

## Prof. ATAKAN AVCI

### Personal Information

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### Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), Turkey 1985 - 1990

Postgraduate, Istanbul Technical University, Makine Fakültesi, Makine Mühendisliği Bölümü, Turkey 1982 - 1985

Undergraduate, Bursa Üniversitesi, Makine Fakültesi, Genel Makine Pr., Turkey 1977 - 1982

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Yüksek basınçlı heterojen yanmalı iç balistik probleminin matematik modellenmesi, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), 1989

Postgraduate, HAVA KİRLİLİĞİNDE SİKLOTLARIN ROLÜ VE BACA GAZINI SİKLOTLA TEMİZLEME ÇABASI, Istanbul Technical University, Makine Fakültesi, Makine Mühendisliği Bölümü, 1985

### Research Areas

Energy, Thermodynamics

### Academic Titles / Tasks

Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 1985 - Continues

### Academic and Administrative Experience

Bursa Uludağ University, REKTÖRLÜK, 2017 - 2019

Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, 2013 - 2017

### Courses

TERMODİNAMİK 2, Undergraduate, 2017 - 2018, 2016 - 2017  
HİDROLİK MAKİNELER, Undergraduate, 2017 - 2018, 2016 - 2017  
MAKİNE TASARIMI, Undergraduate, 2017 - 2018, 2016 - 2017  
BİTİRME ÖDEVİ, Undergraduate, 2017 - 2018, 2016 - 2017  
GAZ DİNAMİĞİ, Postgraduate, 2017 - 2018, 2016 - 2017  
TERMODİNAMİK 1, Undergraduate, 2017 - 2018, 2016 - 2017  
PARÇACIK DİNAMİĞİ, Doctorate, 2017 - 2018, 2016 - 2017

## Advising Theses

AVCI A., Waste mud burning plant and optimization, Postgraduate, S.Büyükpoyraz(Student), 2020  
AVCI A., Experimental investigation of the performance of mini cyclons in high efficient different geometry, Postgraduate, C.Karakaş(Student), 2020  
AVCI A., Experimental investigation of the effect of body diameter on cyclone performance in virtual body cyclone seperators, Postgraduate, G.Çelik(Student), 2020  
AVCI A., Multipurpose energy usage analysis and implementation, Postgraduate, P.Kandemir(Student), 2019  
AVCI A., Avcı A., Experimental study of thermal stratification effects via conic obstacles placed inside the vertical mantled hot water tank, Postgraduate, G.Kurtuluş(Student), 2019  
AVCI A., Sanal gövdeli mini bir siklon ayırıcının performansının İncelenmesi, Postgraduate, A.Mohammed(Student), 2018  
AVCI A., Energy and exergy efficiency of industrial furnaces; case study performing energy and exergy analysis of enamel furnace through efficiency project, Postgraduate, S.VATANDAŞ(Student), 2016  
AVCI A., Analysis of latent heat storage to solar heater, Postgraduate, B.ARABACIĞİL(Student), 2011  
AVCI A., Estimation and optimisation of cyclone separators' performance, Postgraduate, U.DEMİR(Student), 2011  
AVCI A., Investigation of the effect of geometrical and operating parameters on the vortex length in cyclone filters, Postgraduate, İ.CAMUZ(Student), 2011  
AVCI A., Experimental investigation of the relationship between efficiency-pressure loss and height in cyclone filters, Postgraduate, T.OKUR(Student), 2011  
AVCI A., The investigation of structure and operating parameters effect on the heat transfer coefficient in porous structures, Doctorate, N.YÜKSEL(Student), 2010  
AVCI A., Determination of residential energy consumption characteristics and comparison fuel cells with alternative energy systems for the houses in Bursa, Doctorate, M.EMİN(Student), 2006  
AVCI A., Examined of flow and pressure losses in tangential cyclones, Postgraduate, C.TUĞHAN(Student), 2003  
AVCI A., Modelling and optimisation of energy storage systems, Postgraduate, N.YÜKSEL(Student), 2003  
AVCI A., Investigation of the effects on the valve design of the alternative fuel combustion, Postgraduate, H.Bilal(Student), 2000  
AVCI A., Alternatif yakıt kullanımının supap tasarımı üzerindeki etkilerinin incelenmesi, Postgraduate, H.BİLAL(Student), 2000  
AVCI A., Mathematical modelling of combustion phenomena in reversed flow natural gas furnaces, Postgraduate, M.YONCACILAR(Student), 1998  
AVCI A., Economic and thermal analysis of cogeneration application in the automotive type textile sector established in Bursa, Postgraduate, T.AYTEKİN(Student), 1998  
AVCI A., Technical and economic analysis of the use of natural gas as an energy source in industry, Postgraduate, A.BULUT(Student), 1998  
AVCI A., Analysis of control applications in terms of energy saving in heating systems, Postgraduate, A.GÜLEÇ(Student), 1996

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

1. Experimental analysis of the volumetric and thermal efficiency performance of a novel direct piezo-

**acting CVVT mechanism**

SÜRMEŒ A., KARAMANGİL M. İ., AVCI A., Dirim B., İŞIKLI F., TEKİN M. E., Türköz N.

International Journal of Green Energy, vol.21, no.5, pp.948-958, 2024 (SCI-Expanded)

- II. **Parametric and General Evaluation of Mathematical Models Used for Critical Diameter Determination in Cyclone Separators**  
Mumcu A. G., AVCI A.  
Separations, vol.10, no.5, 2023 (SCI-Expanded)
- III. **Investigation into the effects of various parameters on the performance and classification potential of a cyclone classifier**  
Caliskan M. E., Karagöz İ., Avci A., Sürmen A.  
POWDER TECHNOLOGY, vol.356, pp.102-111, 2019 (SCI-Expanded)
- IV. **A new explicit friction factor formula for laminar, transition and turbulent flows in smooth and rough pipes**  
Avci A., Karagoz İ.  
EUROPEAN JOURNAL OF MECHANICS B-FLUIDS, vol.78, pp.182-187, 2019 (SCI-Expanded)
- V. **Effects of separation space diameter on the performance of a novel reverse flow cyclone**  
Sakin A., KARAGÖZ İ., AVCI A.  
SEPARATION SCIENCE AND TECHNOLOGY, vol.54, no.15, pp.2450-2460, 2019 (SCI-Expanded)
- VI. **Performance analysis of axial and reverse flow cyclone separators**  
Sakin A., KARAGÖZ İ., AVCI A.  
CHEMICAL ENGINEERING AND PROCESSING-PROCESS INTENSIFICATION, vol.144, 2019 (SCI-Expanded)
- VII. **An experimental investigation into the particle classification capability of a novel cyclone separator**  
Caliskan M. E., KARAGÖZ İ., AVCI A., SÜRMEŒ A.  
SEPARATION AND PURIFICATION TECHNOLOGY, vol.209, pp.908-913, 2019 (SCI-Expanded)
- VIII. **Development of a variable-profile cam to enhance the volumetric efficiency of IC engines**  
SÜRMEŒ A., ARSLAN R., KOPMAZ O., AVCI A., KARAGÖZ İ., KARAMANGİL M. İ.  
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.73, pp.63-75, 2017 (SCI-Expanded)
- IX. **Effects of Geometrical Parameters on the Pressure Drop for a Modified Cyclone Separator**  
Tan F., KARAGÖZ İ., AVCI A.  
CHEMICAL ENGINEERING & TECHNOLOGY, vol.39, no.3, pp.576-581, 2016 (SCI-Expanded)
- X. **The Effects of Vortex Finder Dimensions on the Natural Vortex Length in a New Cyclone Separator**  
Tan F., KARAGÖZ İ., AVCI A.  
CHEMICAL ENGINEERING COMMUNICATIONS, vol.203, no.9, pp.1216-1221, 2016 (SCI-Expanded)
- XI. **THE USE OF PARAFFIN WAX IN A NEW SOLAR COOKER WITH INNER AND OUTER REFLECTORS**  
Arabacigil B., YÜKSEL N., AVCI A.  
THERMAL SCIENCE, vol.19, no.5, pp.1663-1671, 2015 (SCI-Expanded)
- XII. **Experimental investigation into performance characteristics of reversed flow cyclone separators**  
Sendogan O., KARAGÖZ İ., AVCI A., SÜRMEŒ A.  
INTERNATIONAL JOURNAL OF GLOBAL WARMING, vol.6, pp.339-349, 2014 (SCI-Expanded)
- XIII. **Design and performance evaluation of a new cyclone separator**  
KARAGÖZ İ., AVCI A., SÜRMEŒ A., Sendogan O.  
JOURNAL OF AEROSOL SCIENCE, vol.59, pp.57-64, 2013 (SCI-Expanded)
- XIV. **Development of a new method for evaluating vortex length in reversed flow cyclone separators**  
AVCI A., KARAGÖZ İ., SÜRMEŒ A.  
POWDER TECHNOLOGY, vol.235, pp.460-466, 2013 (SCI-Expanded)
- XV. **Experimental Investigation of the Natural Vortex Length in Tangential Inlet Cyclones**  
AVCI A., KARAGÖZ İ., SÜRMEŒ A., Camuz I.  
SEPARATION SCIENCE AND TECHNOLOGY, vol.48, no.1, pp.122-126, 2013 (SCI-Expanded)
- XVI. **The thermal analysis of paraffin wax in a box-type solar cooker**  
YÜKSEL N., Arabacigil B., AVCI A.  
JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, vol.4, no.6, 2012 (SCI-Expanded)

- XVII. The effective thermal conductivity of insulation materials reinforced with aluminium foil at low temperatures**  
Yuksel N., Avci A., Kılıç M.  
HEAT AND MASS TRANSFER, vol.48, pp.1569-1574, 2012 (SCI-Expanded)
- XVIII. Prediction of the maximum-efficiency cyclone length for a cyclone with a tangential entry**  
Surmen A., Avci A., KARAMANGİL M. İ.  
POWDER TECHNOLOGY, vol.207, pp.1-8, 2011 (SCI-Expanded)
- XIX. Effects of Surface Roughness on the Performance of Tangential Inlet Cyclone Separators**  
Kaya F., KARAGÖZ İ., AVCI A.  
AEROSOL SCIENCE AND TECHNOLOGY, vol.45, no.8, pp.988-995, 2011 (SCI-Expanded)
- XX. Closure to "Discussion: 'A Novel Explicit Equation for Friction Factor in Smooth and Rough Pipes' "**  
**(2011, ASME J. Fluids Eng., 133, p. 015501)**  
KARAGÖZ İ., AVCI A.  
JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME, vol.133, no.1, 2011 (SCI-Expanded)
- XXI. THE PRESENT STUDIES ON EFFECTIVE THERMAL CONDUCTIVITIES OF POROUS MEDIUMS**  
Yuksel N., AVCI A.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.25, no.2, pp.331-346, 2010 (SCI-Expanded)
- XXII. Usability of cyclone separators as air filters in vehicles**  
KARAGÖZ İ., Kaya F., AVCI A.  
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.52, pp.133-143, 2010 (SCI-Expanded)
- XXIII. A Novel Explicit Equation for Friction Factor in Smooth and Rough Pipes**  
AVCI A., KARAGÖZ İ.  
JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME, vol.131, no.6, 2009 (SCI-Expanded)
- XXIV. Mathematical modelling of combined diffusion of heat and mass transfer through fabrics**  
Etemoglu A. B., Ulcay Y., Can M., Avci A.  
FIBERS AND POLYMERS, vol.10, no.2, pp.252-259, 2009 (SCI-Expanded)
- XXV. Investigation of the effect of different carbon film thickness on the exhaust valve**  
KARAMANGİL M. İ., Avci A., Bilal H.  
HEAT AND MASS TRANSFER, vol.44, no.5, pp.587-598, 2008 (SCI-Expanded)
- XXVI. A model for latent heat energy storage systems**  
Yuksel N., Avci A., Kilic M.  
International Journal of Energy Research, vol.30, no.14, pp.1146-1157, 2006 (SCI-Expanded)
- XXVII. Modelling of the pressure drop in tangential inlet cyclone separators**  
Karagoz İ., Avci A.  
AEROSOL SCIENCE AND TECHNOLOGY, vol.39, no.9, pp.857-865, 2005 (SCI-Expanded)
- XXVIII. Theoretical study of combined heat and mass transfer process during paper drying**  
Etemoglu A. B., Can M., Avci A., Pulat E.  
HEAT AND MASS TRANSFER, vol.41, no.5, pp.419-427, 2005 (SCI-Expanded)
- XXIX. Effects of flow and geometrical parameters on the collection efficiency in cyclone separators**  
Avci A., Karagoz İ.  
JOURNAL OF AEROSOL SCIENCE, vol.34, no.7, pp.937-955, 2003 (SCI-Expanded)
- XXX. Experimental study of convective heat transfer under arrays of impinging air jets from slots and circular holes**  
Can M., Etemoglu A. B., Avci A.  
HEAT AND MASS TRANSFER, vol.38, no.3, pp.251-259, 2002 (SCI-Expanded)
- XXXI. A theoretical approach to the drying process of thin film layers**  
Avci A., Can M., Etemoglu A. B.  
APPLIED THERMAL ENGINEERING, vol.21, no.4, pp.465-479, 2001 (SCI-Expanded)
- XXXII. Theoretical investigation of pressure losses in cyclone separators**  
Avci A., Karagoz İ.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.28, no.1, pp.107-117, 2001 (SCI-Expanded)

**XXXIII. A mathematical model for the determination of a cyclone performance**

Avci A., Karagoz İ.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.27, no.2, pp.263-272, 2000 (SCI-Expanded)

**XXXIV. The analysis of the drying process on unsteady forced convection in thin films of ink**

Avci A., Can M.

APPLIED THERMAL ENGINEERING, vol.19, no.6, pp.641-657, 1999 (SCI-Expanded)

## Articles Published in Other Journals

**I. Design and Performance Analysis of Virtual Body Mini Cyclone**

Çalışkan M. E., Karagöz İ., Avci A., Sürmen A.

International journal of Research Science and Management, vol.12, no.4, pp.57-65, 2017 (Peer-Reviewed Journal)

**II. A Computational Comparison of Flow and Pressure fields in Axial and Reverse Flow Cyclone Separators**

SAKİN A., KARAGÖZ İ., AVCI A.

International Journal of Computational and Experimental Science and Engineering (IJCESEN), vol.3, no.2, pp.20-25, 2017 (Peer-Reviewed Journal)

**III. PLAKA GÖVDE BORU VE MİNYATÜR BORU TİP ISI EŞANJÖRLERİNİN TEKNİK VE EKONOMİK AÇIDAN KARŞILAŞTIRILMASI**

CANBOLAT A. S., TÜRKAN B., ETEMOĞLU A. B., CAN M., AVCI A.

Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.21, no.2, pp.107-121, 2016 (Peer-Reviewed Journal)

**IV. Alternatif Yakıt Kullanımının Egzoz Supabına Etkisinin İncelenmesi**

KARAMANGİL M. İ., AVCI A., EREL G. K.

DEÜ Fen ve Mühendislik Dergisi, vol.9, no.1, pp.21-34, 2007 (Peer-Reviewed Journal)

## Books & Book Chapters

**I. Teknik Tesisat El Kitabı**

CAN M., AVCI A., ETEMOĞLU A. B.

Dora Basım-Yayın Dağıtım Ltd.Şti., Bursa, 2017

**II. Teknik Tesisat El Kitabı**

Can M., Avci A., Etemoğlu A. B.

Dora, Bursa, 2008

## Refereed Congress / Symposium Publications in Proceedings

**I. Sürekli Değişken Supap Zamanlaması İçin Kullanılan Piezo Eyleyici Elektronik Sürücüsünün Bir Motor Üzerinde Uygulanması**

YİĞİT E., DİRİM B., SÜR MEN A., KARAMANGİL M. İ., AVCI A., IŞIKLI F., TEKİN M., TÜRKÖZ N.

Otekon 2020, Bursa, Turkey, 6 - 07 September 2021

**II. Design and Performance Analysis of a Virtual Body Mini Cyclone**

Çalışkan M. E., KARAGÖZ İ., AVCI A., SÜR MEN A.

8th International Advanced Technologies Symposium, 19 - 22 October 2017

**III. A Computational Comparison of Flow and Pressure Fields in Axial and Reverse Flow Cyclone Separators**

sakin a., KARAGÖZ İ., AVCI A.

International Journal of Computational and Experimental Science and Engineering (IJCESEN), 19 - 24 October 2016

- IV. **a computational comparison of flow and pressure fields in axial and reverse flow cyclone separator**  
sakin a., KARAGÖZ İ., AVCI A.  
3. international conference on computational and experimental science and engineering, Antalya, Turkey, 19 - 24 October 2016, pp.345
- V. **Investigation of Exergetic Irreversibility with CO2 Emission Measurement in Industrial Enamel Oven**  
vatandaş s., söğüt m. z., AVCI A.  
IEEEES-2016, Antalya, Turkey, 1 - 04 May 2016, pp.18-23
- VI. **A NUMERICAL STUDY ON THE EFFECTS OF SURFACE ROUGHNESS FOR A NEW CYCLONE FILTER**  
Tan F., KARAGÖZ İ., AVCI A.  
ICENS2015, Bosnia And Herzegovina, 16 - 19 May 2016, pp.238
- VII. **Study on Improving the Thermal Performance of the Solar Chimney System with using Fresnel Lenses**  
Tan F., KARAGÖZ İ., AVCI A.  
International Conference on Engineering and Natural Sciences, 15 - 19 May 2015, pp.239
- VIII. **Taşitlar İçin Elektronik Kontrollü Sürüş Emniyet Sistemi Tasarımı**  
ARSLAN R., AVCI A., SÜRMEŒ A.  
2. Uluslararası Ulaşım Sempozyumu, Turkey, 1 - 04 October 1998, pp.497-506
- IX. **Emme Supaplarında Debi Katsayısı Değişimlerinin Deneysel İncelenmesi**  
ARSLAN R., KARAGÖZ İ., AVCI A.  
Beşinci Yanma Sempozyumu, Turkey, 21 - 23 July 1997, pp.245-254
- X. **Bir Dizel Motorunda Supap Zamanlamasının Etkilerinin Teorik ve Deneysel Olarak İncelenmesi**  
ARSLAN R., SÜRMEŒ A., AVCI A.  
Beşinci Yanma Sempozyumu, Turkey, 21 - 23 July 1997, pp.220-230
- XI. **Taşit Eksoz Emisyonlarının Kontrolü ve Bursa Örneđi**  
AVCI A., ARSLAN R., ERDAĒ B.  
Birinci Ulusal Ulaşım Sempozyumu, Turkey, 6 - 07 May 1996, pp.575-583
- XII. **Ters Akışlı Kazanlarda Brülör Namlusu Dalma Uzunluđunun Isı Taşınımına Etkisi**  
KILIÇ M., AVCI A.  
10. Ulusal Isı Bilimi ve Tekniđi Kongresi, Turkey, 6 - 08 September 1995, vol.2, pp.1199-1205
- XIII. **Ocak Artıđı Kömürlerin Analizi ve Temizlenmesine Ait Basit Bir Sistem Tasarımı**.Karamangil, A.Sürmen, A. Avci. "Ocak Artıđı Kömürlerin Analizi ve Temizlenmesine Ait Basit Bir Sistem Tasarımı", III. Yanma Sempozyumu., Sayfa: 415-422, 19-21 Temmuz 1993, Kirazlıyayla-BURSA.  
KARAMANGİL M. İ., SÜRMEŒ A., AVCI A.  
III. Yanma Sempozyumu, Bursa, Turkey, 19 - 21 July 1993

## Supported Projects

Sürmen A., Avci A., Karamangil M. İ., TUBITAK Project, İçten Yanmalı Motorlar için Piezo Tetiklemeli Supap Tahrik Mekanizması Geliştirilmesi, 2018 - 2021

Yamankaradeniz N., Avci A., Yamankaradeniz R., Project Supported by Other Private Institutions, İSÜ Genel Müdürlüğü tarafından yapılacak olan çamur yakma ve enerji üretim tesisinde atık çamur özelliklerine uygun tesisatın seçimi ve tasarımı için Ar-Ge yapılması, 2017 - 2017

KARPAT F., AVCI A., COŞKUN S., YİĒİT A., KAYNAKLI Ö., Project Supported by Other Private Institutions, Bursagaz faaliyet alanında bulunan eski doğalgaz iç tesisatlarının, cihaz ve bağlantılarının incelenerek, teknik risklerin belirlenmesi, çözüm önerileri getirilmesiyle ilgili araştırma yapılması, 2015 - 2017

Yamankaradeniz N., Taşdemir Y., Etemođlu A. B., Avci A., Karpas F., Yavuz N., Kaynaklı Ö., Yamankaradeniz R., Project Supported by Other Official Institutions, 400 ton/gün kapasiteli akışkan yataklı çamur yakma ve enerji elde etme tesisi

yapım işi teknik danışmanlık ve araştırma-geliştirme, 2014 - 2017

AVCI A., Project Supported by Other Private Institutions, akışkan yataklı reaktörde arıtma çamurlarının bertaraf edilmesi ve enerji elde edilmesi için kurulacak pilot tesisin projelendirilmesi, 2015 - 2016

AVCI A., SÜRMEŒ A., TUBITAK Project, siklon ayırıcıların optimizasyonu ve taşıklarda hava filtresi olarak kullanılabilirliğinin incelenmesi, 2012 - 2014

Karamangil M. İ., Avcı A., Sürmen A., İlten N., Project Supported by Higher Education Institutions, Siklon Yakıcıların Performans Özelliklerinin İncelenmesi, 2001 - 2006

Karamangil M. İ., Sürmen A., Karagöz İ., Avcı A., Kopmaz O., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Benzin Motorlarında Yeni Bir Kam Geliştirilmesi, 1995 - 1999

## Patent

Sürmen A., Avcı A., Karagöz İ., ÇOK FAZLI AKIŞKANLAR İÇİN PARTİKÜL SINIFLAYICI, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: 2017/05307 , Standard Registration, 2020

Sürmen A., Avcı A., Karagöz İ., Kopmaz O., Arslan R., Karamangil M. İ., EĞRİSEL YÜZEYLİ DEĞİŞKEN ZAMANLAMALI KAM, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: TR2013 13298B , Standard Registration, 2019

Avcı A., Sürmen A., Karagöz İ., Gövde ve girdap sınırlayıcı boyu ayarlanabilir siklon ayırıcı, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: 2012/05043 , Standard Registration, 2014

## Metrics

Publication: 58

Citation (WoS): 737

Citation (Scopus): 838

H-Index (WoS): 15

H-Index (Scopus): 15

## Non Academic Experience

uludağ üniversitesi