

## Asst. Prof. ONUR AKAR

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: CAA-2873-2022

ScopusID: 57215411486

Yoksis Researcher ID: 58359

### Education Information

Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Electrical and Electronics Engineering, Turkey 2017 - 2020

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik - Elektronik Mühendisliği , Turkey 2015 - 2017

Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Electrical Education, Turkey 2008 - 2011

Undergraduate, Marmara University, Faculty of Technical Education, Electric Education, Turkey 2001 - 2005

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Mevcut ve Yeni İnşa Edilecek Dağıtım Trafolarının Konum ve Güç Değerlerinin Kapsama Alanı Tabanlı Eniyilemesi, Marmara University, Institute For Graduate Studies İn Pure And Applied Sciences, 2020

Postgraduate, Akıllı yapılarda yenilenebilir enerji kaynakları tabanlı elektrik üretimi ve kullanımının teknik ve ekonomik analizi, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, 2011

### Research Areas

Control Systems and Instrumentation, Lighting Technology, Generating Stations and Plants, Electric Power Transmission, Distribution and Protection, Renewable energy

### Academic Titles / Tasks

Assistant Professor, Marmara University, Vocational School of Technical Sciences, Electronics and Automation, 2022 - Continues

Assistant Professor, Istanbul Gedik University, Gedik Vocational School, Department Of Electricity And Energy, 2021 -

2022

Lecturer, Istanbul Gedik University, Gedik Vocational School, Department Of Electronics And Automation, 2010 - 2021

Lecturer, Istanbul Gedik University, Gedik Vocational School, Department Of Electricity And Energy, 2011 - 2015

## Academic and Administrative Experience

Head of Department, Istanbul Gedik University, Gedik Vocational School, Department Of Electricity And Energy, 2021 - 2022

Program Başkanı, Istanbul Gedik University, Gedik Vocational School, Department Of Electricity And Energy, 2012 - 2015

MYO Yönetim Kurulu Üyesi, Istanbul Gedik University, Gedik Vocational School, 2012 - 2012

## Courses

ENERJİ DAĞITIM HATLARI, Undergraduate, 2023 - 2024

Alternatif Akım Devre Analizi, Associate Degree, 2022 - 2023

YENİLENEBİLİR ENERJİ KAYNAKLARINDA DÖNÜŞÜM VE DEPOLAMA, Postgraduate, 2022 - 2023

ENERJİ EKONOMİSİ VE YÖNETİMİ, Undergraduate, 2022 - 2023

Endüstriyel Otomasyon ve Uygulamaları, Associate Degree, 2022 - 2023

Elektromekanik Kumanda Sistemleri, Associate Degree, 2022 - 2023

Elektrik Enerjisi Üretim, İletim ve Dağıtım, Associate Degree, 2021 - 2022

Doğru Akım Devre Analizi, Associate Degree, 2022 - 2023

Programlanabilir Denetleyiciler, Associate Degree, 2021 - 2022

DAĞITIM TRAFOLARINDA PLANLAMA VE OPTİMİZASYON, Postgraduate, 2022 - 2023

Programlanabilir Denetleyiciler, Associate Degree, 2021 - 2022

Elektrik Devreleri 1, Associate Degree, 2021 - 2022

Bilgisayar Destekli Elektrik Tesisat Çizimi, Associate Degree, 2021 - 2022

Alternatif Akım Devre Analizi, Associate Degree, 2020 - 2021

Kontrol Kumanda Sistemleri ve Uygulamaları, Associate Degree, 2019 - 2020

Doğru Akım Devre Analizi, Associate Degree, 2020 - 2021

Enerji Bilgisi, Associate Degree, 2018 - 2019

İleri Kontrol Teknolojisi, Associate Degree, 2017 - 2018

Devre Analizi, Associate Degree, 2017 - 2018

Aydınlatma ve İç Tesisat, Associate Degree, 2013 - 2014

## Advising Theses

Akar O., Terzi Ü. K., Enerji Depolama Sistemli Akıllı Şebekelerde Güç Kalitesi ve Enerji Yönetimi Optimizasyonu, Doctorate, M.ALTUN(Student), Continues

Akar O., Dağıtım Transformatörlerinin Kapsama Alanlarının İnternet Tabanlı Dinamik İzlenmesi, Postgraduate, E.ÇERİ(Student), Continues

Akar O., Endüstriyel Ortamlarda Otonom Araçların Görüntü İşleme Teknolojisi, Haritalama ve Genetik Algoritma Tabanlı Yol Planlaması, Postgraduate, A.KİLİNÇ(Student), Continues

Akar O., Terzi Ü. K., Genetik Algoritma Kullanılarak Elektrikli Araç Şarj İstasyonları'nın Optimum Konumlandırılması, Postgraduate, M.Emin(Student), Continues

Akar O., Terzi Ü. K., Hızlı Pişirme Hibrit Mikrodalga Fırınlarında Yüksek Kalkış Akımının Sönümlendirilmesi Üzerine Yeni Bir Yaklaşım, Postgraduate, M.HACI(Student), Continues

Akar O., Yapay Zeka Kullanılarak Solar Işınım Tahmini ve Deniz Taşıtlarında PV Sistem Ekonomik Analizi, Postgraduate, B.TURAL(Student), Continues

Akar O., Elektrikli Araç Hızlı Şarj İstasyonlarının Şebeke Üzerinde Oluşturduğu Etkilerin Analizi, Postgraduate, F.KAYA(Student), 2023

Akar O., Şahin M., Endüstriyel Bir Tesisin Elektrik Enerjisi Talebini Hibrid Güç Sistemiyle Karşılmasının Teknik ve Ekonomik Açından İncelenmesi, Postgraduate, O.ÖZ(Student), 2023

Akar O., Şahin M., Araç Farları İçin Dinamik Bir Model Üzerinden Otomatik Kontrol Yöntemiyle Yeni Bir Far Sistemi Geliştirilmesi, Postgraduate, Ş.YAŞAR(Student), 2023

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

- I. **Control Techniques of the Modified Stator and Rotor Pole Shape in a 6/4 Switched Reluctance Motor: Effects on Torque Ripple Minimization**  
AKAR O.  
ELECTRIC POWER COMPONENTS AND SYSTEMS, 2024 (SCI-Expanded)
- II. **Short Circuit Effects on HV Feeders of Optimally Located Electric Vehicle Fast Charging Stations**  
Kaya F., Akar O.  
IEEE ACCESS, vol.12, pp.47842-47853, 2024 (SCI-Expanded)
- III. **Modeling of an HPS for the electric power demand of the cattle farm using genetic algorithm**  
Oz O., Sahin M., Akar O.  
HELIYON, vol.9, no.6, 2023 (SCI-Expanded)
- IV. **Location of transformers during the extension of an electricity distribution network\***  
Akar O., Terzi Ü. K., Ozgonenel O.  
ELECTRIC POWER SYSTEMS RESEARCH, vol.211, 2022 (SCI-Expanded)
- V. **Technical-environmental-economic evaluation of biomass-based hybrid power system with energy storage for rural electrification**  
Demirci A., Akar O., Ozturk Z.  
RENEWABLE ENERGY, vol.195, pp.1202-1217, 2022 (SCI-Expanded)
- VI. **HIGH PERFORMANCE ADAPTIVE ACTIVE HARMONIC FILTER DESIGN FOR NON-LINEAR LED LOADS**  
Sonmezocak T., Akar O., TERZİ Ü. K.  
LIGHT & ENGINEERING, vol.30, no.1, pp.29-38, 2022 (SCI-Expanded)
- VII. **LUMINANCE MEASUREMENT AND ESTIMATION METHODS IN ROAD**  
Davarci Z. O., Sahin M., AKAR O.  
LIGHT & ENGINEERING, vol.30, no.6, pp.106-123, 2022 (SCI-Expanded)
- VIII. **An Efficient Methodology Based on Coverage Area to Modify Location and Power Ratings of Distribution Transformers**  
Akar O., Terzi Ü. K., Ozgonenel O., Petrichenko L., Sonmezocak T.  
IEEE TRANSACTIONS ON POWER DELIVERY, vol.36, no.5, pp.2705-2714, 2021 (SCI-Expanded)
- IX. **COMPARATIVE EVALUATION OF STAND-ALONE HYBRID POWER SYSTEM WITH DIFFERENT ENERGY STORAGEES**  
Ozturk Z., Tosun S., Ozturk A., Akar O.  
FRESENIUS ENVIRONMENTAL BULLETIN, vol.30, no.9, pp.10908-10924, 2021 (SCI-Expanded)
- X. **KINETIC INVESTIGATION OF AISI 304 STAINLESS STEEL BORONIZED IN INDIRECT HEATED FLUIDIZED BED FURNACE**  
Topuz P., Cicek B., Akar O.  
JOURNAL OF MINING AND METALLURGY SECTION B-METALLURGY, vol.52, no.1, pp.63-68, 2016 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Investigation of Building Automation Systems in Terms of Lighting Efficiency**  
Kaya F., AKAR O., EKREN N.

The Black Sea Journal of Sciences, vol.14, no.3, pp.1571-1585, 2024 (Peer-Reviewed Journal)

- II. **Estimation of the Effect of Electric Vehicles on the Aging of Distribution Transformers Using Fuzzy Logic**  
Akar O.  
Balkan Journal of Electrical and Computer Engineering, vol.12, no.3, pp.199-205, 2024 (Peer-Reviewed Journal)
- III. **Experimental investigation of the effect of inrush current created by LED drivers on switching elements**  
Balci S., AKAR O., TERZİ Ü. K.  
International Journal of Natural and Engineering Sciences (IJNES), vol.18, no.2, pp.108-117, 2024 (Peer-Reviewed Journal)
- IV. **GEOTHERMAL ENERGY BASED HYDROGEN ENERGY STORAGE AND CHARGING STATION SYSTEM**  
Kaya F., AKAR O.  
İstanbul Ticaret Üniversitesi Fen Bilimleri Dergisi, vol.23, no.45, pp.156-168, 2024 (Peer-Reviewed Journal)
- V. **Estimation of the electricity to be generated at different wind speeds and turbines through fuzzy logic and ANN, A case study of Balıkesir**  
Ok Davarcı Z., Akar O.  
International journal of energy studies (Online), vol.9, no.1, pp.115-133, 2024 (Peer-Reviewed Journal)
- VI. **Comparison of Road Luminance Data Estimated by Fuzzy Logic and ANN, A Case study of Kocaeli Sakıp Sabancı Street**  
Ok Davarcı Z., Akar O., Terzi Ü. K.  
European Journal of Technique, vol.13, no.2, pp.150-158, 2023 (Peer-Reviewed Journal)
- VII. **Totem-Kutuplu Köprüsüz Yükseltici PFC Dönüştürücünün Performans Değerlendirmesi**  
Bektaş Y., Akar O.  
International Journal of Advanced Natural Sciences and Engineering Researches (IJANSER), vol.7, no.10, pp.367-372, 2023 (Peer-Reviewed Journal)
- VIII. **Estimation through ANN of Voltage Drop Resulting from Overloads on Power Transformers**  
Akar O.  
European Journal of Technique, vol.12, no.2, pp.198-203, 2022 (Peer-Reviewed Journal)
- IX. **A new approach for camera supported machine learning algorithms based dynamic headlight model's design**  
YAŞAR Ş., ŞAHİN M., AKAR O.  
International Journal of Automotive Engineering and Technologies, vol.11, no.2, pp.117-128, 2022 (Peer-Reviewed Journal)
- X. **Estimation by ANN of Luminous Efficacy of Lamps Used for Lighting**  
OK DAVARCI Z., ŞAHİN M., AKAR O.  
Balkan Journal of Electrical and Computer Engineering, vol.10, no.2, pp.187-197, 2022 (Peer-Reviewed Journal)
- XI. **Comparative Analysis of Lighting Elements' Effects on Electric System**  
DURŞUN S., TERZİ Ü. K., AKAR O., SÖNMEZOCAK T.  
European Journal of Technique, vol.11, no.2, pp.153-164, 2021 (Peer-Reviewed Journal)
- XII. **Determination of the Optimum Hybrid Renewable Power System: A case study of Istanbul Gedik University Gedik Vocational School**  
AKAR O., TERZİ Ü. K., TUNÇALP B. K., SÖNMEZOCAK T.  
Balkan Journal of Electrical and Computer Engineering, vol.7, no.4, pp.456-463, 2019 (Peer-Reviewed Journal)
- XIII. **Analyzing High Efficiency Asynchronous Motors Using Scalar Control Technique**  
Uzun H., Akar O., Demirci A., Aküner M. C., Terzi Ü. K.  
Balkan Journal of Electrical and Computer Engineering, vol.6, pp.23-26, 2018 (Peer-Reviewed Journal)
- XIV. **A New Speed Control Technique for a Separately Excited Direct Current Motor by PID Controller**  
AKAR O., TERZİ Ü. K., ÖZGÖNENEL O.  
Balkan Journal of Electrical and Computer Engineering, vol.6, pp.12-17, 2018 (Peer-Reviewed Journal)
- XV. **Karadeniz Dip Sularında Saklı Zenginliğimiz: Hidrojen Sülfür**  
Akar O., Terzi Ü. K.

3e Electrotech, vol.1, no.287, pp.46-50, 2018 (Peer-Reviewed Journal)

**XVI. Yapı Tabanlı Mikro Dağıtılmış Enerji Üretim Sistemleri**

Akar O., Terzi Ü. K.

3e Electrotech, vol.1, no.223, pp.210-220, 2013 (Peer-Reviewed Journal)

## Books & Book Chapters

**I. Bilgisayar Destekli Elektrik Proje Çizimi Keşif-Maliyet ve Sözleşme**

AKAR O.

Birsen Yayın Dağıtım Ltd. Şti., İstanbul, 2022

**II. 13. BÖLÜM: ELEKTRİKSEL ÖLÇMEYE GİRİŞ**

Akar O.

in: TEMEL ENDÜSTRİYEL ÖLÇME TEKNİĞİ, Prof. Dr. Nihat AKKUŞ, Editor, SERVET MATBAACILIK VE REKLAMCILIK LTD.ŞTİ, İstanbul, pp.459-504, 2012

## Refereed Congress / Symposium Publications in Proceedings

**I. PV-Based Electricity Production and Storage in Marine Vehicles**

TURAL B., Koca E., OK DAVARCI Z., AKAR O.

2024 11th International Conference on Electrical and Electronics Engineering (ICEEE 2024), Marmaris, Turkey, 22 April 2024

**II. Effect on Short Circuit in the LV Feeder of an Electric Vehicle Fast Charging Station**

Kaya F., AKAR O.

2024 6th Global Power, Energy and Communication Conference (GPECOM), Budapest, Hungary, 4 - 07 June 2024, pp.305-309

**III. Ayvalık Coast Offshore Wind Turbine Potential and Economic Evaluation**

Celil O., AKAR O.

2024 12th International Conference on Smart Grid (icSmartGrid), Setúbal, Portugal, 27 - 29 May 2024, pp.682-686

**IV. Investigation of Charging Demand Times and Economic Parameters of Grid- Connected Distributed Power System Integrated Electric Charging Stations**

Demir A. H., Özen O. C., AKAR O.

3rd International Conference on Frontiers in Academic Research ICFAR 2024, Konya, Turkey, 15 - 16 June 2024, pp.266-274

**V. EVALUATION OF HIGH INRUSH CURRENTS OCCURRING DURING FIRST OPERATION IN SPEED COOKING AND HYBRID MICROWAVE OVENS**

HACI M., AKAR O., TERZİ Ü. K.

11th INTERNATIONAL MAY 19 INNOVATIVE SCIENTIFIC APPROACHES CONGRESS, Samsun, Turkey, 19 - 20 May 2024, pp.174-182

**VI. LONG TERM WIND SPEED FORECASTING BASED ON ARIMA TIME SERIES MODEL**

AKPINAR K. N., AKAR O., TERZİ Ü. K., ÖZGÖNENEL O.

11th INTERNATIONAL MAY 19 INNOVATIVE SCIENTIFIC APPROACHES CONGRESS, Samsun, Turkey, 19 - 20 May 2024, pp.166-175

**VII. Developments in off-grid on-Board Portable Electric Vehicle Charging Station**

Kaya F., AKAR O.

3. International World Energy Conference (IWEC), Kayseri, Turkey, 04 December 2023, vol.1, pp.270-276

**VIII. Charging Station Modeling of Electric Scooters Supported by Renewable Energy and Storage System**

KUŞAKÇI A. Ö., AKAR O., KAYA F., TERZİ Ü. K.

2nd International Conference on Frontiers in Academic Research, Konya, Turkey, 4 - 05 December 2023, vol.1, no.6, pp.385-391

- IX. **Totem-Kutuplu Köprüsüz Yükseltici PFC Dönüştürücünün Performans Değerlendirmesi**  
BEKTAŞ Y., AKAR O.  
4 th International Conference on Applied Engineering and Natural Sciences, Konya, Turkey, 20 November 2023, vol.1, pp.85
- X. **Dağıtım Transformatörlerinin İnternet Tabanlı Dinamik İzlenmesi**  
Akar O.  
4th International Conference on Engineering and Applied Natural Sciences ICEANS 2023, Konya, Turkey, 20 - 21 November 2023, vol.1, no.4, pp.365-369
- XI. **Experimental Investigation of the Effect of Inrush Current Created by Led Drivers on Switching Elements**  
BALCI S., AKAR O., TERZİ Ü. K.  
8th International Conference on Natural and Engineering Sciences, Antalya, Turkey, 21 November 2023
- XII. **Technological Developments of SMES Systems in Distribution Networks**  
Çam G., AKAR O.  
Cukurova 11th International Scientific Researches Conference, Adana, Turkey, 22 August 2023, vol.11, pp.22-36
- XIII. **The Impact of Energy Storage Systems on Distribution Networks' Power Quality**  
Altun M., AKAR O., TERZİ Ü. K.  
ISARC-5. International Hasankeyf Scientific Research and Innovation Congress, Batman, Turkey, 05 August 2023, vol.5, pp.218-219
- XIV. **Utilization of Peltier Chipsets in Electric Vehicles to Charge Li-Ion Batteries**  
Skheta A., AKAR O.  
11th International Conference on Advanced Technologies (ICAT'23), İstanbul, Turkey, 17 August 2023, vol.11, pp.116-120
- XV. **Yol Aydınlatma Sistemlerinde Parıltının YSA ile Tahmini**  
Ok Davarcı Z., Şahin M., Akar O.  
ELECO 2022 Elektrik-Elektronik ve Biyomedikal Mühendisliği Konferansı, Bursa, Turkey, 24 November 2022
- XVI. **Elektrik Enerjisi Üretim İletim ve Dağıtımında Siber Güvenlik**  
AKAR O.  
DYUK'22 I. Disiplinlerarası Yaklaşımlar Ulusal Kongresine, İstanbul, Turkey, 16 May 2022
- XVII. **RES Tarafından Üretilen Elektrik Enerjisi Miktarının YSA ile Tahmini**  
OK DAVARCI Z., ŞAHİN M., AKAR O.  
DYUK'22 I. Disiplinlerarası Yaklaşımlar Ulusal Kongresine, İstanbul, Turkey, 16 May 2022
- XVIII. **Investigation of International Harmonic Standards in Power Systems**  
DEMİRCİ A., AKAR O., TERZİ Ü. K., SÖNMEZOCAK T.  
4th International Mardin Artuklu Scientific Researches Conference, Mardin, Turkey, 7 - 08 August 2020, vol.1, pp.97-110
- XIX. **Determination of the Optimum Hybrid Renewable Power System: A case study of Istanbul Gedik University Gedik Vocational School**  
AKAR O., TERZİ Ü. K., UTLU Z., SÖNMEZOCAK T.  
International Conference on Energy and Sustainable Built Environment, İstanbul, Turkey, 19 - 20 June 2019
- XX. **Mevcut ve Yeni İnşa Edilecek Dağıtım Trafolarının Konum ve Güç Değerlerinin Kapsama Alanı Tabanlı Eniyilemesi**  
Akar O., Terzi Ü. K., Özgönel O.  
6 th International Multidisciplinary Studies Congress (Multicongress Gaziantep), Gaziantep, Turkey, 26 - 27 April 2019, vol.1, pp.395-405
- XXI. **Endüstriyel Otomasyon Laboratuvarlarında Kullanılmak Üzere PLC, HMI Kontrollü Eğitim Modülü Tasarımı ve Uygulaması**  
Demirci A., Akar O., Terzi Ü. K.  
Uluslararası Marmara Fen ve Sosyal Bilimler Kongresi, Imascon 2019 Bahar, Kocaeli, Turkey, 26 - 28 April 2019, vol.2, pp.1947-1953
- XXII. **Discrimination of Magnetizing Inrush and Internal Fault Currents Based on Stockwell Transform and**

### **ANN Approach for Transformer Protection**

ÖZGÖNENEL O., TERZİ Ü. K., AKAR O., KURT Ü.

2019 11TH INTERNATIONAL CONFERENCE ON ELECTRICAL AND ELECTRONICS ENGINEERING (ELECO 2019), Bursa, Turkey, 28 - 30 November 2019, pp.96-100

**XXIII. A Study on The Comparison of Turkish Islamic Architectural Lighting Properties with Modern Architectural Lighting Properties: Suleymaniye Mosque**

DEMİRCİ A., AKAR O., TERZİ Ü. K.

CIAE 2018 International Conference on Innovative Engineering Applications, Sivas, Turkey, 20 - 22 September 2018, vol.1, pp.627-634

**XXIV. The Impact of Grid Connected Distributed Power Generation Systems on Power Quality**

AKAR O., TERZİ Ü. K., DURSUN E., ÖZGÖNENEL O., DEMİRCİ A.

CIAE 2018 International Conference on Innovative Engineering Applications, Sivas, Turkey, 20 - 22 September 2018, vol.1, pp.635-642

**XXV. Estimation of Solar Radiation Using Artificial Neural Network with Meteorological Data of Marmara University Goztepe Campus**

SAĞLAM Ş., AKAR O., ORAL B.

International Conference on Science and Technology (ICONST), Prizren, Serbia, 5 - 09 September 2018, vol.1, pp.695-704

**XXVI. A new Speed Control Technique of a Serial Direct Current Motor by PID Controller**

AKAR O., TERZİ Ü. K., ÖZGÖNENEL O.

8 th International Advanced Technologies Symposium (IATS'17), Elazığ, Turkey, 19 - 21 October 2017, vol.8, pp.3527-3534

## **Supported Projects**

Akar O., Yalçın F., Project Supported by Higher Education Institutions, Eğitim Amaçlı 3 Eksenli Servo Motor Kontrollü CNC Dik İşleme Merkezi Geliştirilmesi, 2018 - 2019

## **Metrics**

Publication: 54

Citation (WoS): 51

Citation (Scopus): 57

H-Index (WoS): 4

H-Index (Scopus): 3