

Prof. Özgen Akalın

Personal Information

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Education Information

Doctorate, Wayne State University, Makina Mühendisliği, United States Of America 1993 - 1999

Postgraduate, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Otomotiv (YI), Turkey 1988 - 1992

Undergraduate, İstanbul Teknik Üniversitesi, Makine Fakültesi, Makine Mühendisliği Bölümü, Turkey 1984 - 1988

Foreign Languages

English

Dissertations

Doctorate, Piston Ring and Cylinder Bore Friction Simulation in Mixed Lubrication Regime, Wayne State University, Makina Mühendisliği, 1999

Postgraduate, Taşıt lastiklerinin dinamik karakteristiklerinin ölçülmesi, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Otomotiv (YI), 1992

Research Areas

Mechanical Engineering, Construction and Manufacturing, Tribology, Machine Elements, Machine Theory and Dynamics, Machine Dynamics, Vehicle Systems Dynamics, Mechanical Vibrations, Internal Combustion Engines, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul Technical University, Makina, 2020 - Continues

Associate Professor, Istanbul Technical University, Makina, 2012 - 2020

Assistant Professor, İstanbul Teknik Üniversitesi, Makine Fakültesi, Makine Mühendisliği Bölümü, 2000 - 2012

Research Assistant, Wayne State University, College Of Engineering, Mechanical Eng. Dept., 1993 - 1999

Research Assistant, İstanbul Teknik Üniversitesi, Makine Fakültesi, Makine Mühendisliği Bölümü, 1989 - 1993

Academic and Administrative Experience

Courses

VEHICLE SYSTEMS DESIGN, Undergraduate, 2017 - 2018

TAŞIT TASARIMI, Postgraduate, 2016 - 2017

AUTOMOTIVE TRIBOLOGY, Postgraduate, 2016 - 2017

Jury Memberships

Competition, 8. Otomotiv ArGe Proje Pazarı ve Tasarım Yarışması, OİB, Uludağ Otomotiv İhracatçıları Birliği, March, 2018

Competition, 7. Otomotiv ArGe Proje Pazarı ve Tasarım Yarışması, OİB, Uludağ Otomotiv İhracatçıları Birliği, March, 2017

Competition, 6. Otomotiv ArGe Proje Pazarı ve Tasarım Yarışması, OİB, Uludağ Otomotiv İhracatçıları Birliği, March, 2016

Competition, 5. Otomotiv ArGe Proje Pazarı ve Tasarım Yarışması, OİB, Uludağ Otomotiv İhracatçıları Birliği, March, 2015

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

- I. **Continuous Lubricant Film Thickness Measurement Between Piston Ring and Cylinder Bore**
Ayranci Y. E. , Akalın Ö.
JOURNAL OF ENGINEERING FOR GAS TURBINES AND POWER-TRANSACTIONS OF THE ASME, vol.140, no.7, 2018
(Journal Indexed in SCI)
- II. **The Effects of Piston Skirt Profiles on Secondary Motion and Friction**
Gunelsu O., Akalın Ö.
JOURNAL OF ENGINEERING FOR GAS TURBINES AND POWER-TRANSACTIONS OF THE ASME, vol.136, no.6, 2014
(Journal Indexed in SCI)
- III. **The Effect of Cylinder Bore Distortion on Lube Oil Consumption and Blow-By**
Kagnici F., Akalın Ö.
JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME, vol.136, no.1, 2014 (Journal Indexed in SCI)
- IV. **Optimization of timing drive system design parameters for reduced engine friction**
Uysal U., Akalın Ö.
SAE Technical Papers, 2010 (Journal Indexed in SCI Expanded)
- V. **Wear Characteristics of NiTi/Al6061 Short Fiber Metal Matrix Composite Reinforced With SiC Particulates**
Akalın Ö., EZİRMİK K. V. , Urgan M. K. , Newaz G. M.
JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME, vol.132, no.4, 2010 (Journal Indexed in SCI)
- VI. **Frictional Characteristics of IF-WS2 Nanoparticles in Simulated Engine Conditions**
Gullac B., Akalın Ö.
TRIBOLOGY TRANSACTIONS, vol.53, no.6, pp.939-947, 2010 (Journal Indexed in SCI)
- VII. **Reduced oil consumption by laser surface texturing on cylinders**
ERGEN O. R. , KURNAZ G., SOYDEMİR N. G. , Akalın Ö.
SAE International Journal of Commercial Vehicles, vol.1, no.1, pp.446-453, 2009 (Journal Indexed in SCI Expanded)
- VIII. **Piston ring-cylinder bore friction modeling in mixed lubrication regime: Part II - Correlation with bench test data**
Akalın O., NEWAZ G.
JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME, vol.123, no.1, pp.219-223, 2001 (Journal Indexed in SCI)
- IX. **Piston ring-cylinder bore friction modeling in mixed lubrication regime: Part I - Analytical results**
Akalın O., NEWAZ G.
JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME, vol.123, no.1, pp.211-218, 2001 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Articulated Vehicle Lateral Stability Management via Active Rear-Wheel Steering of Tractor Using**

Fuzzy Logic and Model Predictive Control

Şahin H., Akalın Ö.

SAE INTERNATIONAL JOURNAL OF COMMERCIAL VEHICLES, vol.13, no.2, pp.115-128, 2020 (Journal Indexed in ESCI)

II. Gearset Synchronization Modeling of a Heavy Commercial Vehicle Transmission and Correlation with Objective Measurements of Gear Shift Quality

Özpınar İ., AKALIN Ö.

SAE Technical Papers, vol.2019-January, 2019 (Refereed Journals of Other Institutions)

III. Collision Avoidance Via Emergency Steering Warning System: A Driving Simulator Approach

Şahin H., Atabay O., Akalın Ö.

Politeknik Dergisi, vol.22, no.1, pp.327-333, 2019 (National Refreed University Journal)

IV. A Multiscale Cylinder Bore Honing Pattern Lubrication Model for Improved Engine Friction

Şen O. T., Akalın Ö.

SAE INTERNATIONAL JOURNAL OF FUELS AND LUBRICANTS, vol.12, no.3, pp.155-166, 2019 (Journal Indexed in ESCI)

V. Influence of Rib Stiffener Design Parameters on the Noise Radiation of an Engine Block

Balci E., Akalın Ö., Karaca C.

SAE INTERNATIONAL JOURNAL OF ENGINES, vol.12, no.2, pp.175-184, 2019 (Journal Indexed in ESCI)

VI. Motorlarda Plazma Sprey Kaplı Silindirlerin Tribolojik Özellikleri

Akalın Ö.

Mühendis ve Makina, no.486, pp.30-33, 2000 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

I. Bir Toplu Taşıma Otobüsü İçin Yakıt Ekonomisi Sağlayacak Vites Seçim Algoritması

YANGIN V. B., AKALIN Ö., ŞEN O. T.

IMSMATEC 2019 - The International Conference on Materials Science, Mechanical and Automotive Engineerings and Technology, Nevşehir, Turkey, 21 - 23 June 2019

II. Pozitif Eğimli Kısımlar İçeren Yollar İçin Ekonomik Seyir Sağlayacak Hız Profillerinin Oluşturulması

Yangın V. B., Akalın Ö.

Çukurova Uluslararası Multidisipliner Çalışmalar Kongresi, Adana, Turkey, 13 - 16 December 2018

III. Ride Dynamics of an Off-road Vehicle with Hydro-Pneumatic Suspension System

Yeşilyurt H. Y., Akalın Ö.

9th International Automotive Technologies Congress", OTEKON 2018, Bursa, Turkey, 7 - 08 May 2018, pp.1-9

IV. Continuous Lubricant Film Thickness Measurement Between Piston Ring and Cylinder Bore

Ayrancı Y. E., Akalın Ö.

ASME Internal Combustion Engine Division 2017 Fall Technical Conference ICEF2017, Seattle, United States Of America, 15 - 18 October 2017, pp.1-8

V. Cylinder Bore Honing Pattern Optimization for Improved Engine Friction and Wear

Akalın Ö., Şen O. T.

44th Leeds-Lyon Symposium on Tribology, Lyon, France, 4 - 06 September 2017, pp.118

VI. Estimation of Tire Model Parameters From Transient Test Data

Önder N. F., Akalın Ö.

AVTECH'15 III. Automotive and Vehicle Technologies Conference, İstanbul, Turkey, 23 - 24 November 2015, pp.82

VII. DEVELOPMENT OF A PISTON SECONDARY MOTION MODEL FOR SKIRT FRICTION ANALYSIS

GUNELSU O., Akalın Ö.

ASME Internal Combustion Engine Division Fall Technical Conference, Vancouver, Canada, 23 - 26 September 2012, pp.963-970

VIII. THE EFFECT OF CYLINDER BORE DISTORTION ON LUBE OIL CONSUMPTION AND BLOW-BY

Kagnici F., Akalın Ö.

11th ASME Biennial Conference on Engineering Systems Design and Analysis, (ESDA 2012), Nantes, France, 2 - 04 July 2012, pp.665-674

- IX. **FRictional Characteristics of IF-WS(2) Nanoparticles in Simulated Engine Conditions**
GÜLLAÇ B., Akalın Ö.
ASME/STLE International Joint Tribology Conference, Tennessee, United States Of America, 19 - 21 October 2009, pp.261-263
- X. **The effects of power cylinder design parameters on lube oil consumption of a heavy duty diesel engine**
Akalın Ö., COBANOGLU S., TOYGAR A., GUL O., KURNAZ G., ERGEN O. R.
ASME Internal Combustion Engine Division Sprint Technical Conference, Illinois, United States Of America, 27 - 30 April 2008, pp.299-307
- XI. **The Effects of Leaf Spring and Bushing Stiffness Characteristics on Vehicle Handling**
Günsay U., Akalın Ö.
OTEKON'06, Otomotiv Teknolojileri Kongresi, Bursa, Turkey, 26 - 28 June 2006, pp.361-368
- XII. **Frictional characteristics of plasma spray coated cylinder bores**
Akalın O., NEWAZ G. M. , Durga V., Rao N.
International Congress and Exposition, Detroit, MI, United States Of America, 1 - 04 March 1999
- XIII. **A new experimental technique for friction simulation in automotive piston ring and cylinder liners**
Akalın O., NEWAZ G. M.
International Spring Fuels and Lubricants Meeting and Exposition, Dearborn, MI, United States Of America, 4 - 06 May 1998

Supported Projects

- Akalın Ö., Project Supported by Other Private Institutions, MİLLİ ENTEGRE TAKTİK TEKERLEKLİ ARAÇ PROJESİ, 2018 - Continues
- Akalın Ö., Project Supported by Higher Education Institutions, Piston Eteği Sürtünme Analizi İçin Bir Piston İkincil Dinamiği Modeli Geliştirilmesi, 2012 - 2018
- Akalın Ö., Project Supported by Higher Education Institutions, içten Yamalı Motorlarda Sürtünme Kayıplarının Azaltılması için Zamanlama Zinciri Tasarım Parametrelerinin Optimizasyonu, 2010 - 2018
- Akalın Ö., Project Supported by Higher Education Institutions, IF - WS2 NANOPARTİKÜLLERİN MOTOR YAĞLAMA ŞARTLARINDAKİ TRİBOLOJİK DAVRANIŞLARI, 2009 - 2018
- Akalın Ö., TUBITAK Project, İÇTEN YANMALI MOTORLARDA YAĞ FİLM HAREKETLERİNİN ÖLÇÜLMESİ VE ANALİZİ, 2015 - 2017
- Akalın Ö., Project Supported by Other Private Institutions, İYONİK SIVILARIN MOTOR YAĞI PERFORMANSINA ETKİLERİ, 2015 - 2016
- Akalın Ö., Project Supported by Other Private Institutions, ARAÇ LASTİKLERİ KARAKTERİZASYON, PERFORMANS VE ÖMÜR TEST SİSTEMİNİN YERLİ İMKANLARLA TASARIMI VE GELİSTİRİLMESİ, 2014 - 2016
- Akalın Ö., Project Supported by Other Private Institutions, AMERİKA PAZARINA ÖZGÜ KONFOR VE GÜVENLİK SİSTEMLERİNİN GELİŞTİRİLMESİ, 2012 - 2014
- Akalın Ö., Project Supported by Other Private Institutions, OPERASYON UYUMLU YAGLI AMORTİSÖR GELİSTİRME PROJESİ, 2011 - 2011
- Akalın Ö., TUBITAK Project, İÇTEN YANMALI MOTORLARDA PİSTON GRUBU SÜRTÜNME KAYIPLARININ AZALTILMASI, 2005 - 2010
- Akalın Ö., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, DRIVE SAFE (Güvenli Sürüş), 2005 - 2008
- Akalın Ö., Project Supported by Other Private Institutions, YAG TÜKETİMİNİN OPTİMİZE EDİLMESİ İÇİN GÜÇ SİLİNDİRİ TASARIMI, 2005 - 2007
- Akalın Ö., Project Supported by Other Private Institutions, HİBRİD ELEKTRİKLİ TASIT GELİSTİRME PROJESİ, 2005 - 2006
- Akalın Ö., EU Supported Other Project, UPGRADING THE PHYSICAL INFRASTRUCTURE REGARDING CONFORMITY ASSESSMENT AND MARKET SURVEILLANCE IN TURKEY - AUTOMOTIVE SECTOR, 2003 - 2006

Patent

Akalm Ö., Reciprocating System for Simulating Friction and Wear, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, Initial Registration, 2002

Activities in Scientific Journals

International Journal of Vehicle Performance, Committee Member, 2020 - Continues
SAE International Journal of Fuels and Lubricants, Assistant Editor, 2010 - 2015

Memberships / Tasks in Scientific Organizations

Society of Automotive Engineers (SAE), Member, 1994 - Continues

Scientific Consultations

TÜBİTAK TEYDEB - USETEG Yürütme Komitesi, Scientific Consultancy, İstanbul Teknik Üniversitesi, Makine Fakültesi, Makine Mühendisliği Bölümü, Turkey, 2012 - 2016

Scientific Research / Working Group Memberships

AVT-248, "Next-Generation NATO Reference Mobility Model (NRMM) Development, NATO-CSO, France, <https://www.cso.nato.int/>, 2016 - Continues

Citations

Total Citations (WOS):164

h-index (WOS):5

Awards

Akalm Ö., Applied Vehicle Technology Panel Excellence Award, Nato Science And Technology Organization, December 2020

Akalm Ö., Graduate Award and Scholarship, STLE, Society of Tribology and Lubrication Engineers, March 1996

Non Academic Experience

Other Public Institution, Tübitak