

Prof. Şeref SOYLU

Personal Information

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International Researcher IDs

ScholarID: seref

ORCID: 0000-0001-8022-8440

Publons / Web Of Science ResearcherID: E-1344-2013

ScopusID: 7004656212

Yoksis Researcher ID: 41045

Education Information

Doctorate, Iowa State University of Science and Technology, Engineering Faculty, Mechanical Engineering, United States Of America 1996 - 2001

Postgraduate, Iowa State University of Science and Technology, Engineering Faculty, Mechanical Engineering, United States Of America 1994 - 1996

Undergraduate, Gazi University, Teknik Eğitim Fakültesi, Otomotiv, Turkey 1984 - 1988

Biography

Dr. Soyly was born in 1968, in Kayseri, Turkey. After receiving his B.S. degree from Gazi University in 1988, he worked as Internal Combustion Engine Instructor for the Ministry of National Education and National Defense in Turkey until 1994. Then, he went to Iowa State University, U.S.A. for his M.S. and Ph.D education in Mechanical Engineering under supervision of Prof. Dr. Jon Van Gerpen. His M.S. and Ph.D. research works focused on alternative fuels (natural gas and bio-diesel) for internal combustion engines, emission measurement, thermodynamic engine modeling and autoignition modeling that were supported by John Deere Product Engineering Center, and many other Industrial and State organizations in the US. Through end of his Ph.D. study, Dr. Soyly worked for Caterpillar Inc. as an Analytical Engineer in Peoria, IL for the development of the advanced diesel engines from 2000 to 2001. After receiving his Ph.D. degree in 2001, Dr. Soyly joined to Sakarya University, Turkey as an Assistant Professor.

His research works at Sakarya University centered on the development of environmentally friendly road transport vehicles by means of improving the efficiency and reducing emissions. He performed research specifically on alternative fuels (natural gas, bio-diesel, bio-gas, and hydrogen) and advance engine/vehicle technologies. The courses that he taught were mainly thermal science courses which were Thermodynamics, Heat Transfer, Air Pollution and Control.

As Dr. Soyly was selected as independent expert by European Commission in the field of Energy and Transport in 2003, he started evaluating and reviewing the FP6 and FP7 projects on behalf of the European Commission. Then Dr. Soyly moved to Italy to work as a Senior/Visiting Scientist in the Joint Research Center of European Commission for a year

from November 2004 to November 2005 to provide technical and scientific support to the European Commission for their legislative works. His work, in the Joint Research Center, focused on fuels and additives for internal combustion engines, portable emission measurement systems, and small engines.

After returning to Sakarya University, he clearly indicated his vision and leadership qualities as he coordinated a collaborative research project, that is Sakarya Air Quality Protection and Improvement (SAHAKK-I), with partners from Industry, Sakarya Municipality and Sakarya Governorship to solve real world Transport and Air Pollution problems of Sakarya. The overall goal of SAHAKK-I research project was to provide technical and scientific support to the policymakers and relevant stakeholders for sustainable development. After that he became an Associate Professor of Sakarya University and his scientific and leadership qualities were further strengthened as he coordinated the Hybrid City Bus project in which the first Hybrid City Bus of Turkey was developed and tested under real world urban driving conditions. During this period, he has supervised many graduate students, all of whom have completed their M.S. degrees, and produced several peer-reviewed publications.

Dr. Soylu was promoted to full professor and department head position at Bilecik S. Edebali University in 2015. He had been appointed various administrative duties such as Department Head, Member of Faculty Administration Committee and Member University Administration Committee. His research in Bilecik S. Edebali University mostly focused on multidisciplinary research projects which focus on the development of particle filters for Internal Combustion Engines. Starting from spring 2020 semester, he has been a faculty of Kocaeli University. He is currently a teaching thermal science courses and performing research on mainly IC Engines and Hybrid Vehicles.

As a result, Dr. Soylu has the expertise, leadership, training, and motivation necessary to successfully carry out energy and automotive related research projects and teach thermal science courses. He has a broad background in mechanical engineering, with specific training and expertise in thermal science and automotive engineering.

Foreign Languages

English, C2 Mastery

Research Areas

Engineering and Technology

Academic Titles / Tasks

Professor, Kocaeli University, Mühendislik Fakültesi, Makina Mühendisliği, 2020 - Continues

Professor, Bilecik Seyh Edebali University, Faculty Of Engineering, Department Of Mechanical Engineering, 2015 - 2020
Associate Professor, Sakarya University, Faculty Of Engineering, 2008 - 2015
Assistant Professor, Sakarya University, Faculty Of Engineering, Department Of Environmental Engineering, 2005 - 2008
Assistant Professor, European Commission Joint Research Center, Institute of Environment and Sustainability, 2004 - 2005
Assistant Professor, Sakarya University, Faculty Of Technical Education, Department Of Mechanics Education, 2001 - 2004
Research Assistant, Iowa State University of Science and Technology, Faculty of Engineering, Department of Mechanical Engineering, 1994 - 2001

Academic and Administrative Experience

Head of Department, Kocaeli University, Mühendislik Fakültesi, Makina Mühendisliği, 2020 - Continues
University Executive Board Member, Bilecik Seyh Edebali University, Faculty Of Engineering, Department Of Mechanical And Manufacturing Engineering, 2015 - 2020
Head of Department, Bilecik Seyh Edebali University, Faculty Of Engineering, Department Of Mechanical Engineering, 2015 - 2018

Courses

Hybrid and Electric Vehicles, Undergraduate, 2022 - 2023
Gaz Türbinleri, Undergraduate, 2022 - 2023
İçten Yanmalı Motorlar, Undergraduate, 2019 - 2020
Automotive Engineering - Fundamental Technologies, Postgraduate, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Microstructural Characterization, Mechanical, Physical and Thermal Properties of a Diesel Particulate Filter**
Acikbas N. C., Ture Y., Gurlek E., Ozcan S., Soylu Ş., Acikbas G., Gudu T.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.43, no.3, pp.1383-1394, 2018 (SCI-Expanded)
- II. **Development of PN emission factors for the real world urban driving conditions of a hybrid city bus**
Soylu Ş.
APPLIED ENERGY, vol.138, pp.488-495, 2015 (SCI-Expanded)
- III. **The effects of urban driving conditions on the operating characteristics of conventional and hybrid electric city buses**
Soylu Ş.
APPLIED ENERGY, vol.135, pp.472-482, 2014 (SCI-Expanded)
- IV. **EXAMINATION OF PN EMISSIONS AND SIZE DISTRIBUTIONS OF A HYBRID CITY BUS UNDER REAL WORLD URBAN DRIVING CONDITIONS**
Soylu Ş.
INTERNATIONAL JOURNAL OF AUTOMOTIVE TECHNOLOGY, vol.15, no.3, pp.369-376, 2014 (SCI-Expanded)
- V. **EXAMINATION OF THE BRAKING ENERGY RECOVERY POTENTIALS OF A CITY BUS UNDER URBAN DRIVING CONDITIONS**
Soylu Ş.
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.34, no.2, pp.39-47, 2014 (SCI-Expanded)
- VI. **COMPARISON OF OPERATING CHARACTERISTICS OF CONVENTIONAL, DIESEL-ELECTRIC AND**

HYBRID-ELECTRIC CITY BUSES UNDER REAL WORLD URBAN DRIVING CONDITIONS

Soylu Ş.

ISI BILIMI VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.34, no.2, pp.143-154, 2014 (SCI-Expanded)

VII. Estimation of Turkish road transport emissions

Soylu Ş.

ENERGY POLICY, vol.35, no.8, pp.4088-4094, 2007 (SCI-Expanded)

VIII. Fueling direct injected diesel engines with 2% biodiesel blend

Schumacher L., Soylu Ş., Van Gerpen J., Wetherell W.

APPLIED ENGINEERING IN AGRICULTURE, vol.21, no.2, pp.149-152, 2005 (SCI-Expanded)

IX. Prediction of knock limited operating conditions of a natural gas engine

Soylu Ş.

ENERGY CONVERSION AND MANAGEMENT, vol.46, no.1, pp.121-138, 2005 (SCI-Expanded)

X. Examination of combustion characteristics and phasing strategies of a natural gas HCCI engine

Soylu Ş.

ENERGY CONVERSION AND MANAGEMENT, vol.46, no.1, pp.101-119, 2005 (SCI-Expanded)

XI. Development of empirically based burning rate sub-models for a natural gas engine

Soylu Ş., Van Gerpen J.

ENERGY CONVERSION AND MANAGEMENT, vol.45, no.4, pp.467-481, 2004 (SCI-Expanded)

XII. Development of an autoignition submodel for natural gas engines

Soylu Ş., Van Gerpen J.

FUEL, vol.82, no.14, pp.1699-1707, 2003 (SCI-Expanded)

XIII. The speed of sound and isentropic bulk modulus of biodiesel at 21 degrees C from atmospheric pressure to 35 MPa

Tat M. E., Van Gerpen J. H., Soylu Ş., Canakci M., Monyem A., Wormley S.

JOURNAL OF THE AMERICAN OIL CHEMISTS SOCIETY, vol.77, no.3, pp.285-289, 2000 (SCI-Expanded)

Books & Book Chapters

I. Development of an autoignition model for natural gas engines an experimental and modeling study

SOYLU Ş.

VDM Verlag Dr. Müller Aktiengesellschaft & Co. KG, Dudweiler Landstr. 99, 66123 Saarbrücken, Deutschland, 2009

Refereed Congress / Symposium Publications in Proceedings

I. Experimental Investigation of Effects of Engine Load and Speed on the Raw Exhaust Noise Characteristic

Tekin M. Ş., Bostancı G., Soylu Ş., Güven E. A.

1st International Conference on Engineering and Applied Natural Sciences, Kocaeli, Turkey, 10 - 13 May 2022, pp.380-385

II. İçten Yanmalı Motorlar için Partikül Filtreleri

ÇALIŞ AÇIKBAŞ N., AÇIKBAŞ G., ÖZCAN S., SOYLU Ş.

I. Uluslararası Bilimsel Çalışmalarda Yenilikçi Yaklaşımlar Sempozyumu (ISAS-2018), Antalya, Turkey, 11 - 13 April 2018

III. Particulate Filters for Internal Combustion Engines

ÇALIŞ AÇIKBAŞ N., AÇIKBAŞ G., ÖZCAN S., SOYLU Ş.

1st International Symposium on Innovative Approaches in Scientific Studies, 11 - 13 April 2018

IV. Properties of porous silicon nitride bonded-silicon carbide ceramics for diesel particle filter

ÇALIŞ AÇIKBAŞ N., SOYLU Ş., Kırçalı Ş., AÇIKBAŞ G., ÖZCAN S.

1st International Symposium on Innovative Approaches in Scientific Studies, 11 - 13 April 2018

- V. **Porous SiC based composite ceramics fabricated by partial reaction sintering method for diesel particle filter**
ÇALIŞ AÇIKBAŞ N., SOYLU Ş., Kırcalı Ş.
II. INES International Academic Research Congress, 18 - 21 October 2017
- VI. **Examination of the Energy Saving Potential of a Hybrid City Bus with Regenerative Braking**
SOYLU Ş., DEMİR Z.
6th International Conference on Advanced Technology Sciences, 12 - 15 September 2017
- VII. **KATALİZÖR MİKTARININ POLİMER MATRİSLİ KOMPOZİT MALZEME ÖZELLİKLERİ ÜZERİNE ETKİSİ**
AÇIKBAŞ G., ÇALIŞ AÇIKBAŞ N., YAMAN B., SOYLU Ş.
2. ULUSLARARASI MÜHENDİSLİK MİMARLIK VE TASARIM KONGRESİ, 12 - 13 May 2017
- VIII. **Talaşlı İmalatta Kullanılan Sialon Esaslı Kesici Uçların Mikroyapı Tasarımı**
ÇALIŞ AÇIKBAŞ N., AÇIKBAŞ G., YAMAN B., SOYLU Ş.
2 International Congress On Engineering Architecture And Design (UMMTK), 12 - 13 May 2017
- IX. **TALAŞLI İMALATTA KULLANILAN SIALON ESASLI KESİCİ UÇLARIN MİKROYAPI TASARIMI**
ÇALIŞ AÇIKBAŞ N., AÇIKBAŞ G., YAMAN B., SOYLU Ş.
2. ULUSLARARASI MÜHENDİSLİK MİMARLIK VE TASARIM KONGRESİ, 12 - 13 May 2017
- X. **SiC DİZEL PARTİKÜL FİLTRE ÜRETİMİ VE KARAKTERİZASYONU**
Çetintaş B., SOYLU Ş., ÇALIŞ AÇIKBAŞ N.
4. UNİKOP Proje Pazarı Etkinliği, Turkey, 17 - 18 May 2017
- XI. **Katalizör Miktarının Polimer Matrisli Kompozit Malzeme Özellikleri Üzerine Etkisi**
AÇIKBAŞ G., ÇALIŞ AÇIKBAŞ N., YAMAN B., SOYLU Ş.
2 International Congress On Engineering Architecture And Design (UMMTK), 12 - 13 May 2017
- XII. **Structural and Chemical Characterization of Commercial Catalytic Converter**
TÜRE Y., Gürlek E., ÇALIŞ AÇIKBAŞ N., SOYLU Ş.
1ST INTERNATIONAL BLACK SEA CONGRESS ON ENVIRONMENTAL SCIENCES (IBCESS), 31 August - 03 September 2016
- XIII. **Characterization of Commercial Diesel Particle Filter**
TÜRE Y., Gürlek E., ÇALIŞ AÇIKBAŞ N., SOYLU Ş.
1st international Black Sea Congress on Environmental Sciences, 31 August - 03 September 2016
- XIV. **Dizel Partikül Filtre Karakterizasyonu**
Gürlek E., TÜRE Y., ÇALIŞ AÇIKBAŞ N., SOYLU Ş., GÜDÜ T.
OTEKON16, Turkey, 23 - 24 May 2016
- XV. **CHARACTERIZATION OF CATALYTIC CONVERTER**
TÜRE Y., Gürlek E., ÇALIŞ AÇIKBAŞ N., SOYLU Ş., GÜDÜ T.
NCC6- 6th Catalysis Conference, 27 - 30 April 2016
- XVI. **Sapanca lake air pollution originating from transportation investigation of heavy metal emissions**
Demirel H., Ates A., SOYLU Ş.
International Conference on Engineering and Natural Science, 15 - 19 May 2015
- XVII. **Examination of operating characteristics of a Conventional and a Hybrid Electric Bus under real world urban driving conditions**
SOYLU Ş.
1st International Symposium on Energy Challenges and Mechanics, Aberden, 8 - 10 July 2014
- XVIII. **Real world PN emissions from a hybrid city bus under urban driving conditions**
SOYLU Ş.
19th International Transport and Air Pollution Conference 2012, 26 - 28 November 2012
- XIX. **Examination of Particle Number Emissions of a Hybrid City Bus**
SOYLU Ş.
International Conference on Energy and Automotive Technologies, İstanbul, 12 October 2012
- XX. **Examination of fuel economy and NOx emissions of a hybrid city bus under real world urban driving conditions**

- SOYLU Ş., Hulya S.
OTEKON 2012, Turkey, 4 - 05 June 2012
- XXI. **Examination of Real World Operating Conditions and Emissions of a Hybrid City Bus İstanbul**
SOYLU Ş., Hulya S., Bal A.
International Conference on energy and Automotive Technologies, İstanbul, 05 November 2010
- XXII. **Adapazarı şehir içi trafik karakteristikleri ve ulaştırma kaynaklı emisyonların saatlik incelenmesi**
SOYLU Ş., Semercioglu H., Bal A., Ay E.
9. Hava Kirliliği ve Kontrolü Sempozyumu, ODTÜ KKM – ANKARA, Turkey, 25 - 27 October 2009
- XXIII. **5 Otomotiv Teknolojileri Kongresi Bursa**
SOYLU Ş., Bal A., Hulya S., Ay E.
Şehir Otobüslerinin Gerçek Dünya Koşullarında Motor Çalışma Şartlarının ve NOx Emisyonlarının İncelenmesi, Otekon 2010 5. Otomotiv Teknolojileri Kongresi, Turkey, 7 - 10 June 2010
- XXIV. **Otomobiller için alternatif enerji kaynaklarının incelenmesi**
SOYLU Ş., Murat K., ERMİŞ K.
II. Ulusal Ege Enerji Sempozyumu, Turkey, 26 - 28 May 2004
- XXV. **Monitoring of urban transport sourced pollutants by using GIS istanbul**
SOYLU Ş., Mahnaz G.
5th International Conference on Geographic Information Systems, İstanbul, 2 - 05 July 2008
- XXVI. **Analysis of urban transport sourced emissions Adapazarı case study Konya**
SOYLU Ş., Gumrukcuoglu M.
Uluslararası Küresel İklim Değişikliği ve Çevresel Etkileri Konferansı, Konya, 18 - 20 October 2007
- XXVII. **Examination of Knock Limits of a Spark Ignited Natural Gas Engine**
SOYLU Ş.
Proceedings of ICEF04 ASME Internal Combustion Engine Division 2004 Fall Technical Conference Long Beach, CA, USA, 24 - 27 October 2004
- XXVIII. **Examination of Combustion Characteristics of an HCCI Engine**
SOYLU Ş.
The Sixth International Symposium on Diagnostics and Modeling of Combustion in Internal Combustion Engines, Yokohoma, Japan, 02 August 2004 - 05 August 2005
- XXIX. **Combustion analysis of a natural gas engine**
SOYLU Ş.
ICES2003-563 ASME spring conference ICED 2003, Salzburg, Austria, 11 - 14 May 2003
- XXX. **Simple Modeling of Combustion for Natural Gas Engines**
SOYLU Ş.
SAE Paper no: 2002-01-2733, 21 October 2002
- XXXI. **Prediction of Knock Limited Operating Conditions of a Natural Gas Engine**
SOYLU Ş.
Automotive Technologies Congress, June 24-26, 2002, Uludağ Üniversitesi, Bursa, 24 - 26 June 2002
- XXXII. **Evaluation of the Lubricity of Soybean Oil based Additives in Diesel Fuel**
SOYLU Ş., Jon V. G., Tata M. E.
American Society of Agricultural Engineers 1999 Annual Meeting, Toronto, Canada, 18 - 21 July 1999
- XXXIII. **Fueling Direct Injected Diesel Engines with 2 Biodiesel Blend**
SOYLU Ş., LG S., Jon V. G., Wetherell W.
American Society of Agricultural Engineers , ASAE 98-6084, Orlando, Florida, 13-15 July 1998, 13 - 15 July 1998
- XXXIV. **Fuel Effects on the Knocking Limit of a Heavy Duty Natural Gas Engine**
SOYLU Ş., Jon V. G.
SAE Meeting, Paper No 981401, 01 May 1998
- XXXV. **Determination of Knock sensor Location on a Heavy duty Natural Gas engine SAE Paper No 971705**
SOYLU Ş., Jon V. G.
SAE Meeting 1997, 01 May 1997

Supported Projects

GÜVEN E. A., TEKİN M. Ş., SOYLU Ş., AYTİMUR E. E., BOSTANCI G., YILDIRIM K. U., KARAYER O. O., Project Supported by Higher Education Institutions, İçten Yanmalı Motorlar için Susturucu Tasarımı, 2021 - 2023

Scientific Consultations

Tubitak MAM, TÜLOMSAŞ, Project Consultancy, Bilecik Seyh Edebali University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey, 2018 - Continues

Metrics

Publication: 50

Citation (WoS): 389

Citation (Scopus): 474

H-Index (WoS): 9

H-Index (Scopus): 9

Non Academic Experience

European Commission Joint Research Center

Company, Caterpillar inc., Peoria , IL, USA, Technology Center

Caterpillar Inc.

Iowa Devlet Üniversitesi