

## Prof. ADNAN SÖZEN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: G-1409-2018

ScopusID: 7004274512

Yoksis Researcher ID: 1600

### Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (Dr), Turkey 1990 - 1994

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (YI) (Tezli), Turkey 1986 - 1989

Undergraduate, Akdeniz University, Isparta Mühendislik Fakültesi, Makine Mühendisliği Pr., Turkey 1981 - 1986

### Foreign Languages

English, B1 Intermediate

### Dissertations

Doctorate, 80UC-20TaC yakıtlı uzayda kullanılacak bir hibrit termiyonik nükleer güç reaktörünün kontrol mekanizmasının nötronik analizi, Gazi University, Fen Bilimleri Enstitüsü, 1994

Postgraduate, Amonyak/su ile çalışan soğurmalı soğutma sisteminin termodinamik analizi ve ısı süreçlerindeki tersinmezliklerin belirlenmesi, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (YI) (Tezli), 1989

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Professor, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2011 - Continues

Associate Professor, Gazi University, Teknik Eğitim Fakültesi, Makina Eğitimi, 2005 - 2011

Assistant Professor, Gazi University, Teknik Eğitim Fakültesi, Makina Eğitimi, 1995 - 2005

Assistant Professor, Michigan State University, Engineering, Mechanical Engineering, 2003 - 2003

Research Assistant, Gazi University, Fen Bilimleri Enstitüsü, -, 1986 - 1994

## Academic and Administrative Experience

Academic Performance D. Board Member, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - Continues

Rectorate Commissioner, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - Continues

Rectorate Commissioner, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2020 - 2021

Bölüm Akademik Teşvik Değerlendirme Komisyonu Üyesi, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2015 - 2021

Ethics Committee Member, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - 2020

Ethics Committee Member, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - 2019

Rektörlük Stratejik Plan Komisyonu Üyesi, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - 2019

Fakülte Yönetim Kurulu Üyesi, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - 2019

University Executive Board Member, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - 2019

Member of the Senate, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2017 - 2019

Gazi University, Teknoloji Fakültesi, 2017 - 2019

Gazi University, Endüstriyel Sanatlar Eğitim Fakültesi, 2017 - 2019

Gazi University, Teknik Eğitim Fakültesi, 2017 - 2019

Soruşturma Komisyonu Başkanı, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2018 - 2018

Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği Bölümü, 2016 - 2017

Fakülte Kurulu Üyesi, Gazi University, Teknik Eğitim Fakültesi, Makina Eğitimi, 2006 - 2010

Secretary of the Institute, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 1998 - 2010

Deputy Head of Department, Gazi University, Teknik Eğitim Fakültesi, Makina Eğitimi, 2003 - 2006

Assistant Director of the Institute, Gazi University, Fen Bilimleri Enstitüsü, 1995 - 1996

## Courses

Akışkanlar Mekaniği, Undergraduate, 2020 - 2021, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008, 2006 - 2007, 2005 - 2006, 2004 - 2005, 2003 - 2004, 2002 - 2003, 2001 - 2002, 2000 - 2001

Enerji Ekonomisi ve Politikaları, Postgraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011

Optimizasyon Teknikleri, Postgraduate, 2008 - 2009, 2007 - 2008, 2006 - 2007, 2005 - 2006

MÜHENDİSLİK MATEMATİĞİ, Postgraduate, 2008 - 2009, 2007 - 2008, 2006 - 2007

## Advising Theses

Sözen A., Determining the optimum photovoltaic installation angle for provinces in Turkey, Postgraduate, S.KAZEMZADEHMARAND(Student), 2023

Sözen A., Comparison of the energy performance of residences in Turkey by provinces, Postgraduate, K.Erdem(Student), 2022

Sözen A., NUMERICAL AND EXPERIMENTAL ANALYSIS OF HELICALLY-COILED HEAT EXCHANGERS, Doctorate, A.Doğuş(Student), 2022

Sözen A., DESIGN and ANALYSIS OF HYDROGEN PRODUCTION COMBINED SYSTEM FROM HYDROGEN SULFIDE WITH RENEWABLE ENERGY SOURCE, Doctorate, K.GÖK(Student), 2022

Sözen A., Within the scope of this work, Shell and Helically Coiled Tube Heat Exchangers (SHCTHEX) with different specifications were designed using the same basic geometric dimensions, then thermal performance analyses of these designs were carried out by using the Computational Fluid Dynamics (CFD) approach and the equations specific to the heat exchangers. Also, the analyses were repeated for different performance enhancement techniques and the results

were compared with the conventional design. First, the performance of two heat exchangers designed with the same basic dimensions, one with horizontal; one with vertical orientation, were examined and these two designs were compared with each other. Horizontal SHCTHEX evaluated in the thesis, outperformed the vertical design. Then, the effect of the use of Al<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub>/water nanofluid in the designed horizontal and vertical heat exchangers was analyzed. That fluid is a hybrid nanofluid and has been little studied in the literature and not studied in SHCTHEXs. The results obtained were compared with the results obtained using water and it was calculated that there was an 8-8.5% improvement in the average heat transfer amounts with the use of hybrid nanofluid. In the next step, thermal performance analyzes of an original design with the same basic dimensions, but with a different inlet position and body geometry, were carried out. In the last section, the thermal performance of the original design obtained by placing baffles consisting of rings and discs in the horizontal SHCTHEX, which is seen to have better performance, was examined. The designed baffled SHCTHEX was also manufactured in laboratory environment and examined experimentally. Experimental results were close to the simulation results. It has been calculated that there is a 7.1% increase in the average heat transfer amounts with the baffled heat exchanger design compared to the horizontal heat exchanger.

Science Code : 91412 Key Words : Heat Exchangers, Heat Transfer, CFD, simulation, experiment, Doctorate, A.GÜNGÖR(Student), 2022

Sözen A., kWh CONSUMPTION METHODOLOGY FOR ENERGY POVERTY DIAGNOSIS, Doctorate, T.EMRE(Student), 2022

Sözen A., Keçebaş ., THERMODYNAMIC ANALYSIS OF SPINELOXIDE NANOFLUID WITHOUT PRE-COOLED DIFFUSION ABSORPTION REFRIGERATION SYSTEM, Doctorate, E.Yağız(Student), 2021

SÖZEN A., Turkey's Energy And Environmental Total Factor Productivity, Postgraduate, B.Erbil(Student), 2021

Sözen A., Effectiveness Analysis Of Energy Efficiency In Buildings, Postgraduate, G.Demirsoy(Student), 2021

Sözen A., TÜRKİYE'NİN ENERJİ VE ÇEVRE TOPLAM FAKTÖR VERİMLİLİĞİ, Postgraduate, B.ERBİL(Student), 2021

SÖZEN A., Use Of Nanofluid In Heat Recovery Units, Doctorate, İ.AYTAÇ(Student), 2020

SÖZEN A., Nanoakışkanların kaynama-yoğuşma ısı transferi karakteristiklerinin deneysel ve sayısal olarak incelenmesi, Doctorate, E.ÇİFTÇİ(Student), 2020

SÖZEN A., Heat Pipe Evacuated Tubular Solar Collector Performance Improvement: Application Of Nanofluid, Doctorate, U.ÖNDER(Student), 2019

SÖZEN A., Use Of Indicators In Trade For The Products Of Energy And Precious Metal, Postgraduate, S.SADİ(Student), 2019

SÖZEN A., Experimental And Numerical Analysis Of Plate Heat Exchangers, Doctorate, A.KHANLARI(Student), 2018

SÖZEN A., Effects Of Nuclear Power Plants On Electricity Generation Planning, Postgraduate, G.KOCA(Student), 2018

SÖZEN A., Renewable Generation Effect On Electricity Market And Development Of Energy Model For Sustainable Support Mechanism, Doctorate, M.MUSTAFA(Student), 2018

SÖZEN A., The Impacts Of Fluids On Performance Containing Nanosized Metal Oxide In Solar Collectors, Doctorate, F.KILIÇ(Student), 2017

SÖZEN A., HATİPOĞLU S., Kent içi trafik sorunları ve çözümleri için yeni yaklaşımlar/UTY stratejileri: Priştine örneği, Doctorate, B.KIZOLLI(Student), 2017

Sözen A., New Approaches For Urban Traffic Problems And Solutions / Tdm Strategies: The Case Study Of Pristina, Doctorate, B.Kizolli(Student), 2017

SÖZEN A., The Comparison Of Turkey'S Energy Performance With Oecd And Brics Countries, Doctorate, F.KARIK(Student), 2017

SÖZEN A., Determination of Performance of The Heat Wheel Via Cfd, Postgraduate, E.ÇİFTÇİ(Student), 2016

Sözen A., Natural Gas Storage In Underground Salt Domes With Solution Mining, Postgraduate, G.Mücahit(Student), 2016

SÖZEN A., Çözelti madenciliği ile yer altı tuz domlarında doğal gaz depolama, Postgraduate, G.MÜCAHİT(Student), 2016

SÖZEN A., GÜRÜ M., The Influence Of Absorbents On The Cooling Performance Of Diffusion Absorption Mini-Refrigeration Systems, Postgraduate, S.ÖZTAŞ(Student), 2015

SÖZEN A., Acil durum araçlarının yeterliliği, trafikte davranış biçimleri ve bu araçlardan beklenen hizmet kalitesi, Postgraduate, İ.BÜTÜN(Student), 2015

SÖZEN A., Effect on traffic solution of traffic direction signs in Ankara, Postgraduate, İ.SAĞIR(Student), 2014

SÖZEN A., Eş merkezli iç içe borulu paralel ve karşıt akışlı ısı değiştiricilerde alümina nanoakışkan kullanılarak ısı performansının artırılması, Postgraduate, İ.AYTAÇ(Student), 2014

SÖZEN A., KURT M., The new decision making system in data envelopment analysis, Doctorate, A.MİRZAPOUR(Student),

2014

- SÖZEN A., Determination of the traffic development levels of provinces, Postgraduate, H.KUMCU(Student), 2014
- Sözen A., Yavuzcan H. G., Numerical analysis of the effects of francis turbine design and blade angle on the constructional turbine parameters, Doctorate, S.KEÇEL(Student), 2013
- SÖZEN A., Turkey's total factor productivity of CO2 emission, Postgraduate, G.ÜNAL(Student), 2012
- SÖZEN A., Risk management of Turkey's greenhouse gas emissions under the framework of kyoto protocol, Doctorate, Ö.SELVİTOP(Student), 2012
- SÖZEN A., Ankara'daki özel sürücü kurslarının performans değerlendirmesi, Postgraduate, M.ALPARSLAN(Student), 2011
- SÖZEN A., Total factor productivity of highway transportation system and analysis of the European union position, Doctorate, F.CİPİL(Student), 2011
- SÖZEN A., Hidroelektrik santrallerin toplam faktör verimliliği, Doctorate, C.KILINÇ(Student), 2011
- SÖZEN A., AB uyum sürecinde demiryolu göstergeleri bakımından Türkiye'nin konumunun çok değişkenli istatistiksel yöntemlerle incelenmesi, Doctorate, B.KURT(Student), 2010
- SÖZEN A., Termik santrallerin işletme, üretim ve çevresel etki performans skorları, Doctorate, A.ÖZDEMİR(Student), 2010
- Sözen A., TÜRKİYE ENERJİ SEKTÖRÜNDE TOPLAM FAKTÖR VERİMLİLİĞİ VE ULUSLAR ARASI KONUM ANALİZİ, Doctorate, F.Şinasi(Student), 2010
- SÖZEN A., Yayınımlı soğurmalı soğutma sistemi tasarımı, imali, deneysel ve teorik analizi ile performans iyileştirilmesi, Doctorate, E.ÖZBAŞ(Student), 2009
- YÜCESU H. S., SÖZEN A., Enerji kullanımının bölgesel ve sektörel dağılımının çok değişkenli istatistiksel analizi, Doctorate, M.TARIK(Student), 2008
- SÖZEN A., IMPACT OF DRIVER PERSONALITY ON PROBABILITY OF MAKING AN ACCIDENT IN TRAFFIC: A STATISTICAL ANALYSIS, Doctorate, C.HASANHANOĞLU(Student), 2008
- SÖZEN A., Zeki modeller kullanılarak enerji projeksiyonu ve çevresel (sera) etkilerinin belirlenmesi ve ekonomik göstergelerle ilişkilendirilmesi, Doctorate, H.ZAFER(Student), 2008
- SÖZEN A., Türkiye'de ulaşım göstergelerinin iller bazında çok değişkenli analiz teknikleri yardımı ile karşılaştırılması, Doctorate, M.DARÇIN(Student), 2006
- SÖZEN A., Karayollarında trafik kazalarının önlenmesi için geliştirilmiş araç teknolojilerinin incelenmesi, Postgraduate, M.ERDEM(Student), 2006
- SÖZEN A., Aşırı yüklenmiş ağır vasıtaların denetiminde kullanılan modern teknikler, Postgraduate, E.BÜYÜK(Student), 2006
- SÖZEN A., Avrupa Birliği ülkeleri ile Türkiye'nin trafik denetim stratejilerinin karşılaştırılması, Postgraduate, A.ÖZKARA(Student), 2005
- SÖZEN A., Türkiye'nin ulaştırma politikalarının Avrupa Birliği sürecine uyumu bakımından irdelenmesi, Doctorate, D.DOĞANER(Student), 2005
- SÖZEN A., Tehlike değerlendirme teknikleri ile Türkiye taş kömürü işletmelerinin kaza analizi, Postgraduate, M.SEVER(Student), 2005
- SÖZEN A., İstanbul Boğazı'ndaki deniz kazalarının seyir ve çevre güvenliği açısından analizi ve zararsız geçiş koşullarında değerlendirilmesi, Doctorate, N.JALE(Student), 2005
- SÖZEN A., Etkin trafik denetim stratejileri ve ülkemizde uygulama koşulları, Postgraduate, H.ALTINTAŞ(Student), 2005
- SÖZEN A., Alternatif çalışma alışkanlıkları ile çalışan ejektörlü-absorbsiyon soğutma sisteminin yapay sinir ağları kullanılarak termodinamik analizi, Doctorate, M.ÖZALP(Student), 2004
- SÖZEN A., Ankara ilinde bulunan köprülü kavşakların trafik kazalarını azaltma yönündeki etkileri, Postgraduate, İ.İÇER(Student), 2004
- SÖZEN A., Bir güneş kolektörünün yapay sinir ağları ile modellenmesi, Postgraduate, S.ÜNVAR(Student), 2004
- SÖZEN A., Güvenli sürüş için trafik denetimine yeni yaklaşımlar ve öneriler, Postgraduate, A.ZEYTİN(Student), 2004
- SÖZEN A., Şehir içi kavşaklarda meydana gelebilecek kazaların tahmini için bir model, Postgraduate, A.ERTUĞRUL(Student), 2004
- SÖZEN A., Uçak tasarımında aktif kontroller, Postgraduate, Ü.İSKENDER(Student), 2003
- SÖZEN A., Güneş potansiyelinin tahmininde yapay sinir ağlarının kullanılması, Postgraduate, E.GALİP(Student), 2003

SÖZEN A., Ağırlıklandırılmış ortalamalardan sapma tekniği ile kömür işletmelerinde meydana gelen kazaların tehlike değerlendirilmesi, Postgraduate, E.KARAKAYA(Student), 2002

SÖZEN A., Doğalgaz ile elektrik enerjisi üretimi ve ekonomik analizi, Postgraduate, K.KARAKAŞ(Student), 2002

SÖZEN A., Özel sürücü kurslarında verilen eğitimin trafik kazalarına etkisi, Postgraduate, M.TÜRKOĞLU(Student), 2002

SÖZEN A., Ozon tabakasına zarar vermeyen alternatif soğutucu akışkanları kullanan absorpsiyonlu soğutma sisteminin termodinamik analizi, Postgraduate, E.ÖZSOY(Student), 2002

SÖZEN A., Ankara'nın şehiriçi ulaşım sorunları ve çözümü için yeni yaklaşımlar, Postgraduate, M.ALBAYRAK(Student), 2002

SÖZEN A., İşletmelerde çevre ve zararlı atık yönetiminin kaza riskleri üzerindeki etkileri, Postgraduate, B.GÖREN(Student), 2001

SÖZEN A., Strateji, strateji oluşumu, stratejik yönetim ve trafikte strateji, Postgraduate, A.AKGÜN(Student), 2001

SÖZEN A., Ağırlıklandırılmış ortalamalardan sapma tekniğinin enerji santrallerindeki kazalara uygulanması, Postgraduate, N.KÜRŞAD(Student), 2001

SÖZEN A., Boğazlardaki deniz kazalarının tehlike değerlendirme teknikleri ile analizi, Postgraduate, M.ÖZTÜRK(Student), 2001

SÖZEN A., BORAN K., The Knowledge, attitude and behaviours of traffic polices about first aid in Ankara, Postgraduate, H.TUBA(Student), 2000

SÖZEN A., İş yerindeki stresin çalışanın performansına etkisi, Postgraduate, D.TEKSİN(Student), 2000

SÖZEN A., Türkiye'deki enerji santrallerinin çevre etkilerinin karşılaştırılması, Postgraduate, R.KURTOĞLU(Student), 2000

SÖZEN A., İmalat sistemlerindeki iş kazalarının tahmini için "ağırlıklandırılmış ortalamalardan sapma" tekniği, Doctorate, H.CEYLAN(Student), 2000

SÖZEN A., Bursa ve civarında çelik döküm yapan işyerlerindeki kazalar ve önleme tedbirleri, Postgraduate, B.PİŞKİN(Student), 1999

SÖZEN A., Hava araçlarındaki kazalara hata ağacı analizi yöntemi uygulanarak kaza nedenlerinin belirlenmesi, Doctorate, M.ÖZSU(Student), 1999

SÖZEN A., Enerji santrallerinin aynı seviyeye getirilmiş maliyet metodu ile karşılaştırılması, Postgraduate, O.YALCIN(Student), 1998

SÖZEN A., Çoklu döküman görüntü modeline dayalı kullanıcı ara birimi ve çizim uygulamaları geliştirme, Postgraduate, S.ERDEN(Student), 1998

SÖZEN A., Silah mühimmat ve araç sistemlerinin kaza nedenleri yönünden incelenmesi ve TAM-KAR sisteminde kaza nedenlerinin belirlenmesi, Doctorate, B.KARAN(Student), 1997

SÖZEN A., Farklı çalışma akışkanları kullanan absorpsiyonlu sıcaklık yükselteçlerinin termodinamik analizi, Postgraduate, M.ERDOĞAN(Student), 1997

SÖZEN A., Uzayda kullanılacak nükleer güç reaktörünün kontrol mekanizmasındaki sıcaklık dağılımının sonlu farklar metodu ile hesaplanması, Postgraduate, T.POLAT(Student), 1996

## **Jury Memberships**

Award, Liselerarası Enerji Verimliliği Yarışması, Gazi University, September, 2023

Award, Sanayide Enerji Verimliliği Yarışması, Gazi University, May, 2023

Award, Liseler arası Enerji Verimliliği yarışması, Gazi University, September, 2022

Award, Sanayide Enerji Verimliliği Yarışması, Gazi University, May, 2022

Associate Professor Exam, Associate Professor Exam, Gazi Üniversitesi, August, 2021

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Karabük Üniversitesi, July, 2021

Award, Proje Yarışması, Gazi University, June, 2021

Award, Proje Yarışması, Gazi University, June, 2021

Award, Gazi University, June, 2021

Committee Of Expert, Committee Of Expert, Gazi University, May, 2021

Committee Of Expert, Committee Of Expert, Gazi University, May, 2021

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Fırat Üniversitesi, January, 2021

Award, Proje Yarışması, Energy and Natural Resources Ministry, June, 2020  
Award, Proje Yarışması, TÜBİTAK, June, 2020  
Award, Proje Yarışması, Energy and Natural Resources Ministry, April, 2020  
Associate Professor Exam, Associate Professor Exam, Gazi University, March, 2020  
Associate Professor Exam, Associate Professor Exam, ÜAK, March, 2020  
Associate Professor Exam, Associate Professor Exam, Gazi University, March, 2020  
Associate Professor Exam, Associate Professor Exam, Gazi University, March, 2020  
Associate Professor Exam, Associate Professor Exam, Gazi University, March, 2020  
PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Gazi Üniversitesi, January, 2020  
PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Gazi Üniversitesi, January, 2020  
Competition, LİSE ÖĞRENCİLERİ ENERJİ VERİMLİLİĞİ YARIŞMASI, Energy and Natural Resources Ministry, May, 2019  
Competition, SANAYİDE ENERJİ VERİMLİLİĞİ YARIŞMASI (SANVER), Energy and Natural Resources Ministry, March, 2019

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

- I. **IMPROVING THERMAL AND ELECTRICITY GENERATION PERFORMANCE OF PHOTOVOLTAIC/THERMAL (PV/T) SYSTEMS USING HYBRID NANOFLUID**  
Sözen A.  
HEAT TRANSFER RESEARCH, vol.55, no.8, pp.1-13, 2024 (SCI-Expanded)
- II. **CFD analysis and experimental investigation to determine the flow characteristics around NACA 4412 airfoil blades at different wind speeds and blade angles**  
Afshari F., Khanlari A., SÖZEN A., Tuncer A. D., Ates I., Şahin B.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART E-JOURNAL OF PROCESS MECHANICAL ENGINEERING, vol.237, no.5, pp.1915-1925, 2023 (SCI-Expanded)
- III. **AN EXPERIMENTAL INVESTIGATION TO PREDICT OPTIMUM CHARGE OF A HEAT PUMP SYSTEM**  
Afshari F., Khanlari A., Tuncer A. D., Soezen A.  
HEAT TRANSFER RESEARCH, vol.54, no.5, pp.1-13, 2023 (SCI-Expanded)
- IV. **Experimental study on the utilization of magnetic nanofluids in an air-to-air heat pipe heat exchanger**  
Babat R. A. A., Martin K., ÇİFTÇİ E., SÖZEN A.  
CHEMICAL ENGINEERING COMMUNICATIONS, vol.210, no.5, pp.687-697, 2023 (SCI-Expanded)
- V. **EVALUATION OF A NOVEL TWO-PHASE CLOSED THERMOSYPHON SYSTEM UTILIZING NiFe<sub>2</sub>O<sub>4</sub>/DW, Fe<sub>3</sub>O<sub>4</sub>/DW, Fe<sub>2</sub>O<sub>3</sub>/DW MAGNETIC NANOFLUIDS**  
Babat R. A. A., Sözen A., Çakır M. T.  
Heat Transfer Research, vol.54, no.12, pp.15-37, 2023 (SCI-Expanded)
- VI. **Experimental and numerical analysis of a grooved hybrid photovoltaic-thermal solar drying system**  
Tuncer A. D., Khanlari A., Afshari F., Sözen A., Çiftçi E., Kusun B., Sahinkesen I.  
APPLIED THERMAL ENGINEERING, vol.218, 2023 (SCI-Expanded)
- VII. **EXPERIMENTAL STUDY ON IMPROVING HEAT TRANSFER ABILITY OF A HEAT PIPE UTILIZING IRON OXIDE-FERRIC OXIDE HYBRID AND NICKEL FERRITE MONO-MAGNETIC NANOFLUIDS**  
Babat R. A. A., Soezen A.  
HEAT TRANSFER RESEARCH, vol.54, no.6, pp.1-19, 2023 (SCI-Expanded)
- VIII. **Upgrading the performance of shell and helically coiled heat exchangers with new flow path by using TiO<sub>2</sub>/water and CuO-TiO<sub>2</sub>/water nanofluids**  
Tuncer A. D., Khanlari A., SÖZEN A., Gurbuz E. Y., VARİYENLİ H. İ.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.183, 2023 (SCI-Expanded)
- IX. **Numerical and experimental study on thermal performance of a novel shell and helically coiled tube heat exchanger design with integrated rings and discs**  
Gungor A., Khanlari A., SÖZEN A., VARİYENLİ H. İ.

INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.182, 2022 (SCI-Expanded)

- X. **Enhancement of Heat Transfer Performance of a Heat Pipe by Using Calcium Magnesium Carbonate-Ethylene Glycol/Water Nanofluid with Sodium Dodecylbenzene Sulfonate**  
Aydin D. Y., Gürü M., Sözen A.  
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- XI. **Numerical and experimental investigation of a solar absorber extension tube with turbulators for upgrading the performance of a solar dryer**  
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Alp İ., Sözen A., Menlik T., Company, ELEKTRONİK ÖN ÖDEMELİ KARTLI DOĞALGAZ SAYAÇLARINDAKİ METROLOJİK DEĞERLER KULLANILARAK ANALİTİK METODLARLA SAYAÇLARIN ÖLÇME HASSASİYETLERİ VE ÖMÜRLERİ HAKKINDA DURUM TESPİT PROJESİ, 2016 - 2016

Menlik T., Sözen A., Chamber / Union / Professional Association, DOĞALGAZ SAYAÇLARINDA YAŞLANDIRMANIN ETKİSİYLE EL EDEİLEN METROLOJİK DEĞERLER KULLANILARAK TÜRKİYE DOĞAL GAZ DAĞITIM ŞEBEKESİNİN TEKNİK KAYBININ DEĞERLENDİRİLMESİNDE KULLANILACAK SAYAÇ KAYNAKLI KAYIP ORANININ TESPİT PROJESİ, 2016 - 2016

Sözen A., Project Supported by Other Official Institutions, ŞANLIURFA E TİPİ KAPALI CEZA İNFAZ KURUMU HAVALANDIRMA SOĞUTMA VE DUMAN TAHLİYE SİSTEMİ PROJESİ, 2013 - 2015

Sözen A., Güneş A., TUBITAK Project, YÜKSEK ENERJİ TASARRUFU VE DÜŞÜK KURUTMA SÜRESİNE SAHİP ULUSLARARASI HİJYEN STANDARTLARINA UYGUN YERLİ VAKUMLU ISI POMPALI GIDA KURUTUCUSU GELİŞTİRME PROJESİ, 2013 - 2015

Sözen A., Project Supported by Higher Education Institutions, DİFUZYONLU ABSORPSİYONLU MİNİ SOĞUTUCULARDA FARKLI SOĞUTUCU GAZLARIN PERFORMANSA ETKİSİ, 2012 - 2014

Sözen A., Energy and Natural Resources Ministry, Ev tipi absorpsiyonlu difüzyonlu ejektörlü soğutma sistemi tasarımı ve imali, 2012 - 2014

Sözen A., Özdemir V., Industrial Thesis Project, Ev Tipi Alternatif Enerji Kaynaklı Ejektörlü-Difüzyonlu Absorpsiyon

Soğutma Sistemi Tasarım Ve İmalı, 2012 - 2014

Sözen A., TUBİTAK Project, Otel Tipi Difüzyonlu-Absorbsiyonlu Mini Soğutucularda Kullanılan Akışkan Çiftlerinin (Soğutucu-Soğurucu) Sistem Performansına Etkisinin Deneysel Olarak Araştırılması, 2012 - 2013

Sözen A., Project Supported by Higher Education Institutions, BULAŞIK MAKİNALARINDA EJEKTÖR KULLANIMI İLE SUYA OZON KARIŞIM SİSTEMİ TASARIMI, 2011 - 2013

SÖZEN A., Project Supported by Higher Education Institutions, TÜRKİYE İÇİN ENERJİ VE ÇEVRE MODELİ GELİŞTİRİLMESİ, 2010 - 2012

Sözen A., TUBİTAK Project, Otel tipi mini soğutucularda akışkan çiftlerinin soğutucu soğurucu performans üzerine etkilerinin deneysel incelenmesi, 2010 - 2011

Sözen A., Project Supported by Higher Education Institutions, BÖLGESEL OPTİMUM İZOLASYON KALINLIĞININ TESPİTİ, 2008 - 2009

SÖZEN A., Project Supported by Higher Education Institutions, Buzdolabı Tipi Absorpsiyonlu, Ejektörlü ve Üç Gazlı Soğutucu Tasarımı ve İmalı, 2007 - 2009

Sözen A., Project Supported by Higher Education Institutions, Çatı Güneş Kolektörlü Klima Tasarımı, 2005 - 2007

SÖZEN A., Project Supported by Higher Education Institutions, Ozon Tabakasına Zarar Vermeyen Alternatif Soğutucu Akışkanlar Kullanan ve Sanayideki Atık Isı Enerjisinin Geri Kazanımı Sistemine Dayalı Soğutma ve Isıtma Sistemleri Tasarımı, 2003 - 2005

SÖZEN A., Project Supported by Higher Education Institutions, Güneş enerjili soğutma sistemi tasarımı, 2001 - 2003

## Activities in Scientific Journals

INTERNATIONAL JOURNAL OF AMBIENT ENERGY, Assistant Editor/Section Editor, 2021 - Continues

First Editor, 2021 - Continues

JOURNAL OF ENVIRONMENTAL SCIENCE AND ENGINEERING TECHNOLOGY, Assistant Editor/Section Editor, 2015 - Continues

POLİTEKNİK, First Editor, 2014 - Continues

Current Alternative Energy, First Editor, 2020 - 2023

SUSTAINABILITY, Special Issue Editor, 2021 - 2022

TECHNICS, First Editor, 2019 - 2022

Energy Sources Part A-Recovery Utilization And Environmental Effects, Committee Member, 2012 - 2018

## Memberships / Tasks in Scientific Organizations

Isı Bilimi ve Tekniği Derneği, Member, 1990 - Continues, Turkey

TMMOB Makina Mühendisleri Odası, Member, 1986 - Continues, Turkey

Bilim ve Teknoloji Derneği, Member, 2003 - 2020, Turkey

TÜRK BİLİM ARAŞTIRMA VAKFI, Member, 2000 - 2015, Turkey

NATO AGARD UÇUŞ ARAÇLARI ENTEGRASYONU PANELİ, Principal Member, 1995 - 1997, Belgium

## Scientific Refereeing

SOLAR ENERGY INTERNATIONAL JOURNAL FOR SCIENTISTS, ENGINEERS AND TECHNOLOGISTS IN SOLAR ENERGY AND ITS APPLICATION, SCI Journal, September 2023

CHEMICAL COMMUNICATIONS, SCI Journal, August 2023

JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, SCI Journal, August 2023

HELIYON, SCI Journal, August 2023

JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, SCI Journal, August 2023

HEAT TRANSFER RESEARCH, Journal Indexed in SCI-E, July 2023

JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, SCI Journal, April 2023  
HEAT TRANSFER RESEARCH, Journal Indexed in SCI-E, April 2023  
INTERNATIONAL JOURNAL OF NUMERICAL METHODS FOR HEAT AND FLUID FLOW, SCI Journal, March 2023  
ENERGY JOURNAL, SCI Journal, January 2023  
SOLAR ENERGY, SCI Journal, February 2022  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, Journal Indexed in SCI-E, February 2022  
SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS, Journal Indexed in SCI-E, February 2022  
ENERGY EFFICIENCY, Journal Indexed in SCI-E, January 2022  
DIAMOND AND RELATED MATERIALS, Journal Indexed in SCI-E, January 2022  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, Journal Indexed in SCI-E, January 2022  
DESALINATION, Journal Indexed in SCI-E, January 2022  
ENERGIES, Journal Indexed in SCI-E, January 2022  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, SCI Journal, January 2022  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, SCI Journal, December 2021  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, SCI Journal, December 2021  
THERMAL SCIENCE AND ENGINEERING PROGRESS, Journal Indexed in SCI-E, December 2021  
EXPERT SYSTEMS WITH APPLICATIONS, SCI Journal, December 2021  
WAVES IN RANDOM AND COMPLEX MEDIA, Journal Indexed in SCI-E, December 2021  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, SCI Journal, December 2021  
DESALINATION AND WATER TREATMENT, Journal Indexed in SCI-E, December 2021  
International Journal of Ambient Energy, Journal Indexed in ESCI, December 2021  
ENERGY, SCI Journal, December 2021  
JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, Journal Indexed in SCI-E, December 2021  
ALEXANDRIA ENGINEERING JOURNAL, Journal Indexed in SCI-E, December 2021  
Cleaner Engineering and Technology, Journal Indexed in ESCI, December 2021  
ALEXANDRIA ENGINEERING JOURNAL, Journal Indexed in SCI-E, November 2021  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, SCI Journal, November 2021  
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PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE, SCI Journal, October 2021

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CHEMICAL ENGINEERING AND PROCESSING, Journal Indexed in SCI-E, October 2021

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Journal of Engineering and Applied Science, Journal Indexed in ESCI, October 2021

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ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS, SCI Journal, August 2021

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TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Gazi University, Turkey, August 2021  
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ENERGY, SCI Journal, July 2021  
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Technopark, Gazi University, Turkey, June 2021  
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SCIENCE OF THE TOTAL ENVIRONMENT, SCI Journal, May 2021  
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JOURNAL OF FOOD PROCESS ENGINEERING, SCI Journal, April 2021  
ENGINEERING APPLICATIONS OF COMPUTATIONAL FLUID MECHANICS, SCI Journal, April 2021  
INTERNATIONAL JOURNAL OF GREEN ENERGY, Journal Indexed in SCI-E, March 2021  
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Frontiers in Energy, Journal Indexed in ESCI, March 2021  
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INTERNATIONAL JOURNAL OF REFRIGERATION-REVUE INTERNATIONALE DU FROID, Journal Indexed in SCI-E, March 2021  
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ENGINEERING APPLICATIONS OF COMPUTATIONAL FLUID MECHANICS, Journal Indexed in SCI-E, January 2021  
TRANSPORT POLICY, Journal Indexed in SCI-E, January 2021  
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PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART A-JOURNAL OF POWER AND ENERGY, Journal Indexed in SCI-E, December 2020  
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JOURNAL OF FOOD PROCESS ENGINEERING, Journal Indexed in SCI-E, December 2020  
CANADIAN JOURNAL OF CHEMICAL ENGINEERING, Journal Indexed in SCI-E, December 2020  
ENERGY, SCI Journal, November 2020  
Project Supported by Higher Education Institutions, BAP Research Project, Ataturk University, Turkey, November 2020  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, SCI Journal, September 2020  
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Project Supported by Higher Education Institutions, BAP Research Project, Ataturk University, Turkey, September 2020  
ENERGY, SCI Journal, August 2020  
HEAT TRANSFER RESEARCH, SCI Journal, July 2020  
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JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, Journal Indexed in SCI-E, July 2020

ENERGY, SCI Journal, May 2020  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, SCI Journal, May 2020  
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INTERNATIONAL JOURNAL OF PHOTOENERGY, Journal Indexed in SCI-E, November 2019  
PROGRESS IN NUCLEAR ENERGY, SCI Journal, August 2019  
ACTA OECOLOGICA-INTERNATIONAL JOURNAL OF ECOLOGY, SCI Journal, July 2019  
COMPUTATIONAL INTELLIGENCE AND NEUROSCIENCE, Journal Indexed in SCI-E, March 2019  
IRANIAN POLYMER JOURNAL, Journal Indexed in SCI-E, February 2019  
JOURNAL OF CLEANER PRODUCTION, SCI Journal, January 2019  
INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL, Journal Indexed in SCI-E, October 2018  
MAEJO INTERNATIONAL JOURNAL OF SCIENCE AND TECHNOLOGY, Journal Indexed in SCI-E, August 2018  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, National Scientific Refreed Journal, July 2018  
INTERNATIONAL JOURNAL OF PHOTOENERGY, Journal Indexed in SCI-E, May 2018  
HEAT AND MASS TRANSFER, SCI Journal, May 2018  
MEASUREMENT, SCI Journal, January 2018  
ENERGIES, SCI Journal, January 2018  
INTERNATIONAL JOURNAL OF GLOBAL WARMING, Journal Indexed in SCI-E, May 2017  
SCIENTIFIC RESEARCH AND ESSAYS, Journal Indexed in SCI-E, May 2017  
SOLAR ENERGY, Journal Indexed in SCI-E, May 2017  
METEOROLOGY AND ATMOSPHERIC PHYSICS, Journal Indexed in SCI-E, April 2017  
INTERNATIONAL JOURNAL OF MULTIPHASE FLOW, Journal Indexed in SCI-E, July 2016  
ECOLOGICAL INDICATORS, Journal Indexed in SCI-E, June 2016  
Akışkanlar Mekaniği: Temelleri ve Uygulamaları, Textbook Published by Renowned Publishing Houses, May 2016  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, Journal Indexed in SCI-E, April 2016  
DESALINATION AND WATER TREATMENT, Journal Indexed in SCI-E, November 2015  
ATMOSPHERIC ENVIRONMENT, Journal Indexed in SCI-E, September 2015  
CLIMATIC CHANGE, Journal Indexed in SCI-E, April 2015  
POWDER TECHNOLOGY, Journal Indexed in SCI-E, July 2014  
ENVIRONMETRICS, Journal Indexed in SCI-E, May 2014  
INTERNATIONAL JOURNAL OF EXERGY, Journal Indexed in SCI-E, May 2014  
IET RENEWABLE POWER GENERATION, Journal Indexed in SCI-E, February 2014  
EXPERIMENTAL THERMAL AND FLUID SCIENCE, Journal Indexed in SCI-E, January 2014  
JOURNAL OF THE ENERGY INSTITUTE, Journal Indexed in SCI-E, August 2013

## **Scientific Consultations**

YÜKSEL İNŞAAT, Scientific Consultancy, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, Turkey, 2017 - 2017

## **Tasks In Event Organizations**

Sözen A., 11.ECRES, Scientific Congress, Riga, Latvia, Mayıs 2023

Sözen A., İKLİM ŞURASI, Scientific Congress, Konya, Turkey, Şubat 2022

Sözen A., 1 ST INTERNATIONAL CONFERENCE ON APPLIED ENGINEERING AND NATURAL SCIENCES , Scientific Congress, Konya, Turkey, Kasım 2021

Sözen A., ULIBTK 2021, Scientific Congress, Gaziantep, Turkey, Eylül 2021

Sözen A., Uluslararası Katılımlı 23. Isı Bilimi ve Tekniği Kongresi, Scientific Congress, Gaziantep, Turkey, Eylül 2021

Sözen A., INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS SCIENCE & ENGINEERING AND HIGH TECH DEVICE APPLICATIONS, Scientific Congress, Ankara, Turkey, Ekim 2020

Sözen A., 8th European Conference on Renewable Energy Systems (ECRES2020), Scientific Congress, İstanbul, Turkey, Ağustos 2020

Sözen A., 8.European Conference on Renewable Energy Systems, Scientific Congress, İstanbul, Turkey, Ağustos 2020

Sözen A., ULIBTK 2019, Scientific Congress, Kocaeli, Turkey, Eylül 2019

Sözen A., 1st International Symposium On Automotive Science And Technology(ISASTECH2019), Scientific Congress, Ankara, Turkey, Eylül 2019

Sözen A., Seventh European Conference on Renewable Energy Systems (ECRES2019, Scientific Congress, Madrid, Spain, Haziran 2019

Sözen A., 6. ULUSLARARASI MATBAA TEKNOLOJİLERİ SEMPOZYUMU, Scientific Congress, İstanbul, Turkey, Kasım 2018

Sözen A., SÜRDÜRÜLEBİLİR ULAŞIM İÇİN ULUSAL YOL VE TRAFİK GÜVENLİĞİ KONGRESİ, Scientific Congress, Ankara, Turkey, Haziran 2016

Sözen A., 3.Anadolu Enerji Kongresi, Scientific Congress, Eskişehir, Turkey, Ekim 2015

## Scientific Research / Working Group Memberships

Tübitak Çağrılı Projeler Danışma Kurulu., Gazi University, Türkiye, [www.tubitak.gov.tr](http://www.tubitak.gov.tr), 2018 - 2020

## Metrics

Publication: 258

Citation (WoS): 4583

Citation (Scopus): 5786

H-Index (WoS): 43

H-Index (Scopus): 47

## Congress and Symposium Activities

INTERNATIONAL HIGHER EDUCATION SYMPOSIUM & THE PRESENT AND FUTURE OF EDUCATION IN UNIVERSITIES , Invited Speaker, Ankara, Turkey, 2024

9th International Conference on Time Series and Forecasting (ITISE-2023), Working Group, Granada, Spain, 2023

ICMECE 2021, Invited Speaker, Ankara, Turkey, 2021

Uluslararası Katılımlı 23. Isı Bilimi ve Tekniği Kongresi, Session Moderator, Gaziantep, Turkey, 2021

ULIBTK 2021, Panelists, Gaziantep, Turkey, 2021

International Symposium on Automotive Science and Technology, Session Moderator, Ankara, Turkey, 2021

NATO RESEARCH And TECHNOLOGY, SYSTEMS CONCEPTS AND INTEGRATION PANEL, Invited Speaker, Paris, France, 1997

## Scholarships

Doktora Bursu, Other Government Agencies, 1990 - 1994

## **Awards**

- Sözen A., Yayın Teşvik Ödülü, Tübitak, November 2021  
Sözen A., Yayın teşvik ödülü, Tübitak, June 2021  
Sözen A., Atıf Ödülü, Gazi Üniversitesi, June 2021  
Sözen A., Yayın Teşvik, Gazi Üniversitesi, June 2021  
Sözen A., YAYIN TEŞVİK , Tübitak, August 2020  
Sözen A., YAYIN TEŞVİK, Tübitak, December 2019  
Sözen A., OUTSTANDING REVIEWER AWARDS 2019, Iop Publishing, January 2019  
Sözen A., YAYIN TEŞVİK, Tübitak, August 2018  
Sözen A., YAYIN TEŞVİK, Tübitak, July 2017  
Sözen A., YAYIN TEŞVİK, Tübitak, June 2016  
Sözen A., YAYIN TEŞVİK, Tübitak, May 2015  
Sözen A., Variyenli H. İ., Kendi Elektrikliğini Üreten Kombi, Gazi Üniversitesi İu.Bilim Şenliği, May 2015  
Sözen A., YAYIN TEŞVİK, Tübitak, April 2014  
Sözen A., YAYIN TEŞVİK, Tübitak, May 2013  
Sözen A., YAYIN TEŞVİK, Tübitak, March 2012  
Sözen A., YAYIN TEŞVİK, Tübitak, June 2011  
Sözen A., EREŞ F., YAYIN TEŞVİK, Tübitak, June 2010

## **Visual Activities**

- Sözen A., Politeknik Dergisi, Journal Publishing, 2012 - 2023  
Sözen A., Gazi Mühendislik Bilimleri Dergisi, Journal Publishing, 2015 - 2017  
Sözen A., Journal of Science, Journal Publishing, 1992 - 1997  
Sözen A., Fen Bilimleri Enstitüsü Tez Özetleri Kitaplığı, Journal Publishing, 1992 - 1995

## **Representation and Promotion Activities**

- Institutional Representation, Kocaeli Üniversitesi, Turkey, Kocaeli, 2017 - 2019