

## Asst. Prof. Merve ÖZTÜRK KIRKAR

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: C-4590-2019

ScopusID: 56046955000

Yoksis Researcher ID: 265215

### Education Information

Doctorate, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, Turkey 2017 - 2023

Postgraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği, Turkey 2014 - 2017

Undergraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği, Turkey 2011 - 2014

Undergraduate, Uludağ Üniversitesi, Mühendislik-Mimarlık Fakültesi, Makine Mühendisliği, Turkey 2009 - 2011

### Dissertations

Doctorate, Experimental and Theoretical Investigation of Renewable Hydrogen Production and Blending into Natural Gas for Applications, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Makine Mühendisliği, 2023

Postgraduate, Panjur Kanath Isı Değiştiricilerinin Optimizasyonu, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Makine Mühendisliği, 2017

### Research Areas

Energy, Renewable Energy Systems, Alternative Energy Resources, Hydrogen Technologies and Fuel Cells, Thermodynamics

### Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2023 - Continues

Research Assistant PhD, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2023 - Continues

Research Assistant, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2017 - 2023

## Courses

### Undergraduate

Thermodynamics II, Undergraduate, 2023 - 2024

Thermodynamics I, Undergraduate, 2023 - 2024

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Effect of burner head geometry on flame dispersion in gas stoves with hydrogen and natural gas blends**  
SORGULU F., ÖZTÜRK M., JAVANI N., DİNCER İ.  
Process Safety and Environmental Protection, vol.183, pp.1135-1151, 2024 (SCI-Expanded)
- II. **Experimental investigation of various burner heads in residential gas stoves tested with hydrogen and natural gas blends**  
ÖZTÜRK M., SORGULU F., JAVANI N., DİNCER İ.  
International Journal of Hydrogen Energy, vol.53, pp.1344-1349, 2024 (SCI-Expanded)
- III. **Exergy analysis of a sustainable system with a fourth-generation nuclear power plant based on radial basis function kernel support vector regression method**  
Dincer M. M., ÖZTÜRK KIRKAR M.  
International Journal of Hydrogen Energy, 2024 (SCI-Expanded)
- IV. **Experimental investigation for combustion performance of hydrogen and natural gas fuel blends**  
SORGULU F., ÖZTÜRK M., JAVANI N., DİNCER İ.  
International Journal of Hydrogen Energy, vol.48, no.88, pp.34476-34485, 2023 (SCI-Expanded)
- V. **An experimental study on the environmental impact of hydrogen and natural gas blend burning**  
Öztürk M., Sorgulu F., Javani N., Dincer İ.  
Chemosphere, vol.329, 2023 (SCI-Expanded)
- VI. **System development and assessment for green hydrogen generation and blending with natural gas**  
Ozturk M., Dincer İ.  
ENERGY, vol.261, pp.125233, 2022 (SCI-Expanded)
- VII. **Utilization of waste heat from cement plant to generate hydrogen and blend it with natural gas**  
ÖZTÜRK M., DİNCER İ.  
International Journal of Hydrogen Energy, vol.47, pp.20695-20704, 2022 (SCI-Expanded)
- VIII. **A comprehensive review on power-to-gas with hydrogen options for cleaner applications**  
ÖZTÜRK M., DİNCER İ.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.46, no.62, pp.31511-31522, 2021 (SCI-Expanded)
- IX. **Investigation of Hydrogen and Methane Production from Flue Gas Released from the Steel Industry**  
ÖZTÜRK M., Dincer İ.  
ENERGY & FUELS, vol.35, no.15, pp.12718-12724, 2021 (SCI-Expanded)
- X. **Effective use of hydrogen sulfide and natural gas resources available in the Black Sea for hydrogen economy**  
ÖZTÜRK M., MİDİLLİ A., DİNCER İ.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.46, no.18, pp.10697-10707, 2021 (SCI-Expanded)
- XI. **An integrated system for clean hydrogen production from municipal solid wastes**  
ÖZTÜRK M., DİNCER İ.  
International Journal of Hydrogen Energy, vol.46, pp.6251-6261, 2021 (SCI-Expanded)
- XII. **An integrated system for ammonia production from renewable hydrogen: A case study**  
ÖZTÜRK M., DİNCER İ.  
International Journal of Hydrogen Energy, vol.46, pp.5918-5925, 2021 (SCI-Expanded)
- XIII. **Development of a combined flash and binary geothermal system integrated with hydrogen production for blending into natural gas in daily applications**

- ÖZTÜRK M., DİNCER İ.  
Energy Conversion and Management, vol.227, 2021 (SCI-Expanded)
- XIV. **Development of renewable energy system integrated with hydrogen and natural gas subsystems for cleaner combustion**  
ÖZTÜRK M., DİNCER İ.  
JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING, vol.83, 2020 (SCI-Expanded)
- XV. **Life cycle assessment of hydrogen-based electricity generation in place of conventional fuels for residential buildings**  
ÖZTÜRK M., DİNCER İ.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.45, no.50, pp.26536-26544, 2020 (SCI-Expanded)
- XVI. **An efficient waste management system with municipal solid waste incineration plant**  
ÖZTÜRK M., Dincer İ.  
GREENHOUSE GASES-SCIENCE AND TECHNOLOGY, vol.10, no.4, pp.855-864, 2020 (SCI-Expanded)
- XVII. **Exergoeconomic analysis of a solar assisted tea drying system**  
ÖZTÜRK M., DİNCER İ.  
Drying Technology, vol.38, pp.655-662, 2020 (SCI-Expanded)
- XVIII. **Thermodynamic modeling of a solar energy based combined cycle with rock bed heat storage system**  
ÖZTÜRK M., DİNCER İ., JAVANI N.  
Solar Energy, vol.200, pp.51-60, 2020 (SCI-Expanded)
- XIX. **Comparative environmental impact assessment of various fuels and solar heat for a combined cycle**  
ÖZTÜRK M., DİNCER İ.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.44, no.10, pp.5043-5053, 2019 (SCI-Expanded)
- XX. **Exergy analysis of tea drying in a continuous vibro-fluidised bed dryer**  
ÖZTÜRK M., DİNCER İ.  
INTERNATIONAL JOURNAL OF EXERGY, vol.30, no.4, pp.376-391, 2019 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Investigation of The Effect of Radiant Panel Positions and Water Temperature on Thermal Comfort**  
Oruç O., Öztürk M.  
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.25, no.1, pp.177-187, 2022 (ESCI)
- II. **Hidrojen ve Doğal Gaz Karışımının Evsel Cihazlarda Kullanımının Deneysel ve Teorik Olarak İncelenmesi**  
Sorgulu F., Öztürk M., Javani N., Dinçer İ.  
Cihannüma Teknoloji Fen ve Mühendislik Bilimleri Akademi Dergisi, vol.1, pp.23-38, 2022 (Peer-Reviewed Journal)
- III. **Investigation of Coolant Temperature Effect on Thermal Comfort in Wall Mounted Radiant Cooling Systems**  
ÖZTÜRK M., Oruc O.  
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.22, no.2, pp.461-468, 2019 (ESCI)

### Papers Published in Refereed Scientific Meetings

- I. **Hydrogen production with alkaline electrolyzer in fourth-generation nuclear plants for a sustainable environment**  
Dinçer M. M., Öztürk Kırkar M.  
12th Global Conference on Global Warming (GCGW-2024), Şanlıurfa, Turkey, 16 - 19 May 2024, pp.499-502
- II. **Hydrogen Production with Cu-Cl Thermochemical Cycle Integrated into Next-Generation Nuclear Power Plant for Sustainable Cities**  
Dinçer M. M., Öztürk Kırkar M.

8th International Hydrogen Technologies Congress (IHTEC 2024), Diyarbakır, Turkey, 12 - 15 May 2024, pp.448-451

- III. **Environmental Impact Investigation of Using Hydrogen Sulfide and Waste-Based Hydrogen in Blending with Black Sea Natural Gas**  
Öztürk M., Dincer İ.  
11th Global Conference on Global Warming 2023 (GCGW-2023), İstanbul, Turkey, 14 - 16 June 2023, pp.1-3
- IV. **Investigation of An Integrated System for Methanol Production by Carbon Capture from Ocean Water**  
Öztürk M., Dincer İ.  
The Seventh International Hydrogen Technologies Congress (IHTEC-2023), Elazığ, Turkey, 10 - 12 May 2023, pp.1-3
- V. **A Brief Analysis of Green Hydrogen Production, Storage and Use in Natural Gas for a Sustainable Community**  
ÖZTÜRK M., DİNCER İ.  
The 2nd World Energy Storage Conference (WESC-2022), İstanbul, Turkey, 18 - 21 December 2022
- VI. **An Application and Evaluation of Blending Biogas and Hydrogen into the Natural Gas for Combustion Applications**  
Öztürk M., Dincer İ.  
23rd World Hydrogen Energy Conference (WHEC-2022), İstanbul, Turkey, 26 - 30 June 2022, pp.1035-1037
- VII. **Blending Renewable Hydrogen with Black Sea Natural Gas: A Case Study**  
Öztürk M., Dincer İ.  
13th International Exergy, Energy and Environment Symposium (IEEES-13), Makkah, Saudi Arabia, 14 - 17 March 2022, pp.95
- VIII. **Utilization of Waste Heat from Cement Plant to Produce Hydrogen and Blend it with Natural Gas**  
Öztürk M., Dincer İ.  
The Sixth International Hydrogen Technologies Congress (IHTEC-2022), Çanakkale, Turkey, 23 - 26 January 2022, pp.52-54
- IX. **Analysis of an Integrated System for Ammonia Production from Renewable Hydrogen in Istanbul**  
Öztürk M., Dincer İ.  
4th International Hydrogen Technologies Congress, Edirne, Turkey, 20 - 23 June 2019, pp.1-4
- X. **ANALYSIS OF HYDROGEN PRODUCTION FROM MUNICIPAL SOLID WASTE GASIFICATION**  
ÖZTÜRK M., DİNCER İ.  
10th International Conference on Hydrogen Production (ICH2P-2019), 15 - 17 May 2019
- XI. **ANALYSIS OF WASTE MANAGEMENT WITH MUNICIPAL SOLID WASTE INCINERATION PLANT**  
ÖZTÜRK M., DİNCER İ.  
8th Global Conference on Global Warming (GCGW-2019), 22 - 25 April 2019
- XII. **Life Cycle Assessment of Hydrogen-based Electricity Generation in place of Conventional Fuels for Residential Buildings**  
ÖZTÜRK M., DİNCER İ.  
4th International Conference on Recycling and Reuse, 24 - 26 October 2018
- XIII. **Energy and Exergy Analysis of the Three-Stage Tea Drying Process**  
ÖZTÜRK M., DİNCER İ.  
10th International Exergy, Energy and Environment Symposium (IEEES-10), Katowice, Poland, 01 July 2018
- XIV. **COMPARATIVE EVALUATION OF EMISSIONS ARISING FROM THE USE OF VARIOUS FUELS IN A COMBINED CYCLE**  
ÖZTÜRK M., DİNCER İ.  
7th GLOBAL CONFERENCE on GLOBAL WARMING, 24 - 28 June 2018
- XV. **Thermodynamic Modeling of a Solar Based Combined Cycle with Rock Bed Heat Storage System**  
ÖZTÜRK M., DİNCER İ., JAVANI N.  
14. International Conference on Energy Storage, 25 - 28 April 2018
- XVI. **REVIEW OF LITERATURE STUDY FOR LOUVERED FIN HEAT EXCHANGERS**

ÖZTÜRK M., PINARBAŞI A.

INTERNATIONAL CONFERENCE ON ENERGY AND THERMAL ENGINEERING, 25 April - 28 December 2017, pp.871-886

**XVII. FUndamental basis and application of cold-room project design: A case study of frigoship**

ÖZTÜRK M., GOKTEPE E., Celen A., Çebi A., DALKILIÇ A. S., WONGWISES S.

ASME 2013 Heat Transfer Summer Conference, HT 2013 Collocated with the ASME 2013 7th International Conference on Energy Sustainability and the ASME 2013 11th International Conference on Fuel Cell Science, Engineering and Technology, Minneapolis, MN, United States Of America, 14 - 19 July 2013, vol.1

## Supported Projects

Dincer İ., Sorgulu F., Özdemir O. K., Aydın M. İ., Öztürk M., Project Supported by Other Private Institutions, Hydrogen Energy: Fundamentals, Systems and Applications (Supported by: EPİAŞ), 2023 - 2023

DİNCER İ., JAVANI N., ÖZTÜRK M., SORGULU F., Project Supported by Higher Education Institutions, Farklı geometrilere sahip ocak başlıklarının doğal gaz hidrojen karışımının yanma performansına etkisi, 2022 - 2023

DİNCER İ., JAVANI N., SORGULU F., ÖZTÜRK M., Project Supported by Higher Education Institutions, Doğal gazın hidrojen ilavesiyle ocaklardaki yanma performansının deneysel incelenmesi, 2022 - 2022

Dincer İ., Javani N., Sorgulu F., Öztürk M., Energy and Natural Resources Ministry, Yenilenebilir Gaz Üretimi, 2020 - 2022

## Metrics

Publication: 41

Citation (WoS): 184

Citation (Scopus): 654

H-Index (WoS): 8

H-Index (Scopus): 15