

Personal Information

Email: erenayse@yildiz.edu.tr

Web: <https://avesis.yildiz.edu.tr/erenayse>

International Researcher IDs

ScholarID: TV3sAmQAAAAJ

ORCID: 0000-0002-9578-6194

Publons / Web Of Science ResearcherID: AAZ-6086-2020

ScopusID: 57204641043

Yoksis Researcher ID: 266114

Biography

In 2016, 2018, and 2021, I respectively obtained my BSc, MSc, and Ph.D. degrees from Yildiz Technical University (YTU) in Istanbul, Turkey. In April 2017, I joined the Department of Electrical Engineering at YTU as a Research Assistant and subsequently assumed the position of Assistant Professor in the Department of Electrical and Electronics Engineering at Fatih Sultan Mehmet Vakif University (FSMVU) in November 2022. Currently, I am an Assistant Professor at YTU in Electrical Engineering Department. Furthermore, I serve as the Treasurer of the Turkey Chapter of the IEEE Power and Energy Society (PES).

I have contributed to the field of research through the publication of 18 journal articles, 2 book chapters, and over 15 national and international conference papers. In addition to publishing papers in the field of electrical power engineering, I have acted as an External Researcher in the UNiTED project. This project, which was financially supported by FCT at INESC TEC Porto, Portugal, aimed to realize the potential for demand response by employing innovative optimization tools, empowering prosumers, and enhancing distribution grid benefits. Moreover, I played a pivotal role in obtaining 4 national projects in Turkey, one of which involved serving as a consultant to improve the deployment of EVs and charging stations in collaboration with a large-scale distribution system operator. Currently, I am serving as a researcher on a high-budget project focused on investigating the recent striking earthquake that happened in Turkey on 6 Feb. 2023. An artificial intelligence-based model to increase the resilience of the power system will be developed after the project. Efforts are being made to facilitate the reconstruction and revitalization of Hatay, which suffered significant damage because of the earthquake.

I am a Member of IEEE and I have served as the Technical Program Committee Member in IEEE Co-sponsored conferences. Additionally, I have been an organizing committee member in technology summits and workshops focused on evaluating the latest technological advancements in various engineering fields. In addition to my academic pursuits, I have also endeavored to enhance my administrative skills by serving on various committees. I have held active positions in the department as the Department Vice Chair as well as in the Internship Commission, where I strive to provide diverse internship opportunities to students. Besides, I have served as a member of the Board of Directors for the Technology Transfer Office at FSMVU. Alongside my colleagues on the Board of Directors, I was dedicated to strengthening the relationship between our academic community and industry partners, while also promoting the swift commercialization of academic research findings.

Education Information

Doctorate, Yildiz Technical University, Faculty Of Electrical & Electronics, Elektrik Mühendisliği, Turkey 2018 - 2021

Postgraduate, Yildiz Technical University, Faculty Of Electrical & Electronics, Elektrik Mühendisliği, Turkey 2016 - 2018

Undergraduate, Yildiz Technical University, Faculty Of Electrical & Electronics, Elektrik Mühendisliği, Turkey 2012 - 2016

Dissertations

Doctorate, Elektrik güç sistemlerinin dayanıklılığın artırılması için yeni bir optimizasyon tabanlı yaklaşımın geliştirilmesi, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, 2021

Postgraduate, Mikroşebekelerde talep tarafının esnekliğini dikkate alan optimum işletim yaklaşımının geliştirilmesi, Yildiz Technical University, Graduate School of Natural and Applied Sciences, 2018

Research Areas

Electrical and Electronics Engineering, Energy, Renewable energy, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Electrical Engineering Department, 2023 - Continues

Assistant Professor, Fatih Sultan Mehmet Foundation University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2022 - 2023

Research Assistant, Yildiz Technical University, Faculty Of Electrical & Electronics, Electrical Engineering Department, 2017 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Energy Management Strategy of a Green Port Serving Emission-Free Ferries Considering EV Parking Lot Availability**
Ozdemir H., GÜLDÖRÜM H. C., ERENÖĞLU A. K., Sengör I., Hayes B. P., ERDİNÇ O.
IEEE Transactions on Intelligent Transportation Systems, 2023 (SCI-Expanded)
- II. **Resiliency-Driven Multi-Step Critical Load Restoration Strategy Integrating On-Call Electric Vehicle Fleet Management Services**
Erenoglu A. K., Sancar S., Terzi I. S., ERDİNÇ O., Shafie-Khah M., Catalao J. P. S.
IEEE TRANSACTIONS ON SMART GRID, vol.13, no.4, pp.3118-3132, 2022 (SCI-Expanded)
- III. **Optimal energy management system for microgrids considering energy storage, demand response and renewable power generation**
Erenoglu A. K., Sengör I., ERDİNÇ O., Tascikaraoglu A., Catalao J. P. S.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.136, 2022 (SCI-Expanded)
- IV. **Optimal Energy Management System for Microgrids considering Energy Storage, Demand Response and Renewable Power Generation**
Erenoglu A. K., Şengör İ., Erdinç O., Taşcıkaraoglu A., Catalao J.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.103, pp.1, 2022 (SCI-Expanded)
- V. **A Topological Overview of Microgrids: from Maturity to the Future**
Erenoglu A. K., Sancar S., Erdinç O., Bağrıyanık M.
Turkish Journal Of Electrical Engineering And Computer Sciences, vol.1, pp.1-2, 2021 (SCI-Expanded)
- VI. **Post-Event Restoration Strategy for Coupled Distribution-Transportation System Utilizing Spatiotemporal Flexibility of Mobile Emergency Generator and Mobile Energy Storage System**
Erenoglu A. K., Erdinç O.

Electric Power Systems Research, vol.1, pp.1, 2021 (SCI-Expanded)

- VII. **Effects of On-Site PV Generation and Residential Demand Response on Distribution System Reliability**
Güner S., Erenoğlu A. K., Şengör İ., Erdinç O., Catalao J.
APPLIED SCIENCES-BASEL, vol.1, pp.1, 2021 (SCI-Expanded)
- VIII. **Implementing a Demand Side Management Strategy for Harmonics Mitigation in a Smart Home using Real Measurements of Household Appliances**
Çiçek A., Erenoğlu A. K., Erdinç O., Bozkurt A., Taşcıkaraoğlu A., Catalao J.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.01420615, pp.1, 2021 (SCI-Expanded)
- IX. **Practical evidence-based evaluation of a combined heat reduction technique for power transformer buildings**
Dursun İ., Güner S., Şengör İ., Erenoğlu A. K., Erdinç O., Catalão J. P. S.
Electronics (Switzerland), vol.9, pp.1-14, 2020 (SCI-Expanded)
- X. **User-Comfort Oriented Optimal Bidding Strategy of an Electric Vehicle Aggregator in Day-Ahead and Reserve Markets**
Şengör İ., Çiçek A., Erenoğlu A. K., Erdinç O., Catalao J.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.1, pp.1, 2020 (SCI-Expanded)
- XI. **Decision making mechanism for a smart neighborhood fed by multi-energy systems considering demand response**
Cicek A., Sengor I., ERENOĞLU A. K., ERDİNÇ O.
ENERGY, vol.208, 2020 (SCI-Expanded)
- XII. **Optimal operation of a multi-energy system considering renewable energy sources stochasticity and impacts of electric vehicles**
Ata M., Erenoğlu A. K., Şengör İ., Erdinç O., Taşcıkaraoğlu A., Catalao J. P.
ENERGY, vol.186, 2019 (SCI-Expanded)
- XIII. **Route optimization of an electric garbage truck fleet for sustainable environmental and energy management**
Erdinc O., Yetilmezsoy K., Erenoğlu A. K., Erdinç O.
JOURNAL OF CLEANER PRODUCTION, vol.234, pp.1275-1286, 2019 (SCI-Expanded)
- XIV. **A New Approach for Grid-Connected Hybrid Renewable Energy System Sizing Considering Harmonic Contents of Smart Home Appliances**
Erenoğlu A. K., Çiçek A., Arıkan O., Erdinç O., Catalao J. P. S.
APPLIED SCIENCES-BASEL, vol.9, no.18, 2019 (SCI-Expanded)

Articles Published in Other Journals

- I. **Characteristics of Power Consumption and Harmonic Components of Electrical Appliances Used in Residences with K-Means Clustering Method**
Yıldız M. Ş., Arıkan O., Erenoğlu A. K., Kekezoğlu B.
Firat Üniversitesi Mühendislik Bilimleri Dergisi, vol.102, pp.1, 2021 (Peer-Reviewed Journal)
- II. **Güneş Kollektörlü ve Elektrikli Şofbenli Bir Akıllı Evin Talep Cevabı Programı Kapsamında Enerji Yönetimi**
Sancar S., Erenoğlu A. K., Şengör İ., Erdinç O.
Avrupa Bilim ve Teknoloji Dergisi, no.19, pp.1, 2020 (Peer-Reviewed Journal)
- III. **Day-ahead charging operation of electric vehicles with on-site renewable energy resources in a mixed integer linear programming framework**
Sengor I., ERENOĞLU A. K., ERDİNÇ O., Tascikaraoglu A., Catalao J. P. S.
IET SMART GRID, vol.3, no.3, pp.367-375, 2020 (ESCI)

Books & Book Chapters

- I. **Blockchain and Its Application Fields in Both Power Economy and Demand Side Management**
Erenoğlu A. K., Şengör İ., Erdiñç O., Catalao J.
in: Blockchain-based Smart Grids, Miadrea Shafie-khah, Joao P.S Catalao, Pierluigi Siano, Juan Corchado, Amin Hajizadeh, Jamshid Aghaei, Fei Wang, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.1, 2020
- II. **History of Electricity**
Erenoğlu A. K., Erdiñç O., Taşcıkaraoğlu A.
in: Pathways to a Smarter Power System, Ozan Erdiñç, Akın Taşcıkaraoğlu, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.1-45, 2019

Refereed Congress / Symposium Publications in Proceedings

- I. **Comparative Realistic Objectives Oriented Optimization Framework for EV Charging Scheduling in a Distribution System**
Güldorum H. C., Erenoğlu A. K., Erdiñç O., Şengör İ.
13th Innovative Smart Grid Technologies (ISGT 2022 NA), Washington, United States Of America, 21 - 24 February 2022, pp.1-2
- II. **Post-Event Resiliency-Driven Strategy Dispatching Mobile Power Sources Considering Transportation System Constraints**
Erenoğlu A. K., Sancar S., Erdiñç O., Catalao J.
2021 8th International Conference On Electrical And Electronics Engineering (ICEEE 2021), Antalya, Turkey, 9 - 11 April 2021, pp.1
- III. **A Smart Dynamic Pricing Approach for Electric Vehicle Charging in a Distribution System**
Erdiñç O., Erenoğlu A. K., Şengör İ., Taştan İ. C., Büyük A. F., Catalao J.
9th International Conference on Power Science and Engineering (ICPSE 2020), London, United Kingdom, 23 - 25 October 2020, pp.0-1
- IV. **Optimal Sizing and Siting of EV Charging Stations in a Real Distribution System Environment**
Şengör İ., Erenoğlu A. K., Erdiñç O., Taşcıkaraoğlu A., Taştan İ. C., Büyük A. F., Catalao J.
3rd International Conference on Smart Energy Systems and Technologies, İstanbul, Turkey, 7 - 09 September 2020, pp.1
- V. **Comprehensive Performance Comparison of Supervised Machine Learning Algorithms in Non-Intrusive Load Monitoring**
Erşen A. F., Erenoğlu A. K., Şengör İ., Erdiñç O., Catalão J. P.
3rd International Conference on Smart Energy Systems and Technologies, İstanbul, Turkey, 7 - 09 September 2020, pp.1
- VI. **Çoklu Enerji Sistemleri ve İlgili Yaklaşımların İrdelenmesi**
Ata M., Erenoğlu A. K., Erdiñç O.
ELEKTRİK ELEKTRONİK MÜHENDİSLİĞİ KONGRESİ (EEMKON), İstanbul, Turkey, 14 - 17 November 2019, pp.1
- VII. **Development of a Smart Thermostat Controller for Direct Load Control Based Demand Response Applications**
Yener B., Erenoğlu A. K., Şengör İ., Erdiñç O., Taşcıkaraoğlu A., Catalão J. P. S.
2nd International Conference on Smart Energy Systems and Technologies, SEST 2019, Porto, Portugal, 9 - 11 September 2019, pp.1-5
- VIII. **An Interoperability Platform for Electric Vehicle Charging Service Considering Dual System Operator and Electric Vehicle Owner Sides**
Güldorum H. C., Erenoğlu A. K., Şengör İ., Erdiñç O., Catalão J. P. S.
2nd International Conference on Smart Energy Systems and Technologies, SEST 2019, Porto, Portugal, 9 - 11 September 2019, pp.1-6
- IX. **Optimal Operation of a Smart Multi-Energy Neighborhood**

- Ata M., Erenoğlu A. K., Şengör İ., Erdinç O., Taşcıkaraoğlu A., Catalão J. P. S.
13th IEEE PES PowerTech Conference, Milan, Italy, 23 - 27 June 2019, pp.1-5
- X. **User-Comfort Oriented Bidding Strategy for Electric Vehicle Parking Lots**
Şengör İ., Çiçek A., Erenoğlu A. K., Erdinç O., Taşcıkaraoğlu A., Catalão J. P. S.
13th IEEE PES PowerTech Conference, Milan, Italy, 23 - 27 June 2019, pp.1-6
- XI. **Economic Operation of a Micro-Grid Considering Demand Side Flexibility and Common ESS Availability**
Erenoğlu A. K., Şengör İ., Erdinç O., Taşcıkaraoğlu A., Catalão J. P. S.
8th IEEE PES International Conference on Innovative Smart Grid Technologies — ISGT Europe 2018, Sarajevo, Bosnia And Herzegovina, 21 - 25 October 2018, pp.1-6
- XII. **Optimal Coordination of EV Charging through Aggregators under Peak Load Limitation Based DR Considering Stochasticity**
Şengör İ., Erenoğlu A. K., Erdinç O., Taşcıkaraoğlu A., Catalão J. P. S.
2018 International Conference on Smart Energy Systems and Technologies (SEST), Sevilla, Spain, 10 - 12 September 2018, pp.1-6
- XIII. **Scenario Based Analysis of an EV Parking Lot Equipped with Roof-Top PV Unit within Distribution Systems**
Alkan B., Uzun B., Erenoğlu A. K., Erdinç O., Turan M. T., Catalão J. P. S.
2018 International Conference on Smart Energy Systems and Technologies (SEST), Sevilla, Spain, 10 - 12 September 2018, pp.1-5
- XIV. **Rüzgar Türbinlerinin Matlab GUI Ortamında Fizibilite Analizi**
Erenoğlu A. K., Sönmez B. N., Kekezoğlu B., Erdinç O.
9. Yenilenebilir Enerji Kaynakları Sempozyumu ve Sergisi, Antalya, Turkey, 3 - 05 November 2017, pp.1-4
- XV. **Talep Cevabı ve Mikro Şebekelerdeki Rolü**
Erenoğlu A. K., Erdinç O.
1. Ulusal Elektrik Enerjisi Dönüşümü Kongresi, Elazığ, Turkey, 21 - 22 September 2017, pp.27-32

Supported Projects

Erdinç O., Erenoğlu A. K., Other International Funding Programs, The Impact Analysis of Electric Vehicle Integration and Distributed Generation in a Real Distribution System in Türkiye, 2023 - 2024

Erenoğlu A. K., Erdinç O., Project Supported by Higher Education Institutions, 06 Şubat 2023 Kahramanmaraş (Pazarcık ve Elbistan) Depremlerinin Oluşturduğu Etkilerin Çok Disiplinli Araştırmalarla Ön Değerlendirmesinin Yapılması-Hatay İli Örneği, 2023 - 2024

Erdinç O., Taşcıkaraoğlu A., TUBITAK Project, Elektrikli Araçların Dağıtım Şebekesinde Akıllı Şarj Yönetimi İçin Sistem Operatörü Karar Verme Mekanizmasının Geliştirilmesi, 2019 - 2021

Catalao J., Erenoğlu A. K., EU Supported Other Project, Unlocking demand response potential with Next generation innovative optimization Tools Empowering prosumers and Distribution grid benefits, 2018 - 2021

Erdinç O., Erenoğlu A. K., Şengör İ., Project Supported by Other Official Institutions, Şarj İstasyonları ve Elektrik Araçların Şebekeye Etkisinin İncelenmesi ve Bu Yüklerin Optimize Edilmesi İçin Gerekli Yerli Yazılım Geliştirilmesi, 2019 - 2020

Memberships / Tasks in Scientific Organizations

IEEE Power&Energy Society, Member, 2017 - Continues, United States Of America

Scientific Refereeing

IEEE TRANSACTIONS ON SMART GRID, SCI Journal, March 2021

IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, SCI Journal, August 2020
IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, SCI Journal, January 2020
IET Renewable Power Generation, SCI Journal, July 2018
IEEE Transactions on Sustainable Energy, SCI Journal, June 2018
Conference, Other journals, May 2018

Tasks In Event Organizations

Erenoğlu A. K., Paterakis N., Catalao J., 5th International Conference on Smart Energy Systems and Technologies, Scientific Congress, Eindhoven, Netherlands, Eylül 2022
Shafie-Khah M., Erdiç O., Catalao J., Erenoğlu A. K., 4th International Conference on Smart Energy Systems and Technologies, Scientific Congress, Vaasa, Finland, Ekim 2021
Erdiç O., Catalao J., Erenoğlu A. K., Akboy E., Şengör İ., 3rd International Conference on Smart Energy Systems and Technologies (SEST), Scientific Congress, İstanbul, Turkey, Eylül 2020
Erdiç O., Erenoğlu A. K., Şengör İ., Türkiye’de Elektrik Güç Sisteminin Mevcut Durumu ve Geleceği: Akıllı Şebekeler ve Yenilenebilir Enerji Sistemleri, Workshop Organization, İstanbul, Turkey, Kasım 2018

Metrics

Publication: 37
Citation (WoS): 35
Citation (Scopus): 133
H-Index (WoS): 3
H-Index (Scopus): 6

Awards

Erenoğlu A. K., AKADEMİK TEŞVİK ÖDÜLÜ, Yök, January 2021
Erenoğlu A. K., TÜBİTAK Yayın Teşvik Ödülü, Tübitak, December 2020