Asst. Prof. GÜLCAN ÖZEL EROL

Personal Information

Office Phone: +90 228 214 2565
Email: gulcan.ozel@bilecik.edu.tr
Web: https://avesis.bilecik.edu.tr/gulcan.ozel

International Researcher IDs
ScholarID: l3DXerMAAAAJ
ORCID: 0000-0003-2054-6767
ScopusID: 57201359450
Yoksis Researcher ID: 25297

Education

Doctorate, University of Newcastle Upon Tyne, School of Engineering , Mechanical Engineering, England 2017 - 2021
Postgraduate, Sakarya University, Faculty Of Engıneerıng, Department of Mechanical Engineering, Turkey 2012 - 2015
Undergraduate, Bilecik Seyh Edebali University, Mühendislik Fakültesi, Makine Mühendisliği, Turkey 2008 - 2012

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Fundamental Understanding of Turbulent Combustion of Droplet-Laden Mixtures Using Direct Numerical Simulations, University of Newcastle Upon Tyne, 2021
Postgraduate, Yoğuşmalı kombilerde kullanılan ısı değiştiricisinin sayısal analizi, Sakarya University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2015

Research Areas

Mechanical Engineering, Energy, Fluid Mechanics, Engineering and Technology

Academic Positions

Assistant Professor, Bilecik Seyh Edebali University, Mühendislik Fakültesi, Makine Mühendisliği, 2022 - Continues

Supervised Theses

ÖZEL EROL G., ANTALYA İLİ İÇİN GÜNEŞ ENERJİSİ DESTEKLİ DESALİNASYON SİSTEMİNİN TERMOEKONOMİK ANALİZİ, Postgraduate, B.NUR(Student), 2023

Journal articles indexed in SCI, SSCI, and AHCI

I. **Evolution of Displacement Speed Statistics During Head-On Flame-Wall Interaction within Turbulent Boundary Layers**
ÖZEL EROL G., Ahmed U., Chakraborty N.
Combustion Science and Technology, vol.196, no.13, pp.1990-2019, 2024 (SCI-Expanded)

II. **Surface topologies and self interactions in reactive and nonreactive Richtmyer–Meshkov instability**
Bambauer M., Hasslberger J., ÖZEL EROL G., Chakraborty N., Klein M.
Scientific Reports, vol.13, no.1, 2023 (SCI-Expanded)

III. **Effects of water droplet injection on turbulent premixed flame propagation: a direct numerical simulation investigation**
ÖZEL EROL G., Hasslberger J., Chakraborty N., Klein M.
Flow, Turbulence and Combustion, vol.110, no.1, pp.105-123, 2023 (SCI-Expanded)

IV. **Surface Density Function Evolution in Spherically Expanding Flames in Globally Stoichiometric Droplet-laden Mixtures**
Erol G., Hasslberger J., Chakraborty N.
Combustion Science and Technology, vol.194, no.1, pp.1-21, 2022 (SCI-Expanded)

V. **Physical effects of water droplets interacting with turbulent premixed flames: A Direct Numerical Simulation analysis**
Hasslberger J., ÖZEL EROL G., Chakraborty N., Klein M., Cant S.
Combustion and Flame, vol.229, 2021 (SCI-Expanded)

VI. **Lewis Number Effects on Flame Speed Statistics in Spherical Turbulent Premixed Flames**
ÖZEL EROL G., Klein M., Chakraborty N.
Flow, Turbulence and Combustion, vol.106, no.4, pp.1043-1063, 2021 (SCI-Expanded)

VII. **Flame self-interactions in globally stoichiometric spherically expanding flames propagating into fuel droplet-mists**
ÖZEL EROL G., Ahmed U., Chakraborty N.
Proceedings of the Combustion Institute, vol.38, no.2, pp.3351-3359, 2021 (SCI-Expanded)

VIII. **Inertial effects on globally stoichiometric spherically expanding turbulent flames propagating in droplet-laden mixtures**
ÖZEL EROL G., Chakraborty N.
Proceedings of the Combustion Institute, vol.38, no.2, pp.3379-3387, 2021 (SCI-Expanded)

IX. **A direct numerical simulation analysis of turbulent V-shaped flames propagating into droplet-laden mixtures**
ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
International Journal of Multiphase Flow, vol.133, 2020 (SCI-Expanded)

X. **Statistics of Two-phase Coupling in Turbulent Spherically Expanding Flames in Mono-sized Fuel-droplet Mists**
ÖZEL EROL G., Hasslberger J., Chakraborty N.
Combustion Science and Technology, pp.1-18, 2020 (SCI-Expanded)

XI. **A Numerical Investigation of the Minimum Ignition Energy Requirement for Forced Ignition of Turbulent Droplet-laden Mixtures**
Papapostolou V., ÖZEL EROL G., Turquand d'Auzay C., Chakraborty N.
Combustion Science and Technology, pp.307-340, 2020 (SCI-Expanded)

XII. **Propagation of Spherically Expanding Turbulent Flames into Fuel Droplet-Mists**
ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
Flow, Turbulence and Combustion, vol.103, no.4, pp.913-941, 2019 (SCI-Expanded)

XIII. **Edge flame propagation statistics in igniting monodisperse droplet-laden mixtures**
Papapostolou V., Turquand D'Auzay C., ÖZEL EROL G., Chakraborty N.
Physics of Fluids, vol.31, no.10, 2019 (SCI-Expanded)

XIV. **A Direct Numerical Simulation Investigation of Spherically Expanding Flames Propagating in Fuel Droplet-Mists for Different Droplet Diameters and Overall Equivalence Ratios**

ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
Combustion Science and Technology, vol.191, no.5-6, pp.833-867, 2019 (SCI-Expanded)

XV. **A direct numerical simulation analysis of spherically expanding turbulent flames in fuel droplet-mists for an overall equivalence ratio of unity**
ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
Physics of Fluids, vol.30, no.8, 2018 (SCI-Expanded)

XVI. **Effect of wavy fin usage on thermal performance of heat exchanger used in combi boilers**
Yaşar H., Erol G., Durmaz U., Aydin A., Kiliç S., Engin T.
Thermal Science, vol.2018, pp.693-700, 2018 (SCI-Expanded)

XVII. **Performance assessment of an ice rink refrigeration system through advanced exergoeconomic analysis method**
Erol G., AÇIKKALP E., Hepbasli A.
Energy and Buildings, vol.138, pp.118-126, 2017 (SCI-Expanded)

XVIII. **Optimum insulation thickness for piping system using exergy and environmental methods**
Özel G., AÇIKKALP E., GÖRGÜN B., YAMIK H., CANER N.
International Journal of Global Warming, vol.11, no.1, pp.107-123, 2017 (SCI-Expanded)

XIX. **Comparative Analysis of Thermoeconomic Evaluation Criteria for an Actual Heat Engine**
Özel G., Açlkkalp E., SAVAŞ A. F., Yamlk H.
Journal of Non-Equilibrium Thermodynamics, vol.41, no.3, pp.225-235, 2016 (SCI-Expanded)

XX. **Thermodynamic analysis of diesel engine with sunflower biofuel**
YAMIK H., Ozel G., AÇIKKALP E., Içingür Y.
Proceedings of Institution of Civil Engineers: Energy, vol.168, no.3, pp.178-187, 2015 (SCI-Expanded)

XXI. **Novel thermoenvironmental evaluation criteria and comparing them for an actual heat engine**
Özel G., Ackkalp E., SAVAŞ A. F., Yamk H.
Energy Conversion and Management, vol.106, pp.1118-1123, 2015 (SCI-Expanded)

Articles Published in Other Journals

I. **Effects of Mean Inflow Velocity and Droplet Diameter on the Propagation of Turbulent V-Shaped Flames in Droplet-Laden Mixtures**
ÖZEL EROL G., Chakraborty N.
FLUIDS (BASEL), vol.6, 2020 (ESCI)

II. **Optimum insulation thickness for cooling applications through exergy analysis and environmental methods**
Daldal B. N., Sarıoğlu İ., ÖZEL EROL G., AÇIKKALP E., YAMIK H.
Green Energy and Technology, vol.PartF2, pp.339-347, 2016 (Scopus)

III. **Optimum insulation thickness determination using the environmental and life cycle cost analyses based entransy approach**
Özel G., AÇIKKALP E., GÖRGÜN B., YAMIK H., CANER N.
Sustainable Energy Technologies and Assessments, vol.11, pp.87-91, 2015 (Scopus)

IV. **Perde Desenli Gövde Borulu Tip Isı Değiştiricilerinin Optimizasyonu Cfd Analizi Ve Deneysel İncelenmesi**
AYDIN A., ENGİN T., Yurduseven S., ÖZEL G.
Mühendis ve Makina, no.667, pp.32-40, 2015 (Peer-Reviewed Journal)

V. **Methods used for evaluating irreversible Brayton cycle and comparing them**
ÖZEL G., AÇIKKALP E., YAMIK H.
INTERNATIONAL JOURNAL OF SUSTAINABLE AVIATION, vol.1, no.3, pp.288-298, 2015 (Peer-Reviewed Journal)

Books

I. **Optimum Insulation Thickness for Cooling Applications Through Exergy Analysis and Environmental Methods**
Daldal B. N., Sarıoğlu İ., ÖZEL EROL G., AÇIKKALP E., YAMIK H.
in: Energy, Transportation and Global Warming, Panagiotis Grammelis, Editor, Springer International Publishing, pp.339-347, 2016

Papers Presented at Peer-Reviewed Scientific Conferences

I. **Evolution of Displacement Speed Statistics during Flame-Wall Interaction within Turbulent Boundary Layers**
ÖZEL EROL G., Ahmed U., Chakraborty N.
The International Colloquium on the Dynamics of Explosions and Reactive Systems (ICDERS), Seul, South Korea, 23 - 28 July 2023, (Full Text)

II. **Statistics of two-phase coupling in turbulent spherically expanding flames in mono-sized fuel-droplet mists**
ÖZEL EROL G., Hasslberger J., Chakraborty N.
The International Colloquium on the Dynamics of Explosions and Reactive Systems (ICDERS), Pekin, China, 28 July - 02 August 2019

III. **Surface density function evolution in spherically expanding flames in globally stoichiometric droplet-laden mixtures**
ÖZEL EROL G., Hasslberger J., Chakraborty N.
11th Mediterranean Combustion Symposium, Tenerife, Spain, 16 - 20 June 2019

IV. **Lewis number effects on flame speed statistics in spherical turbulent premixed flames**
ÖZEL EROL G., Klein M., Chakraborty N.
11th Mediterranean Combustion Symposium, Tenerife, Spain, 16 June 2019

V. **A Direct Numerical Simulation analysis of turbulent V-flames propagating into droplet-laden mixtures with an overall equivalence ratio of unity**
ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
The 9th European Combustion Meeting (ECM 2019), 14 - 17 April 2019

VI. **Evolution of Spherically Expanding Turbulent Flames in Droplet-Laden Mixtures: A Direct Numerical Simulation Analysis**
ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
37th International Symposium on Combustion, 29 July - 02 August 2018

VII. **Spherically expanding turbulent flames in fuel-droplet mists: A Direct Numerical Simulation analysis**
ÖZEL EROL G., Hasslberger J., Klein M., Chakraborty N.
Turbulence, Heat and Mass Transfer 9, 10 - 13 July 2018

VIII. **Determination of the Optimum Insulation Thickness For Cooling Applications Using a Novel Method That Combines Exergy And Environmental Methods**
Daldal B. N., Sarioglu I., Özel G., Açikkalp E., Yamik H.
Global Conference on Global Warming (GCGW 2015), Athens, Greece, 24 - 27 May 2015, (Summary Text)

IX. **Determination of the Optimum Insulation Thickness For Cooling Applications Using a Novel Method That Combines Exergy And Environmental Method**
BEYZA NUR D., SARIOĞLU İ., ÖZEL G., AÇIKKALP E., YAMIK H.
Global Conference on Global Warming (GCGW 2015), 24 - 27 May 2015

X. **Determining Optimum Insulation Thickness of a Building Wall Using an Environmental Impact Approach**
ÖZEL G., AÇIKKALP E., KARAKOÇ T. H., HEPBAŞLI A., AYDIN A.
7thInternational Exergy, Energy and Environment Symposium (IEEES-7), 27 - 30 April 2015

Scholarships

1416-Yurt Dışı Lisansüstü (YLSY) Burs Programı, Ministry of Education, 2017 - 2021

Awards

Özel Erol G., 2nd Prize for the audio-visual category, Uk Consortium On Turbulent Reacting Flows, January 2019
Özel Erol G., Certificate of Achievement, Newcastle University, January 2019
Özel Erol G., 3rd Prize for the audio-visual category, Uk Consortium On Turbulent Reacting Flows, January 2018
Özel Erol G., 2nd Prize for the Best Poster , 7Th International Exergy, Energy And Environmentsymposium (Ieees-7), January 2015