fuel Diesel Combustion <b>Selim Demirtürk*, Habib Gürbüz, İsmail Hakkı Akçay and Hüsameddin Akçay</b>
16:50 – 17:05	The Evaluation of The Environmental and Enviroeconomic Indicators in A Ethanol-Diesel Dual-Fuel Diesel Engine <b>Selim Demirtürk*, Habib Gürbüz, İsmail Hakkı Akçay and Hüsameddin Akçay</b>
17:05 – 17:20	<b>CLOSING CEREMONY</b>



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