

Assoc. Prof. SERHAT KARYEYEN

Personal Information

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Education Information

Post Doctorate, University of Maryland, College Park, Faculty of Engineering, Department of Mechanical Engineering, United States Of America 2018 - 2019

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Enerji Sistemleri Mühendisliği (Dr), Turkey 2013 - 2016

Post Graduate, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (YI) (Tezli), Turkey 2012 - 2013

Under Graduate, Gazi University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Turkey 2005 - 2011

Foreign Languages

English, C2 Mastery

Certificates, Courses and Trainings

Vocational Course, Second International Summer School on Engineering Computer Modeling, NRNU MEPhI, Moscow, 2017

Vocational Course, International Combustion Institute Summer School on Physics of Turbulent Combustion, KTH Royal Institute of Technology, 2016

Vocational Course, International Combustion Institute Summer School on Near-Wall Reactive Flow, Technical University of Darmstadt, 2016

Vocational Course, International Combustion Institute Winter School on Combustion, Eindhoven University of Technology, 2016

Vocational Course, Second International Combustion Institute Summer School: Combustion Fundamentals and New Technologies (2ICISS), University of Naples "Federico II", 2015

Dissertations

Doctorate, Geliştirilen bir yakıcıda kömür gazlarının yanma karakteristiklerinin deneysel ve sayısal olarak araştırılması, Gazi University, Fen Bilimleri Enstitüsü, Enerji Sistemleri Mühendisliği (Dr), 2016

Post Graduate, Model bir gaz türbini yanma odasında kömür gazları yanma davranışının sayısal analizi, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (YI) (Tezli), 2013

Research Areas

Energy, Thermodynamics, Fuels and Combustion, Petroleum And Natural Gas Engineering, Aeronautical and Space Engineering

Academic Titles / Tasks

Associate Professor, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2019 - Continues
Research Assistant PhD, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2016 - 2019
Research Assistant, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2011 - 2016

Professional Experience

Deputy Head of Department, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği Bölümü, 2020 - Continues

Courses

Thermodynamics-II, Under Graduate, 2019 - 2020
Thermodynamics-I, Under Graduate, 2019 - 2020, 2020 - 2021
Isı Transferi ve Akışkanlar Mekaniğinde Sayısal Yöntemler, Post Graduate, 2019 - 2020, 2020 - 2021
Yakıtlar ve Yanma, Under Graduate, 2017 - 2018
Isı ve Kütle Transferi, Under Graduate, 2017 - 2018
Enerji Sistemleri Lab.-II, Under Graduate, 2017 - 2018

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Development of distributed combustion index from a swirl-assisted burner**
Karyeyen S., Feser J. S. , Jahoda E., Gupta A. K.
APPLIED ENERGY, vol.268, 2020 (Journal Indexed in SCI)
- II. **Flowfield impact on distributed combustion in a swirl assisted burner**
Feser J. S. , Karyeyen S., Gupta A. K.
FUEL, vol.263, 2020 (Journal Indexed in SCI)
- III. **Application of distributed combustion technique to hydrogen-rich coal gases: A numerical investigation**
KARYEYEN S., İLBAŞ M.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.45, no.5, pp.3641-3650, 2020 (Journal Indexed in SCI)
- IV. **A new burner for oxy-fuel combustion of hydrogen containing low-calorific value syngases: An experimental and numerical study**
İLBAŞ M., Bektas A., KARYEYEN S.
FUEL, vol.256, 2019 (Journal Indexed in SCI)
- V. **Hydrogen concentration effects on swirl-stabilized oxy-colorless distributed combustion**
Karyeyen S., Feser J. S. , Gupta A. K.
FUEL, vol.253, pp.772-780, 2019 (Journal Indexed in SCI)
- VI. **Swirl assisted distributed combustion behavior using hydrogen-rich gaseous fuels**
Karyeyen S., Feser J. S. , Gupta A. K.
APPLIED ENERGY, vol.251, 2019 (Journal Indexed in SCI)
- VII. **Combustion characteristics of a non-premixed methane flame in a generated burner under distributed combustion conditions: A numerical study**
KARYEYEN S.
FUEL, vol.230, pp.163-171, 2018 (Journal Indexed in SCI)
- VIII. **Effect of oxy-fuel combustion on flame characteristics of low calorific value coal gases in a small burner and combustor**
İLBAŞ M., Bektas A., KARYEYEN S.
FUEL, vol.226, pp.350-364, 2018 (Journal Indexed in SCI)

- IX. **Experimental and numerical analysis of turbulent premixed combustion of low calorific value coal gases in a generated premixed burner**
KARYEYEN S., İLBAŞ M.
FUEL, vol.220, pp.586-598, 2018 (Journal Indexed in SCI)
- X. **3D numerical modelling of turbulent biogas combustion in a newly generated 10 KW burner**
İLBAŞ M., ŞAHİN M., KARYEYEN S.
JOURNAL OF THE ENERGY INSTITUTE, vol.91, no.1, pp.87-99, 2018 (Journal Indexed in SCI)
- XI. **Turbulent diffusion flames of a low-calorific value syngas under varying turbulator angles**
İLBAŞ M., KARYEYEN S.
ENERGY, vol.138, pp.383-393, 2017 (Journal Indexed in SCI)
- XII. **An experimental and numerical study on turbulent combustion of hydrogen-rich coal gases in a generated non-premixed burner**
İLBAŞ M., KARYEYEN S.
FUEL, vol.194, pp.274-290, 2017 (Journal Indexed in SCI)
- XIII. **Turbulent diffusion flames of coal derived-hydrogen supplied low calorific value syngas mixtures in a new type of burner: An experimental study**
KARYEYEN S., İLBAŞ M.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.4, pp.2411-2423, 2017 (Journal Indexed in SCI)
- XIV. **Effect of swirl number on combustion characteristics of hydrogen-containing fuels in a combustor**
İLBAŞ M., KARYEYEN S., YILMAZ İ.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.41, no.17, pp.7185-7191, 2016 (Journal Indexed in SCI)
- XV. **Numerical modelling of effects of hydrogen supply on combustion behaviours of low calorific value coal gases**
İLBAŞ M., KARYEYEN S.
INTERNATIONAL JOURNAL OF GLOBAL WARMING, vol.10, pp.16-31, 2016 (Journal Indexed in SCI)
- XVI. **A numerical study on combustion behaviours of hydrogen-enriched low calorific value coal gases**
İLBAŞ M., KARYEYEN S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.44, pp.15218-15226, 2015 (Journal Indexed in SCI)
- XVII. **Investigation of premixed hydrogen flames in confined/unconfined combustors: A numerical study**
İLBAŞ M., KARYEYEN S., Ozdemir I.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.34, pp.11189-11194, 2015 (Journal Indexed in SCI)
- XVIII. **Modelling of combustion performances and emission characteristics of coal gases in a model gas turbine combustor**
İLBAŞ M., KARYEYEN S.
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.38, no.9, pp.1171-1180, 2014 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **COLORLESS DISTRIBUTED COMBUSTION OF DIFFUSION METHANE FLAME USING A TWO CYCLONE INLET BURNER**
Kekeç K. B. , Karyeyen S., İlbaş M.
International Journal of Energy for a Clean Environment, vol.22, no.5, 2021 (Refereed Journals of Other Institutions)
- II. **Combustion Characteristics on Colorless Distributed Combustion (CDC) in a Cyclonic Burner**
KEKEÇ K. B. , KARYEYEN S.
International Journal of Energy Studies, vol.5, no.1, pp.43-55, 2020 (Refereed Journals of Other Institutions)
- III. **Numerical Investigation of Microjet Assisted Diluents Usage on Effect of NOX Emissions in Turbulent Methane Flame**
KARYEYEN S., İLBAŞ M.
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.21, no.3, pp.715-721, 2018 (Journal Indexed in ESCI)

- IV. **Oksitleyiciye su buharı ilavesinin kok fırını gazı yanma davranışlarına olan etkisinin sayısal olarak incelenmesi**
KARYEYEN S., İLBAŞ M.
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.6, no.2, pp.71-87, 2018 (Other Refereed National Journals)
- V. **Oxygen Enriched Combustion of Coke Oven Gas and Generator Gas: A Numerical Study**
İLBAŞ M., Yanık E., KARYEYEN S.
JOURNAL OF POLYTECHNIC-POLİTEKNİK DERGISI, vol.21, no.1, pp.93-100, 2018 (Journal Indexed in ESCI)
- VI. **Experimental analysis of premixed and non-premixed methane flames by using a new combustion system**
İLBAŞ M., KARYEYEN S.
Research on Engineering Structures and Materials, vol.4, no.1, pp.1-14, 2018 (Refereed Journals of Other Institutions)
- VII. **Experimental Investigation of Flue Gas Combustion Parameters of Non-Premixed and Premixed Methane Flames**
İLBAŞ M., KARYEYEN S., Cilingir K.
JOURNAL OF POLYTECHNIC-POLİTEKNİK DERGISI, vol.19, no.3, pp.357-365, 2016 (Journal Indexed in ESCI)
- VIII. **Combustion Behaviours of Different Biogases in an Existing Conventional Natural Gas Burner: An Experimental Study**
İLBAŞ M., ŞAHİN M., KARYEYEN S.
INTERNATIONAL JOURNAL OF RENEWABLE ENERGY RESEARCH, vol.6, no.3, pp.1178-1188, 2016 (Journal Indexed in ESCI)
- IX. **Kok Fırını Gazının Model Bir Gaz Türbini Yanma Odasındaki Yanma Performansının Sayısal Olarak İncelenmesi**
İLBAŞ M., KARYEYEN S.
POLİTEKNİK DERGİSİ, vol.15, no.4, pp.171-176, 2012 (Other Refereed National Journals)

Books & Book Chapters

- I. **Impact of Flowfield on Pollutants' Emission from a Swirl-Assisted Distributed Combustor**
Feser J. S. , KARYEYEN S., Gupta A. K.
in: Advances in IC Engines and Combustion Technology, , Editor, SPRINGER, pp.3-11, 2020
- II. **Fuels and Combustion**
İLBAŞ M., zehra g. ö. , KARYEYEN S.
in: Progress in Exergy Energy and the Environment, Ibrahim Dincer, Adnan Midilli, Haydar Kucuk, Editor, Springer, pp.991-1000, 2014

Refereed Congress / Symposium Publications in Proceedings

- I. **CFD Simulation of Flowfield and Turbulence Interaction in an Ammonia Fueled Combustor under Different Combustion Conditions**
İLBAŞ M., KARYEYEN S., KEKÜL O.
8th International Conference on Renewable Fuels, Combustion and Fire (FCE'21), Turkey, 05 March 2021
- II. **Air Preheating Effects on Colorless Distributed Combustion Conditions for H₂- Enriched CH₄ Combustion**
KEKEÇ K. B. , KARYEYEN S.
8th International Conference on Renewable Fuels, Combustion and Fire (FCE'21), Turkey, 5 - 07 March 2021
- III. **Internal Recirculation Effects on Flameless Combustion of a Hydrogen-Rich Gaseous Fuel**
İLBAŞ A., ÖZDEMİR M. B. , KARYEYEN S.

- 8th International Conference on Renewable Fuels, Combustion and Fire (FCE'21), Turkey, 5 - 07 March 2021
- IV. **Numerical Analysis of Kerosene Fuelled Colorless Distributed Combustion (CDC) in A Model Swirl Gas Turbine Combustor**
İLBAŞ M., KÜMÜK O., KARYEYEN S.
8th International Conference on Renewable Fuels, Combustion and Fire (FCE'21), Turkey, 5 - 07 March 2021
- V. **Combustion of Methane Using a Cyclonic Burner under Colorless Distributed Combustion Conditions**
KEKEÇ K. B. , KARYEYEN S., İLBAŞ M.
15th International Combustion Symposium (INCOS), 17 - 19 September 2020
- VI. **Combustion Characteristics of Oxy-Ammonia Combustion in a Non-Premixed Burner**
KEKÜL O., İLBAŞ M., KARYEYEN S.
15th International Combustion Symposium (INCOS), 17 - 19 September 2020
- VII. **Swirl Combustion of Kerosene and Ammonia-Assisted Kerosene Fuels in a Model Gas Turbine Combustor: A Numerical Study**
İLBAŞ M., KÜMÜK O., KARYEYEN S.
15th International Combustion Symposium (INCOS), 17 - 19 September 2020
- VIII. **Effect of Fuel Dilution in a Hydrogen-Methane Blended Fuel Under Oxy-Distributed Combustion**
KARYEYEN S., Feser J. S. , Gupta A. K.
AIAA Propulsion and Energy 2019 Forum, Indianapolis, IN, United States Of America, 19 - 22 August 2019
- IX. **The effect of swirl number on combustion characteristics of biogas fuel in a combustor**
İLBAŞ M., ŞAHİN M., KARYEYEN S.
7 th International Conference on Renewable Fuels Combustion and Fire, 10 - 13 March 2019
- X. **Impact of Flowfield on Pollutants Emission from a Swirl Assisted Distributed Combustor**
Joseph S. F. , KARYEYEN S., Gupta A. K.
44th Clearwater Clean Energy Conference, Clearwater, Florida, United States Of America, 16 - 21 June 2019
- XI. **OXY-FUEL COMBUSTION OF HYDROGEN CONTAINING LOW-CALORIFIC VALUE SYNGASES: AN EXPERIMENTAL AND NUMERICAL STUDY**
BEKTAŞ A., İLBAŞ M., KARYEYEN S.
7th INTERNATIONAL FUELS, COMBUSTION AND FIRE CONFERENCE IN ENGINEERING (FCE 19), Antalya, Turkey, 10 - 13 March 2019, pp.4-11
- XII. **HYDROGEN ENRICHMENT EFFECTS IN GASEOUS FUELS ON DISTRIBUTED COMBUSTION**
Karyeyen S., Feser J. S. , Gupta A. K.
ASME Power Conference 2019, Utah, United States Of America, 15 - 18 July 2019
- XIII. **Effect of Oxidizer Concentration on Combustion Characteristics of Diffusion Flames**
İLBAŞ M., KARYEYEN S., ŞAHİN M.
WITAM 2018, 21 - 23 September 2018
- XIV. **Numerical investigations of hydrogen-rich syngases under distributed combustion conditions**
KARYEYEN S., İLBAŞ M.
7th Global Conference on Global Warming (GCGW-2018), 24 - 28 June 2018
- XV. **Oxy-Fuel Combustion of Coke Oven Gas under Distributed Combustion Conditions**
İLBAŞ M., KARYEYEN S.
14th International Combustion Symposium (INCOS2018), 25 - 27 April 2018
- XVI. **Experimental Analysis of Turbulent Premixed Coal Gas Combustion**
KARYEYEN S., İLBAŞ M.
6 th International Conference on Renewable Fuels Combustion and Fire, 18 - 21 May 2017
- XVII. **Oxy-fuel combustion of low calorific value coal gases: burner modifications and flame characteristics**
İLBAŞ M., BEKTAŞ A., KARYEYEN S.
6 th International Conference on Renewable Fuels Combustion and Fire, 18 - 21 May 2017
- XVIII. **Experimental and numerical analysis of cold flow in a combustor**
İLBAŞ M., Kahraman A., KARYEYEN S.
2nd International Conference on Viable Energy Trends, 28 - 30 April 2017
- XIX. **Turbulent Diffusion Flames of a Low Calorific Value Syngas Under Varying Turbulator Angles**

- İLBAŞ M., KARYEYEN S.
9th International Conference on Sustainable Energy and Environmental Protection, 22 - 25 September 2016
- XX. **Premixed Turbulent Combustion of Hydrogen Containing Fuels An Experimental Study**
İLBAŞ M., KARYEYEN S.
Belgian Section of the Combustion Institute, 18 - 20 May 2016
- XXI. **Determination of Emission Characteristics of Premixed and Diffusion Methane Flames An Experimental Study**
İLBAŞ M., KARYEYEN S.
8TH EGE ENERGY SYMPOSIUM AND EXHIBITION, 11 - 13 May 2016
- XXII. **Experimental Investigation of Temperature Measurements of Premixed and Diffusion Methane Flames**
İLBAŞ M., KARYEYEN S.
8TH EGE ENERGY SYMPOSIUM AND EXHIBITION, 11 - 13 May 2016
- XXIII. **Effect of Swirl Number on Temperature Levels of Hydrogen Containing Fuels in a Combustor**
İLBAŞ M., KARYEYEN S., YILMAZ İ.
17th International Conference on Emerging Nuclear Energy Systems (ICENES_2015), 4 - 08 October 2015
- XXIV. **Model bir yanma odasında N₂ ve CO₂ seyrelticilerinin kok fırını gazı yanma performansına olan etkisinin nümerik olarak incelenmesi**
İLBAŞ M., KARYEYEN S.
20. Ulusal Isı Bilimi ve Tekniği Kongresi, Turkey, 2 - 05 September 2015
- XXV. **Combustion behaviours of hydrogen enriched low calorific value coal gases A numerical study**
İLBAŞ M., KARYEYEN S.
4. International Conference on Nuclear and Renewable Energy Resources, 26 - 29 October 2014
- XXVI. **Energy Analysis of an Infrared Dryer for Different Drying Conditions**
AKTAŞ M., İLBAŞ M., KARYEYEN S., ŞAHİN M.
7th International Ege Energy Symposium Exhibition, Uşak, Turkey, 18 - 20 July 2014
- XXVII. **Numerical Investigation of Premixed Hydrogen Flames in Confined Unconfined Combustors**
İLBAŞ M., ÖZDEMİR İ., KARYEYEN S.
7th International Ege Energy Symposium & Exhibition, Uşak, Turkey, 18 - 20 June 2014
- XXVIII. **Numerical Investigation of Effects of Hydrogen Addition on Combustion Characteristics of Low Calorific Value Coal Gases**
İLBAŞ M., KARYEYEN S.
13th International Conference on Clean Energy, 15 - 17 June 2014
- XXIX. **Energy and Exergy Analysis of an Existing Gas Turbine**
İLBAŞ M., KARYEYEN S.
II. European Workshop on Renewable Energy Systems, 20 - 22 September 2013
- XXX. **Three Dimensional Numerical Modelling of Hydrogen Combustion in a Spherical Model Combustor**
İLBAŞ M., ZEHRA G. Ö. , KARYEYEN S.
The Sixth International Exergy, Energy and Environment Symposium, Rize, Turkey, 1 - 04 July 2013
- XXXI. **Experimental Analysis of a New Type Solar Energy Dryer**
ŞEVİK S., AKTAŞ M., KARYEYEN S.
The European Workshop and Conference on Renewable Energy Systems, Antalya, Turkey, 17 September - 28 December 2012
- XXXII. **Effects of the Maintenance Management System on Energy Efficiency of Thermal Power Plants**
İLBAŞ M., SERKAN Ö., KARYEYEN S.
III. International Conference on Nuclear and Renewable Energy Resources, 20 May 2012 - 23 May 2013
- XXXIII. **Konya Sanayisinde Enerji Verimliliği**
KARYEYEN S., AKSOY M. H. , ÖZGÖREN M., KOÇAK S.
Yeşil Ekonomiler Konferansı, MEVKA, Konya, Turkey, 6 - 08 December 2011

Supported Projects

Karyeyen S., TUBITAK Project, Dağıtılmış yanma şartları altında yakılan sentetik yakıtların dinamik davranışlarının ve yanma performanslarının araştırılması, 2018 - 2019

KARYEYEN S., İLBAŞ M., Project Supported by Higher Education Institutions, Endüstriyel Simbiyoz Tematik Alanlı Biyogaz Reaktörü ve Yakma Sistemi Tasarımı, 2018 - 2019

KARYEYEN S., İLBAŞ M., Project Supported by Higher Education Institutions, Sentez gazlarının yanma performanslarının oksijen-yanma şartlarında deneysel olarak araştırılması, 2018 - 2019

KARYEYEN S., İLBAŞ M., Project Supported by Higher Education Institutions, BİR YAKMA SİSTEMİNDE BİYOGAZ YANMA KARAKTERİSTİKLERİNİN DENEYSEL OLARAK İNCELENMESİ, 2016 - 2017

İLBAŞ M., TUBITAK Project, Model Bir Yanma Sisteminde Kömür Gazlarının Yanma Performanslarının Ve Emisyon Parametrelerinin Deneysel Olarak İncelenmesi, 2014 - 2016

Activities in Scientific Journals

Gazi University Journal of Science, Assistant Editor, 2020 - Continues

International Journal of Energy Studies (IJES), Assistant Editor, 2019 - Continues

Journal of Polytechnic-Politeknik Dergisi, Assistant Editor, 2019 - Continues

Scientific Refereeing

INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, SCI Journal, January 2021

Citations

Total Citations (WOS):168

h-index (WOS):9

Scholarships

2219-Yurtdışı Doktora Sonrası Araştırma Bursu (ABD), TUBITAK, 2018 - 2019