Assoc. Prof. ERKAN DURSUN

Personal Information

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International Researcher IDs
ScholarID: 13097557690827162658
ORCID: 0000-0002-7914-8379
Publons / Web Of Science ResearcherID: AAF-7573-2020
ScopusID: 36990269300
Yoksis Researcher ID: 34066

Education Information

Doctorate, Marmara University, Faculty of Technical Education, Electric Education,
Turkey 2009 - 2013
Postgraduate, Marmara University, Faculty of Technical Education, Electric Education,
Turkey 2003 - 2008
Undergraduate, Marmara University, Faculty of Technical Education, Electric Education,
Turkey 1996 - 2001

Biography

Dr. Dursun has been working on energy efficiency and renewable energy systems for 12 years. He worked in a project UNIDO-ICHET from 2010 to 2012. UNIDO-ICHET (United Nations Industrial Development Organization - International Centre for Hydrogen Energy Technologies) with the mission of raising public awareness for renewable energy and demonstrating viable implementations of hydrogen energy technologies in developing countries. And also, He worked as researcher at European Commission, JRC Institute for Energy and Transport (IET) from 2012 to 2013, which is interested energy service companies (ESCOs).

The Ph.D. thesis about the photovoltaic/wind/fuel cell hybrid power system. This concept shows that different renewable sources can be used simultaneously to power off-grid applications. In this thesis, hydrogen production capacity of a stand-alone renewable hybrid power system is evaluated. Results of the proposed model are calculated and compared with experimental data. The MATLAB/Simscape model is applied to a stand-alone photovoltaic-wind power system sited in Istanbul, Turkey. The quality of thesis results is demonstrated by the fact that a paper describing the core contribution of the thesis has been accepted to many scientific journals and conferences. His papers have received more than 700 citations in SCI database of Thomson Reuters. He has been appointed IEEE Senior Member.

Dr. Dursun is interested in Smart Grid and Advanced Metering Infrastructure (AMI), such as smart meters and sensors in post-doc studies.

Foreign Languages

Italian, A2 Elementary
English, C2 Mastery

Dissertations

Doctorate, Analysis of off-grid Wind-PV-PEMFC hybrid energy system, Marmara University, Faculty of Technical Education, Electric Education, 2013
Postgraduate, Electromagnetic Compatibility (EMC) in electrical systems, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Electrical Education, 2006

Research Areas

Renewable energy, Electrical energy storage technologies

Academic Titles / Tasks

Assistant Professor, Marmara University, Faculty of Technology, Electrical and Electronics Engineering, 2014 - Continues
Research Assistant, Marmara University, Faculty of Technical Education, Electric Education, 2002 - 2014

Advising Theses

Dursun E., Kuzucuoğlu A. E., DAĞITIK GÜÇ ÜRETİM SİSTEMLERİNİN YAPAY ZEKA TEKNİKLERİ İLE YÖNETİMİ VE KONTROLÜ, Doctorate, A.Nabi(Student), 2021
Dursun E., Dynamic Monitoring Of Transmission Lines For Smart Grids: Prototype Meter Design, Postgraduate, E.ZUHUR(Student), 2021
Dursun E., Energy audit for the spinning mill: Challenges and opportunities, Postgraduate, N.AÇIKGÖZ(Student), 2019
DURSUN E., Mevcut bir binanın LEED sertifikası açısından incelenmesi : kredi oluşturabilecek fırsat ve önerilerin sunulması, Postgraduate, A.Aytekin(Student), 2019

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Modeling and operation of a fuel cell stack for distributed energy resources: A living lab platform**
    AKPOLAT A. N., DURSUN E., KUZUCUOĞLU A. E.
    International Journal of Hydrogen Energy, 2024 (SCI-Expanded)
II. **Performance Analysis of a PEMFC-Based Grid-Connected Distributed Generation System**
    AKPOLAT A. N., DURSUN E., Yang Y.
    APPLIED SCIENCES-BASEL, vol.13, no.6, 2023 (SCI-Expanded)
III. **Hybrid Condition Monitoring System for Power Transformer Fault Diagnosis**
    Baker E., VARBAK NEŞE S., DURSUN E.
    Energies, vol.16, no.3, 2023 (SCI-Expanded)
IV. **Dynamic Stabilization of DC Microgrids using ANN-Based Model Predictive Control**
    AKPOLAT A. N., Habibi M. R., Baghaee H. R., DURSUN E., KUZUCUOĞLU A. E., Yang Y., Dragicevic T., Blaabjerg F.
    IEEE Transactions on Energy Conversion, vol.37, pp.999-1010, 2022 (SCI-Expanded)
V. **Inverter-based modeling and energy efficiency analysis of off-grid hybrid power system in distributed generation**

AKPOLAT A. N., DURSUN E., Siano P.

COMPUTERS & ELECTRICAL ENGINEERING, vol.96, 2021 (SCI-Expanded)

VI. **Dynamic Stabilization of DC Microgrids using ANN-Based Model Predictive Control**

Akpolat A. N., Habibi M. R., Baghaee H. R., Dursun E., Kuzucuoğlu A. E., Yang Y., Dragicevic T., Blaabjerg F.

IEEE Transactions On Energy Conversion, vol.1, no.1, pp.1-12, 2021 (SCI-Expanded)

VII. **Sensorless Control of DC Microgrid Based on Artificial Intelligence**

Akpolat A. N., Habibi M. R., Dursun E., Kuzucuoğlu A. E., Yang Y., Dragicevic T., Blaabjerg F.

IEEE Transactions on Energy Conversion, vol.36, pp.2319-2329, 2021 (SCI-Expanded)

VIII. **Design Implementation and Operation of an Education Laboratory-Scale Microgrid**

AKPOLAT A. N., Yang Y., Blaabjerg F., DURSUN E., KUZUCUOĞLU A. E.

IEEE ACCESS, vol.9, pp.57949-57966, 2021 (SCI-Expanded)

IX. **Deep Learning-Aided Sensorless Control Approach for PV Converters in DC Nanogrids**

AKPOLAT A. N., DURSUN E., KUZUCUOĞLU A. E.

IEEE ACCESS, vol.9, pp.106641-106654, 2021 (SCI-Expanded)

X. **Analysis of factors affecting IoT-based smart hospital design**

Uslu B., Okay E., DURSUN E.

Journal of Cloud Computing, vol.9, no.1, 2020 (SCI-Expanded)

XI. **Performance Analysis of a Grid-Connected Rooftop Solar Photovoltaic System**

AKPOLAT A. N., DURSUN E., KUZUCUOĞLU A. E., Yang Y., Blaabjerg F., BABA A. F.

ELECTRONICS, vol.8, no.8, 2019 (SCI-Expanded)

XII. **Nickel-titanium shape memory alloy-actuated thermal overload relay system design**

Dilibal S., Sahin H., Dursun E., Engeberg E. D.

ELECTRICAL ENGINEERING, vol.99, no.3, pp.923-930, 2017 (SCI-Expanded)

XIII. **Modeling of hydrogen production with a stand-alone renewable hybrid power system**

DURSUN E., ACARKAN B., KILIÇ O.

INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.37, no.4, pp.3098-3107, 2012 (SCI-Expanded)

XIV. **Comparative evaluation of different power management strategies of a stand-alone PV/Wind/PEMFC hybrid power system**

DURSUN E., KILIÇ O.

INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.34, no.1, pp.81-89, 2012 (SCI-Expanded)

XV. **A mobile renewable house using PV/wind/fuel cell hybrid power system**

Eroglu M., DURSUN E., Seuencan S., Song J., Yazici S., KILIÇ O.

INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.36, no.13, pp.7985-7992, 2011 (SCI-Expanded)

XVI. **Experimental Analysis and Electrical Modeling of PEM Fuel Cell's MEA**

DURSUN E., Ozalp G. Y., KILIÇ O.

INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE, vol.5, no.4, pp.1595-1599, 2010 (SCI-Expanded)

Articles Published in Other Journals

I. **LEED certification analysis for an existing building: Credit opportunities and recommendations**

AYTEKİN KONDUL A., YAŞAR N., BAYAR H., AKPOLAT A. N., DURSUN E.

Turkish Journal of Electromechanics & Energy, vol.8, no.3, pp.97-108, 2023 (Peer-Reviewed Journal)

II. **Energy saving potential and energy audit of a faculty building at Marmara University in Türkiye**

SÖNMEZ T., VARBAK NEŞE S., ÇALIŞ USLU B., AKPOLAT A. N., DURSUN E.

Turkish Journal of Electromechanics and Energy, vol.7, no.2, pp.67-76, 2022 (Peer-Reviewed Journal)

III. **Energy saving potential and energy audit of a faculty building at Marmara University in Turkiye**

Sönmez T., Varbak Neşe S., Çaliş Uslu B., Akpolat A. N., Dursun E.

Turkish Journal of Electromechanics & Energy, vol.7, no.2, pp.67-76, 2022 (Peer-Reviewed Journal)

IV. **Solar Energy Potential in Horn of Africa: A Comparative Study using Matlab/Simulink**

DURSUN E.

Balkan Journal of Electrical and Computer Engineering, vol.9, no.3, pp.310-319, 2021 (Peer-Reviewed Journal)

V. **Supervised Learning-Aided Control of a DC-DC Power Converter in Wind Energy Conversion Systems**
AKPOLAT A. N., DURSUN E., KUZUCUOĞLU A. E.
International journal of advances in engineering and pure sciences (Online), vol.33, pp.47-56, 2021 (Peer-Reviewed Journal)

VI. **Green building certification of urban public railway transport systems for sustainable cities**
Dursun E., Varbak Neşe S., Kılıç B.
Balkan Journal of Electrıcal&Computer Engineering, vol.8, no.1, pp.7-15, 2020 (Peer-Reviewed Journal)

VII. **Noise identification based on spectral analysis and noisy transfer function approach for fuel cells**
Akıncı T. Ç., Seker S., DURSUN E., KILIÇ O.
NOISE MAPPING, vol.7, no.1, pp.14-20, 2020 (ESCI)

VIII. **INTEGRATION OF WIND POWER PLANTS TO THE GRID AND REACTIVE POWER SUPPORT**
Takır O., BAYAR H., DURSUN E.
European Journal of Technique, vol.9, no.2, pp.186-196, 2019 (Peer-Reviewed Journal)

Books & Book Chapters

I. **Industry 4.0 and Smart Grids**
Dursun E.
in: Industry 4.0 Technological Areas and Applications, Kerim Çetinkaya,Pınar Demircioğlu,Koray Özsoy,Burhan Duman, Editor, Pegem A Yayıncılık, Ankara, pp.361-398, 2019

II. **SANAYİ 4.0 VE AKILLI ŞEBEKELER**
DURSUN E.
in: Sanayi 4.0 Teknolojik Alanları ve Uygulamaları, Kerim ÇETİNKAYA , Pınar DEMİRCİOĞLU, Koray ÖZSOY , Burhan DUMAN, Editor, Pegem, pp.361-396, 2019

Refereed Congress / Symposium Publications in Proceedings

I. **Modeling and Operation of a Fuel Cell Stack for Distributed Energy Resources: A Living Lab Platform Consist of PV/Wind/PEMFC Hybrid Power System**
Akpolat A. N., Dursun E., Kuzucuoğlu A. E.
7th International Hydrogen Technologies Congress, Elazığ, Turkey, 10 May 2022 - 12 May 2023, pp.684-687

II. **A cost-effective IoT based smart home application**
Oturak M., DURSUN E.
2021 International Conference on INnovations in Intelligent SysTems and Applications, INISTA 2021, Kocaeli, Turkey, 25 - 27 August 2021

III. **AI-Aided Control of a Power Converter in Wind Energy Conversion System**
AKPOLAT A. N., DURSUN E., KUZUCUOĞLU A. E.
2020 Innovations in Intelligent Systems and Applications Conference (ASYU), İstanbul, Turkey, 15 - 17 October 2020

IV. **Li-ion-based Battery Pack Designing and Sizing for Electric Vehicles under Different Road Conditions**
AKPOLAT A. N., YANG Y., BLAABJERG F., DURSUN E., KUZUCUOĞLU A. E.
2020 International Conference on Smart Energy Systems and Technologies (SEST), İstanbul, Turkey, 7 - 09 September 2020, pp.1-6

V. **Internet of Things for the Distributed Generation**
Yıldırım O., Okay M., AKPOLAT A. N., DURSUN E.
2019 Innovations in Intelligent Systems and Applications Conference (ASYU), Izmir, Turkey, Turkey, 31 October - 02 November 2019

VI. **İyi Bir Tez Nasıl Yazılır?**
DURSUN E.
Öğrenmeyi Destekleyen Tez Araştırma Çalıştayı, Turkey, 06 November 2019

VII. **A dynamic pricing model for Turkey's electricity distribution companies in the future Smart Grid infrastructure**
DURSUN E., Siano P.
Akıllı Sistemlerde Yenilikler ve Uygulamaları Konferansı, Turkey, 31 October - 02 November 2019

VIII. **Modeling Photovoltaic String in PLECS Under Partial Shading**
AKPOLAT A. N., YANG Y., BLAABJERG F., DURSUN E., KUZUCUOĞLU A. E.
2019 International Conference on Power Generation Systems and Renewable Energy Technologies (PGSRET), Istanbul, Turkey, Turkey, 26 - 27 August 2019

IX. **FUTURE TRAIN STATIONS POWERED WITH RENEWABLE ENERGY**
DURSUN E., KILIÇ B.
4th International Symposium on Railway System Engineering, 10 - 12 October 2018

X. **The Impact of GridConnected 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

XI. **Towards to Smart Grid: Dynamic Line Rating**
Akpolat A. N., Varbak Neşe S., Dursun E.
7.Uluslararası İstanbul Akıllı Şebekeler ve Şehirler Kongre ve Fuarına, İstanbul, Turkey, 25 - 26 April 2018

XII. **Advanced Metering Infrastructure (AMI): Smart Meters and New Technologies**
AKPOLAT A. N., DURSUN E.
8th International Advanced Technologies Symposium (IATS'17), 19 - 21 October 2017

XIII. **Possible Physical and Cyber Attacks on Smart Grids**
DURSUN E., Hacınecipoğlu A.
8th International Advanced Technologies Symposium (IATS'17), 19 - 21 October 2017

XIV. **Integration of Innovative Photovoltaic Technology to the Railway Trains: A Case Study for Istanbul Airport-M1 Light Metro Line**
KILIÇ B., DURSUN E.
IEEE EUROCON -17th International Conference on Smart Technologies, Ohrid, Macedonia, 6 - 08 July 2017, pp.336-340

XV. **FROM MICROGRID TO SMART GRID A REVIEW OF CAMPUS PROJECTS**
AKPOLAT A. N., DURSUN E.
the International Engineering, Science and Education Conference (INESEC), 1 - 03 December 2016

XVI. **SNAPSHOT OF INTEGRATION DISTRIBUTED GENERATION INTO THE SMART GRID**
DURSUN E., VARBAK NEŞE S.
the International Engineering, Science and Education Conference (INESEC), 1 - 05 December 2016

XVII. **Snapshot of Integration Distributed Generation intothe Smart Grid**
DURSUN E., VARBAK NEŞE S.
International Engineering, Science and Education Conference, Diyarbakır, Turkey, 1 - 03 December 2016, vol.1, pp.431-436

XVIII. **Advanced Metering Infrastructure AMI Smart Metering Design and Applications**
DURSUN E.
3th International Smart Grid Workshop and Certificate Program, 21 - 25 March 2016

XIX. **ESCO market in Turkey: Challenges and Opportunities**
DURSUN E., Bertoldi P.
IEEE 15th International Conference on Environment and Electrical Engineering (EEEIC), Rome, Italy, 10 - 13 June 2015, pp.150-155

XX. **A Review of Energy Management Systems for Smart Grids**
Yenginer H., Cetiz C., DURSUN E.

3rd International Istanbul Smart Grid Congress and Fair (ICSG), İstanbul, Turkey, 29 - 30 April 2015

XXI. **Structure of Advance Measuring smart meetering design and application**
DURSUN E.
Smart Grid Workshop, İstanbul, Turkey, 22 - 23 January 2015

XXII. **Integration of hydrogen energy into the Smart Grid in terms of energy storage Challanges and Barriers**
DURSUN E., KILIÇ O.
5th World Hydrogen Technologies Convention (WHTC2013), Shanghai, China, 25 - 28 September 2013

XXIII. **Intelligence based modeling An Adaptive Neuro Fuzzy Inference System for performance prediction of PEMFC s membrane electrode assembly**
DURSUN E., BAYAR H., YEGEN OZALP G., KILIÇ O.
IEEE International Conference on Power Engineering, Energy and Electrical Drives, 13 - 17 May 2013

XXIV. **The Levenberg Marquardt Neural Network model of the PEMFC s MEA**
DURSUN E., KILIÇ O.
2011 10th International Conference on Environment and Electrical Engineering, Rome, Italy, 8 - 11 May 2011

XXV. **Performance Evaluation of a Stand Alone Photovoltaic Wind turbine Fuel cell Power System for Each Province in the Aegean Region of Turkey**
DURSUN E., BAYAR H., GÖRGÜN H., KILIÇ O.
5.International Ege Energy Symposium (IEESE-5), Denizli, Turkey, 27 - 30 June 2010

XXVI. **Türkiyede Kurulu Rüzgar Satrallerinde Kurulan Generatörlerin Kaşılaştırılması**
DURSUN E., KAKİLLİ A.
Türkiye 11. Enerji Kongresi ve Sergisi, İzmir, Turkey, 21 - 23 October 2009, pp.21-23

XXVII. **Türkiyede Kurulu Rüzgar Türbinlerinde Kullanılan Generatörlerin Karşılaştırılması**
DURSUN E., KAKİLLİ A.
11.Enerji Kongresi, İzmir, Turkey, 21 - 23 October 2009

XXVIII. **Rüzgar Güneş Hidrojen Enerji Sistemlerinin Entegrasyonu**
DURSUN E., KILIÇ O.
IV.Ulusal Hidrojen Enerjisi Kongresi. Kocaeli, Türkiye, Turkey, 15 - 16 October 2009

XXIX. **A Stand Alone Mobile House using PV Wind Fuel Cell Hybrid Power System**
MEHMED E., DURSUN E., GÖKHAN K., SUAT S., YAZICI S., JUNSEOK S.
III. World Congress of Young Scientists on Hydrogen Energy Systems, 7 - 09 October 2009

XXX. **Rüzgar Türbinlerinde Kullanılan Generatörler**
DURSUN E., KORHAN BİNARK A.
VII.Ulusal Temiz Enerji Sempozyumu, İstanbul, Turkey, 17 - 19 December 2008

XXXI. **Europic Software for Illumination Technique Lessons**
DURSUN E., OĞUZ Y.
International Educational Technology Conference., Eskişehir, Turkey, 6 - 09 May 2008

Supported Projects

Dursun E., Rebelo C., TÜBİTAK - AB COST Project, CA20109 / MODULAR ENERGY ISLANDS FOR SUSTAINABILITY AND RESILIENCE (MODENERLANDS), 2021 - 2025

Dursun E., Albert-Seifried V., TÜBİTAK - AB COST Project, CA19126 - Positive Energy Districts European Network (PED-EU-NET), 2020 - 2024

Dursun E., Çalış Uslu B., Project Supported by Other Private Institutions, Integrated Business Process Management (BPM) Approach for Plastic Molding and Sheet Metal Press Forming Manufacturing and Development of a Conceptual Infrastructure Model to Digital Transformation in Manufacturing, 2022 - 2023

Çalış Uslu B., Dursun E., United Nations Development Program - UNDP Supported Project, The Connectivity & Digital Technologies for Health Systems, 2022 - 2022

Akpolat A. N., Dursun E., Kuzucuoğlu A. E., Project Supported by Higher Education Institutions, Management and Control

of Distributed Energy Generation System via Artificial Intelligence Techniques, 2018 - 2022

Dursun E., Akpolat A. N., Kuzucuoğlu A. E., Project Supported by Other Official Institutions, YUDAB 2019, 2019 - 2020

Kıyak İ., Baba A. F., Oral B., Dursun E., Varbak Neşe S., Bayar H., Project Supported by Higher Education Institutions, Hidrejen Yakıt Pili Temelli Hibrit Güç Sistemlerinin Entegrasyonu Laboratuvarının Kurulması, 2014 - 2016

Dursun E., Baba A. F., Oral B., Kıyak İ., Bayar H., Varbak Neşe S., Project Supported by Higher Education Institutions, Fuel Cell Based Hybrid Solar and Wind Power Systems Training and Experimental Set, 2014 - 2016

Dursun E., Bayar H., Birbir Y., Varbak Neşe S., Baba A. F., Oral B., Erdal H., Oyman Serteller N. F., Terzi Ü. K., Kıyak İ., et al., Project Supported by Higher Education Institutions, ELEKTRİK MAKİNALARI VE DEVRELER LABORATUVARLARININ YENİDEN YAPILANDIRILMASI, 2014 - 2016

Student Project

Software Project, 2209-A - Research Project Support Programme for Undergraduate Students, Marmara University, Faculty of Technology, Electrical and Electronics Engineering, Turkey, 2023 - Continues

Scientific Refereeing

TUBITAK Project, 1501 - Industry R & D Projects Support Program, TÜBİTAK, Turkey, September 2019

TUBITAK Project, 1501 - Industry R & D Projects Support Program, TÜBİTAK, Turkey, May 2019

H2020 Project, ERC H2020 European Research Council Project, TÜBİTAK, Turkey, December 2015

TUBITAK Project, 1501 - Industry R & D Projects Support Program, TÜBİTAK, Turkey, December 2015

H2020 Project, FET, H2020 Future & Emerging Technologies Project, ISC Konstanz, Germany, September 2015

Metrics

Publication: 59
Citation (WoS): 474
Citation (Scopus): 627
H-Index (WoS): 8
H-Index (Scopus): 8

Invited Talks

4007 TÜBİTAK Bilimden Sanata Maltepe: "Bilim Şenliği", Conference, Maltepe Üniversitesi, Turkey, October 2022

Güneşten Rüzgara Yenilenebilir Enerji Teknolojileri, Seminar, Güngören Mesleki Ve Teknik Anadolu Lisesi, Turkey, April 2022

Endüstri 4.0 ve Akıllı Şebekeler, Seminar, Bahadır Demir Ortaokulu, Turkey, December 2019

Öğrenmeyi Destekleyen Tez Araştırma Çalıştayı, Workshop, Marmara Üniversitesi, Turkey, October 2019

Advanced Metering Infrastructure (AMI): Smart Meters and New Technologies, Workshop, Gelişim University, Turkey, March 2016

Scholarships

TÜBİTAK-2214-B - Yurt Dışı Müşterek Doktora Burs Programı, European Commission, 2012 - 2013

Awards

Dursun E., Yayın Teşvik-UBYT, Tübitak, September 2019

Dursun E., Yayın Teşvik-UBYT, Tübitak, October 2013

Dursun E., Akademik Teşvik-Atıf Ödülü, Marmara Üniversitesi, October 2013

Dursun E., Yayın Teşvik-UBYT, Tübitak, January 2012

Dursun E., Yayın Teşvik- UBYT, Tübitak, May 2011

Non Academic Experience

European Commission, European Commission, Joint Reseach Institute, Energy and Transport Unit

European Commission, Joint Research Centre, Institute for Energy and Transport