

# **Assoc. Prof. ÜSAME DEMİR**

## **Personal Information**

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## **International Researcher IDs**

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Publons / Web Of Science ResearcherID: I-1559-2018

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## **Education Information**

Doctorate, Sakarya University, Institute Of Science, Enerji (Dr), Turkey 2013 - 2017

Postgraduate, Sakarya University, Institute Of Science, Makine Mühendisliği (YI) (Tezli), Turkey 2011 - 2013

Undergraduate, Sakarya University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 2006 - 2010

## **Dissertations**

Doctorate, Elektromekanik supap mekanizması ile değişken supap zamanlamasının hava akış parametrelerine etkisinin incelenmesi, Sakarya University, Fen Bilimleri Enstitüsü, Enerji (Dr), 2017

Postgraduate, İçten yanmalı motorlarda yanma modellemesinde 0 ve 3 boyutlu simülasyon yazılımlarının performans değerlendirmesi, Sakarya University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (YI) (Tezli), 2013

## **Academic and Administrative Experience**

Bingol University, 2018 - 2021

Bingol University, 2018 - 2019

## **Courses**

Yeni Enerji Kaynakları, Postgraduate, 2021 - 2022

Mühendislikte Deneysel Metodlar II, Undergraduate, 2021 - 2022

Mühendislikte Programlama, Undergraduate, 2021 - 2022

Tasarım Projesi, Undergraduate, 2021 - 2022

Hesaplama Akişkanlar Dinamiğine (HAD) Giriş, Undergraduate, 2021 - 2022

YANMA TEKNİĞİ, Undergraduate, 2020 - 2021

TAŞITLARDA YAKIT EKONOMİSİ, Undergraduate, 2020 - 2021, 2019 - 2020

Yanma Esasları, Postgraduate, 2020 - 2021, 2019 - 2020

GİRİŞİMCİLİK I, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019

OTOMOTİV MÜHENDİSLİĞİ, Undergraduate, 2019 - 2020

DENEYSEL GERİLME ANALİZİ, Postgraduate, 2019 - 2020

Motorlu Taşıtların Yakıt Ekonomisi, Postgraduate, 2019 - 2020  
DİJİTAL OKURYAZARLIK, Undergraduate, 2019 - 2020, 2018 - 2019  
GİRİŞİMÇİLİK II, Undergraduate, 2019 - 2020, 2018 - 2019  
MOTORLAR, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018  
AKIŞKANLAR MEKANIĞI VE HİDROLİK SİSTEMLER, Associate Degree, 2019 - 2020  
MAKİNA LABORATUVARI I, Undergraduate, 2018 - 2019  
Sayısal Analiz ve Bilgisayar Uygulaması, Doctorate, 2018 - 2019  
Mühendislik Matematiği, Postgraduate, 2018 - 2019  
Güneş Enerjisi Sistemleri Tasarımı, Postgraduate, 2018 - 2019

## Advising Theses

DEMİR Ü., Tünel yangınlarında jet fanların konumu - hava iletim yönü ve fan hızının tahliyeye etkisinin simülasyon ile incelenmesi, Postgraduate, M.BAŞIBEYAZ(Student), 2023  
ÜSAMİ D., Tek silindirli dizel motorda yakıtla üre ilavesinin motor performans ve emisyon değerlerine etkisinin deneysel olarak incelenmesi, Postgraduate, A.KOZAN(Student), 2022  
ÜSAMİ D., BASINÇLI DOĞALGAZ HATLARINDA VORTEKS TÜPÜNÜN ISITMA AMAÇLI OLARAK KULLANILABİLİRLİĞİNİN DENEYSEL OLARAK ARAŞTIRILMASI, Postgraduate, S.ÇULUN(Student), 2022  
ÜSAMİ D., Experimental investigation effect of using nano fluid on thermal performance in solar collectors, Postgraduate, R.FAIQ(Student), 2021  
ÜSAMİ D., İki zamanlı bir havacılık motorunun had analizi, Postgraduate, Y.DELİL(Student), 2021  
ÜSAMİ D., Damperli kamyonların üst yapı şasi tasarımı ve sonlu elemanlar analizi, Postgraduate, D.CAN(Student), 2021  
ÜSAMİ D., Eğitim kurumlarında kullacların acil durum tahliye tatbikatlarının simülasyon yöntemleriyle karşılaştırmalı incelenmesi, Postgraduate, R.AKSOY(Student), 2019

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

- I. **Bio-based solutions for diesel engines: Investigating the effects of propolis additive and ethanol on performance and emissions**  
Koçyiğit S., Özer S., Çelebi S., DEMİR Ü.  
Thermal Science and Engineering Progress, vol.48, 2024 (SCI-Expanded)
- II. **Effect of using borax decahydrate as nanomaterials additive diesel fuel on diesel engine performance and emissions**  
Özer S., DEMİR Ü., Koçyiğit S.  
Energy, vol.266, 2023 (SCI-Expanded)
- III. **Optimizing the effect of a mixture of light naphtha, diesel and gasoline fuels on engine performance and emission values on an HCCI engine**  
Çelebi S., Kocakulak T., DEMİR Ü., Ergen G., Yilmaz E.  
Applied Energy, vol.330, 2023 (SCI-Expanded)
- IV. **Experimental investigation of the effect of urea addition to fuel on engine performance and emissions in diesel engines**  
DEMİR Ü., Kozan A., Özer S.  
Fuel, vol.311, 2022 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Experimental Investigation of the Effect of Nitromethane Addition to Gasoline Fuel on A Single-Cylinder Spark-Ignition Engine Performance and Emissions**

- SAMET Ç., DEMİR Ü., ERGEN G.  
 International Journal of Automotive Science and Technology, vol.6, no.3, pp.226-232, 2022 (Peer-Reviewed Journal)
- II. **Experimental Investigation of Intake Manifold Design Effect on Diesel Engine Performance**  
 DEMİR Ü., Çetinkaya O., Türkmen A. C., ÇELİK C.  
 International Journal of Automotive Science and Technology, vol.6, no.2, pp.127-134, 2022 (Peer-Reviewed Journal)
- III. **Investigation of the Biogas Potential of Bingöl Province from Animal Waste**  
 DEMİR Ü., ÇULUN P.  
 Türk Doğa ve Fen Dergisi, vol.11, no.1, pp.36-42, 2022 (Peer-Reviewed Journal)
- IV. **Atriumlu Binalarda Duman Emiş Fanı Seçiminin Hesaplama Akışkanlar Dinamiği Yöntemi İle Belirlenmesi**  
 COŞKUN G., DEMİR Ü.  
 ACADEMIC PLATFORM-JOURNAL OF ENGINEERING AND SCIENCE, vol.6, no.3, pp.138-144, 2018 (Peer-Reviewed Journal)
- V. **THE EFFECT OF DIFFERENT INTAKE MANIFOLD GEOMETRIES ON SINGLE-CYLINDER DIESEL ENGINE SOOT FORMATION AND PERFORMANCE**  
 DEMİR Ü., Çetinkaya O., Türkmen A. C., ÇELİK C.  
 International Journal of Mechanical and Production Engineering (IJMPE), vol.6, no.5, pp.30-34, 2018 (Peer-Reviewed Journal)
- VI. **SAKARYA ÜNİVERSİTESİ M-7 BİNASI İÇİN YANGIN SİMÜLASYONU VE DUMAN TAHLİYE STRATEJİLERİNİN İNCELENMESİ**  
 COŞKUN G., DEMİR Ü., SOYHAN H. S.  
 SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.22, no.2, 2018 (Peer-Reviewed Journal)
- VII. **Sıfır ve üç boyutlu yanma simülasyonu yazılımlarının HCCI motorunun yüksek havafazlalık oranı için modellenmesindeki performanslarının incelenmesi**  
 COŞKUN G., DEMİR Ü.  
 SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.21, no.5, pp.750-758, 2017 (Peer-Reviewed Journal)
- VIII. **Bir HCCI motorun 0 boyutlu yanma analizi**  
 DEMİR Ü., göbeloğlu ö. m., SOYHAN H. S., BÜYÜKKAYA E.  
 SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.19, no.2, pp.203-211, 2015 (Peer-Reviewed Journal)
- IX. **A SOLAR CAB BY WORKING SOLAR ENERGY**  
 KEMAL ONUR İ., DEMİR Ü., TAYMAZ İ., UÇAR V.  
 INTERNATIONAL SCIENTIFIC JOURNAL OF MACHINES, TECHNOLOGIES, MATERIALS, vol.7, no.8, pp.54-56, 2013 (Peer-Reviewed Journal)
- X. **EXAMINATION OF THE FRACTURE'S EFFECTS ON ENGINES KNOCKING**  
 KEMAL ONUR İ., DEMİR Ü., TAYMAZ İ., UÇAR V.  
 INTERNATIONAL SCIENTIFIC JOURNAL OF MACHINES, TECHNOLOGIES, MATERIALS, vol.5, pp.42-46, 2012 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Assessment of geothermal energy potential in the world and in Turkey with mathematical prediction models**  
 BOLAT M., DEMİR Ü.  
 11th INTERNATIONAL EURASIAN CONFERENCE ON MATHEMATICAL SCIENCES AND APPLICATIONS, İstanbul, Turkey, 29 August - 01 September 2022
- II. **EFFECTS OF EXCESS AIR AND OXYGEN ENRICHMENT ON SOOTING FLAMES OF BIOGAS**  
 CELLEK M. S., DEMİR Ü.  
 16th International Combustion Symposium (INCOS2022), Aydın, Turkey, 8 - 10 September 2022

- III. HOMOJEN DOLGULU SIKİSTIRMA ATEŞLEMELİ BİR MOTORDA HAFIF NAFTA-BENZİN KARIŞIMI KULLANIMININ MOTOR PERFORMANSI VE EMİSYONLARINA ETKİSİ**  
ÇELEBİ S., DEMİR Ü., HAŞIMOĞLU C.  
16th International Combustion Symposium (INCOS2022), Aydın, Turkey, 8 - 10 September 2022
- IV. Analysis of an HCCI Engine Combustion Using Toluene Reference Fuel for Different Equivalence Ratios – Comparison of Experimental Results with CFD and SRM Simulations**  
COŞKUN G., DEMİR Ü., SOYHAN H. S.  
14 th International Conference of Combustion, Karabük, Turkey, 25 - 27 April 2018, vol.1, pp.338-345
- V. Modelling Of The Effect Of Electromechanic Valve Mechanism On Air Flow Parameters In A Spark Ignition Engine**  
DEMİR Ü., AYGÜL V., COŞKUN G., SOYHAN H. S., TÜRKCAN A., ALPTEKİN E., ÇANAKCI M.  
8th International Advanced Technologies Symposium (IATS'17), Elazığ, Turkey, 19 - 22 October 2017, pp.3543-3552
- VI. TEK SİLİNDİRLİ BUJİ ATEŞLEMELİ BİR MOTORUN SİLİNDİR İÇİ HAVA AKIŞ PARAMETRELERİNİN İNCELENMESİ**  
DEMİR Ü., AYGÜL V., COŞKUN G., SOYHAN H. S., TÜRKCAN A., ALPTEKİN E., ÇANAKCI M.  
5th International Symposium on Innovative Technologies in Engineering and Science, Baku, Azerbaijan, 29 - 30 September 2017, pp.1520-1529
- VII. Effects of Using Methanol-Gasoline Fuel Blends with Different Injection Strategies in an HCCI engine: Comparison of experimental results with CFD Simulation**  
COŞKUN G., ALTINKURT M. D., TÜRKCAN A., DEMİR Ü.  
AVL International Simulation Conference, Graz, Austria, 27 - 29 June 2017
- VIII. Atrium binalarda duman emiş fanı seçiminin hesaplamalı akışkanlar dinamiği yöntemi ile belirlenmesi**  
COŞKUN G., yüzücü i, DEMİR Ü., SOYHAN H. S.  
6 th International Conference on Renewable Fuels Combustion and Fire, Nevşehir, Turkey, 18 - 21 May 2017, pp.314
- IX. Investigation of air flow simulation for a single cylinder spark ignition engine**  
DEMİR Ü., COŞKUN G., SOYHAN H. S.  
6 th International Conference on Renewable Fuels Combustion and Fire, Nevşehir, Turkey, 18 - 21 May 2017, pp.320
- X. Investigation of Performance Combustion Simulation Software for Modelling HCCI Engine**  
DEMİR Ü., SOYHAN H. S.  
4th International Symposium on Innovative Technologies in Engineering and Science, Antalya, Turkey, 3 - 05 November 2016, pp.843-852
- XI. COMBUSTION CHARACTERISTICS OF TRFMIXTURES IN A MODERN DIESEL ENGINE**  
COŞKUN G., DEMİR Ü., YILMAZ N., SOYHAN H. S.  
1th INTERNATIONAL CONFERENCE ON ADVANCES IN AUTOMOTIVE TECHNOLOGIES, İstanbul, Turkey, 11 - 14 October 2016, pp.93-98
- XII. Hydraulic Control Valve Design for Transmission Control on Tractor**  
KOLCUOĞLU T., SOYHAN H. S., DEMİR Ü.  
9th International Conference on Sustainable Energy Environmental Protection, Kayseri, Turkey, 22 - 25 September 2016, pp.259-265
- XIII. EFFECT OF VRV SYSTEMS USAGE INSTEAD OF CONVENTIONAL SYSTEMS USAGE ON ENERGY EFFICIENCY IN A TOURISM ESTABLISHMENT**  
Sevinç Y., DEMİR Ü., SOYHAN H. S., COŞKUN G., Soyhan G., GÜNGÖR A.  
I. Uluslararası Turizm ve Mikrobiyal Gıda Güvenliği Kongresi, Antalya, Turkey, 21 - 24 April 2016
- XIV. COMPUTATIONAL INVESTIGATION OF COMBUSTION AND EMISSION CHARACTERISTICS OF TOLUENE REFERENCE FUEL TRF MIXTURES IN AN HCCI ENGINE USING STOCHASTIC REACTOR MODEL**  
COŞKUN G., DEMİR Ü., SOYHAN H. S.  
5th INTERNATIONAL FUELS, COMBUSTION AND FIRE CONFERENCE IN ENGINEERING (FCE16), İstanbul, Turkey, 18 - 20 January 2016

- XV. **PERFORMANCE OF 0 D AND 3 D COMBUSTION SIMULATION SOFTWARE FOR HCCI ENGINE WITH DIFFERENT FUEL AND AIR EXCESS RATIO**  
DEMİR Ü., COŞKUN G., SOYHAN H. S.  
5th INTERNATIONAL FUELS, COMBUSTION AND FIRE CONFERENCE IN ENGINEERING (FCE16), İstanbul, Turkey,  
18 - 20 January 2016
- XVI. **İki zamanlı motorlarda emme ve egzoz strogunun akış analizi**  
EDİP Y., COŞKUN G., DEMİR Ü., DEMİRTAŞ V., SOYHAN H. S.  
13. Uluslararası Yanma Sempozyumu, Bursa, Turkey, 9 - 10 September 2015
- XVII. **Hava fazlalık katsayısının değişiminin HCCI bir motorda performans ve egzoz emisyonlarına etkisinin incelenmesi**  
USTA E., DEMİR Ü., YAŞAR H.  
13. ULUSLARARASI YANMA SEMPOZYUMU, Bursa, Turkey, 9 - 10 September 2015
- XVIII. **MODELING OF IN CYLINDER GAS MOTIONS IN INTERNAL COMBUSTION ENGINES WITH CFD**  
DEMİRTAŞ V., BAYRAKÇEKEN H., ALBAYRAK ÇEPER B., SOYHAN H. S., ÇELİK C., COŞKUN G., DEMİR Ü.  
20. ULUSAL ISI BİLİMİ ve TEKNİĞİ KONGRESİ, Balıkesir, Turkey, 2 - 05 September 2015
- XIX. **Investigation Performance Of 0 D Internal Combustion Engine Simulation Softwares With Detailed And Reduced Chemical Kinetic Mechanisms**  
DEMİR Ü., YILMAZ N., COŞKUN G., SOYHAN H. S.  
7.Otomotiv Teknolojileri Kongresi, Bursa, Turkey, 26 - 27 May 2014
- XX. **Simulating an HCCI DI engine combustion by CFD**  
COŞKUN G., DEMİR Ü., SOYHAN H. S.  
4th Saudi Arabian Section of the Combustion Institute (SAS-CI) Annual Meeting, Thuwal, Saudi Arabia, 29 - 30 April 2014
- XXI. **Simulating Combustion in an HCCI Engine by Using Zero Dimensional Stochastic Reactor Model**  
DEMİR Ü., COŞKUN G., SOYHAN H. S.  
European Combustion Meeting 2013, Lund, Sweden, 25 - 28 June 2013
- XXII. **Analysis of Combustion in HCCI Engines**  
COŞKUN G., SOYHAN H. S., DEMİR Ü., BüYÜKKAYA E., HALICI F.  
34. International Symposium on Combustion, Warszawa, Poland, 29 July - 03 August 2012