

Assoc. Prof. HALE BAKIR

Personal Information

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International Researcher IDs

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Education Information

Doctorate, Konya Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 2016 - 2021

Postgraduate, Selcuk University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 2013 - 2016

Undergraduate, Firat University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 2008 - 2012

Research Areas

Electrical and Electronics Engineering, Energy, Power System Analysis, Electric Power Transmission, Distribution and Protection, Renewable energy, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Sivas Cumhuriyet University, Sivas Teknik Bilimler Meslek Yüksekokulu, Elektronik Ve Otomasyon, 2022 - Continues

Research Assistant, Konya Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2018 - 2021

Research Assistant, Selcuk University, Faculty Of Engineering, 2013 - 2018

Research Assistant, Sivas Cumhuriyet University, Mühendislik Fakültesi, Elektrik Elektronik Müh., 2012 - 2013

Courses

Otomatik Kontrol, Associate Degree, 2021 - 2022

Advising Theses

Bakır H., Fotovoltaik Panel Entegreli Hibrit Su Pompalama Sisteminin Geliştirilmesi ve Analizi, Postgraduate, İ.KARAPINAR(Student), 2023

Jury Memberships

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A comparative evaluation and real-time measurement of failures in solar power plants by thermal imaging in Turkey**
Bakır H.
Thermal Science and Engineering Progress, vol.42, 2023 (SCI-Expanded)
- II. **Optimized Control of a Hybrid Water Pumping System Integrated with Solar Photovoltaic and Battery Storage: Towards Sustainable and Green Water-Power Supply**
BAKIR H., Merabet A., Kiehadrouinezhad M.
Energies, vol.16, no.13, 2023 (SCI-Expanded)
- III. **Detection of Faults in Photovoltaic Modules of SPSS in Turkey; Infrared Thermographic Diagnosis and Recommendations**
BAKIR H.
JOURNAL OF ELECTRICAL ENGINEERING & TECHNOLOGY, vol.18, no.3, pp.1945-1957, 2023 (SCI-Expanded)
- IV. **Evaluation and Solution Suggestions for Engineering and Workmanship Failures during Design and Installation of Solar Power Plants**
BAKIR H., Merabet A.
Energies, vol.16, no.3, 2023 (SCI-Expanded)
- V. **Automatic Detection of Deteriorated Photovoltaic Modules using IRT Images and Deep Learning (CNN, LSTM) strategies**
Bakir H., Kuzhippallil F. A., Merabet A.
ENGINEERING FAILURE ANALYSIS, vol.146, no.2, pp.107132, 2023 (SCI-Expanded)
- VI. **Implementation of Water Cycle Optimization for Parametric Tuning of PI Controllers in Solar PV and Battery Storage Microgrid System**
Dhar R. K., Merabet A., Bakir H., Ghias A. M. Y. M.
IEEE SYSTEMS JOURNAL, vol.16, no.2, pp.1751-1762, 2022 (SCI-Expanded)
- VII. **Experimental evaluation of water cycle technique for control parameters optimization of double-fed induction generator-based wind turbine**
Bakir H., Merabet A., Dhar R. K., Kulaksiz A. A.
ENGINEERING SCIENCE AND TECHNOLOGY-AN INTERNATIONAL JOURNAL-JESTECH, vol.24, no.4, pp.890-898, 2021 (SCI-Expanded)
- VIII. **Bacteria foraging optimisation algorithm based optimal control for doubly-fed induction generator wind energy system**
Bakir H., Merabet A., Dhar R. K., Kulaksiz A. A.
IET RENEWABLE POWER GENERATION, vol.14, no.11, pp.1850-1859, 2020 (SCI-Expanded)
- IX. **Modelling and voltage control of the solar-wind hybrid micro-grid with optimized STATCOM using GA and BFA**
Bakir H., Kulaksiz A. A.
ENGINEERING SCIENCE AND TECHNOLOGY-AN INTERNATIONAL JOURNAL-JESTECH, vol.23, no.3, pp.576-584, 2020 (SCI-Expanded)
- X. **Sensorless Control of a PMSM Drive Using EKF for Wide Speed Range Supplied by MPPT Based Solar PV System**
Anwer A. M. O., Omar F. A., Bakir H., Kulaksiz A. A.
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.26, no.1, pp.32-39, 2020 (SCI-Expanded)
- XI. **ADAPTIVE ENERGY MANAGEMENT FOR THE SMART HOME**
Bakir H., Kulaksiz A. A.
ELECTRONICS WORLD, vol.123, no.1975, pp.42-45, 2017 (SCI-Expanded)

Articles Published in Other Journals

- I. **Modeling and Optimization of Solar PV-Battery based Hybrid Water Pumping System with BLDC Motor Drive**
BAKIR H.
Osmaniye Korkut Ata Üniversitesi Fen Bilimleri Enstitüsü Dergisi (Online), vol.7, no.3, pp.1010-1020, 2024 (Peer-Reviewed Journal)
- II. **Detection of micro-cracks in PV system using electroluminescence (EL) testing**
bakır h.
Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.13, no.2, pp.413-418, 2024 (Peer-Reviewed Journal)
- III. **Çatı Tipi Güneş Enerji Sisteminde Kızılötesi Termal Teşhis ile Arıza Tespiti ve Önemi**
Bakır H.
Osmaniye Korkut Ata Üniversitesi Fen Bilimleri Enstitüsü Dergisi (Online), vol.6, no.1, pp.90-105, 2023 (Peer-Reviewed Journal)
- IV. **Elektrolüminesans (EL) Görüntüleri ile Güneş Enerjisi Sisteminde Arıza Tespiti**
BAKIR H.
Academic Research Journal of Technical Vocational Schools, 2022 (Peer-Reviewed Journal)
- V. **Thermal image analysis for fault detection of PV systems in Ankara/Turkey**
BAKIR H.
Avrupa Bilim ve Teknoloji Dergisi, 2022 (Peer-Reviewed Journal)
- VI. **Voltage Sag Mitigation with DVR optimized in DFIG based Wind Energy System**
BAKIR H.
Avrupa Bilim ve Teknoloji Dergisi, 2022 (Peer-Reviewed Journal)
- VII. **OPAL-RT kullanarak DFIG tabanlı rüzgar enerji sisteminde güç kontrolü**
BAKIR H., Merabet A., KULAKSIZ A. A.
European Journal of Science and Technology, pp.373-379, 2020 (Peer-Reviewed Journal)
- VIII. **Şebeke-bağlantılı Solar NNK İnverterde Güç ve Harmonik Kayıplarının İyileştirilmesi için Etkin Modülasyon Yöntemlerinin Gerçekleştirilmesi**
younas u., BAKIR H., KULAKSIZ A. A.
Nevşehir Bilim ve Teknoloji Dergisi, vol.8, pp.120-129, 2019 (Peer-Reviewed Journal)
- IX. **Matlab / Simulink kullanarak STATCOM ile Güneş Fotovoltaik-Rüzgar Hibrit Enerji Sisteminin Performans Analizi ve Simülasyonu**
BAKIR H., KULAKSIZ A. A.
Nevşehir Bilim ve Teknoloji Dergisi, pp.135-144, 2018 (Peer-Reviewed Journal)
- X. **ANN based sizing of battery storage in a stand alone PV system**
KULAKSIZ A. A., AKDEMİR B., BAKIR H.
Journal of Automation and Control Engineering, vol.4, no.1, pp.8-12, 2016 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Çatı-Tipi Güneş Enerji Sistemlerinde Yapay Zeka Tabanlı Arıza Tespiti**
Bakır H., Metlek S.
in: MÜHENDİSLİKTE YAPAY ZEKA UYGULAMALARI, Doç. Dr. Ramazan ŞENER, Editor, İksad Yayınevi, Ankara, pp.23-40, 2022
- II. **Güneş enerji santrallerinde panellerde oluşan arızaların tespiti ve tespit yöntemlerinin karşılaştırılması**
Bakır H.
in: TEKNİK BAKIŞ AÇISIYLA ENERJİ ARAŞTIRMALARI, Dr. Öğr. Üyesi Murat KIRANŞAN, Editor, İksad Yayınevi, Ankara, pp.111-125, 2022

III. **Monitoring and Diagnosis for Photovoltaic Fields in Turkey**

BAKIR H.

in: New Trends in Engineering and Applied Natural Sciences, Assoc. Prof. Enes YİĞİT, Assist Prof. Umut ÖZKAYA, Editor, DUVAR YAYINEVİ, pp.73-82, 2022

Refereed Congress / Symposium Publications in Proceedings

- I. **MPPT String Arrangement and Production Improvements in String Inverters**
BAKIR H.
11th International Conference on Advanced Technologies 2023 (ICAT23), İstanbul, Turkey, 17 August 2023
- II. **Simulation Modeling of Solar Hybrid Water Pumping System**
BAKIR H., GÖLBAŞI D., Karapınar İ.
2nd International Conference on Engineering, Natural and Social Sciences, Konya, Turkey, 04 April 2023
- III. **Performance Evaluation of Solar Water Pump Systems using DC-AC Motor**
BAKIR H.
2nd International Conference on Scientific and Academic Research, 14 March 2023
- IV. **Control of Solar Battery Hybrid Water Pump Systems using RealTime Simulation**
BAKIR H.
2nd International Conference on Scientific and Academic Research, 14 March 2023
- V. **Fault detection of PV systems using convolutional neural networks and thermal imaging**
BAKIR H.
3rd International Conference on Applied Engineering and Natural Sciences, Turkey, 20 July 2022
- VI. **THE DETECTION OF DETERIORATED PV MODULES IN TURKEY**
BAKIR H.
1ST INTERNATIONAL SCIENTIFIC RESEARCH CONFERENCE ON SUSTAINABLE ENGINEERING AND TECHNOLOGY (ISRCSET'22), İstanbul, Turkey, 13 May 2022, pp.284-289
- VII. **FV PANELLERDE ARIZA TESPİTİ VE ANALİZİ**
BAKIR H.
1ST INTERNATIONAL SCIENTIFIC RESEARCH CONFERENCE ON SUSTAINABLE ENGINEERING AND TECHNOLOGY (ISRCSET'22), İstanbul, Turkey, 13 May 2022, pp.290-294
- VIII. **Thermal image analysis for fault detection of PV systems in Ankara/Turkey**
BAKIR H.
2nd International Conference on Applied Engineering and Natural Sciences, Turkey, 15 May 2022
- IX. **Monitoring and diagnosis for photovoltaic fields in Turkey**
BAKIR H.
2nd International Conference on Applied Engineering and Natural Sciences, Turkey, 10 May 2022
- X. **Modelling and Voltage Control of the Solar-Wind Hybrid Micro-Grid with Optimized STATCOM**
BAKIR H., KULAKSIZ A. A.
2019 23rd International Conference Electronics, Palanga, Lithuania, 17 - 19 June 2019
- XI. **Adaptive Neuro-Fuzzy Interface System-based Energy Management Application for a Residential Photovoltaic On-Grid System**
BAKIR H., younas u., ÜNSAL ÇELİMLİ D. B., KULAKSIZ A. A.
International Conference on Energy Research, Marmaris, 11 - 13 April 2019
- XII. **Adaptive Neuro-Fuzzy Interface System-based Energy Management Application for a Residential Photovoltaic On-Grid System**
BAKIR H., KULAKSIZ A. A., ÜNSAL ÇELİMLİ D. B.
International Conference on Energy Research, 11 - 13 April 2019
- XIII. **Performance Analysis and Simulation of Solar PV-Wind Hybrid Energy System with STATCOM using Matlab/Simulink**
BAKIR H., KULAKSIZ A. A.

2nd International Conference on Material Science and Technology in Cappadocia (IMSTEC'17), 11 - 13 October 2017

XIV. Energy Management Application to Reduce Peak Load in a Photovoltaic Power Integrated Grid

BAKIR H., KULAKSIZ A. A.

8.EGE ENERGY SYMPOSIUM, Afyonkarahisar, Turkey, 11 - 13 May 2016

Supported Projects

Bakır H., Kulaksız A. A., Project Supported by Higher Education Institutions, FOTOVOLTAİK SİSTEM ENTEGRELİ AKILLI ŞEBEKE İÇİN ZİGBEE AYGITLARI İLE ENERJİ KONTROLÜ VE İZLEMENİN GERÇEKLEŞTİRİLMESİ, 2014 - 2016

Scientific Refereeing

Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Journal Indexed in SCI-E, May 2023

International Journal of Renewable Energy Development, Journal Indexed in ESCI, April 2023

JOURNAL OF PROCESS CONTROL, Journal Indexed in SCI-E, March 2023

ELECTRICAL ENGINEERING, Journal Indexed in SCI-E, March 2023

Journal of advanced research in natural and applied sciences (Online), Other Indexed Journal, December 2022

ENVIRONMENT, DEVELOPMENT AND SUSTAINABILITY A MULTIDISCIPLINARY APPROACH TO THE THEORY AND PRACTICE OF SUSTAINABLE DEVELOPMENT, Journal Indexed in SCI-E, December 2022

JOURNAL OF ELECTRICAL ENGINEERING AND TECHNOLOGY, Journal Indexed in SCI-E, September 2022

Osmaniye Korkut Ata Üniversitesi Fen Bilimleri Enstitüsü Dergisi (Online), Other Indexed Journal, August 2022

Konya mühendislik bilimleri dergisi (Online), Other Indexed Journal, August 2021

INTERNATIONAL JOURNAL OF ENERGY RESEARCH, Journal Indexed in SCI-E, July 2021

Metrics

Publication: 38

Citation (WoS): 50

Citation (Scopus): 124

H-Index (WoS): 3

H-Index (Scopus): 5

Scholarships

2214 yurtdışı doktora bursu, TÜBİTAK, 2019 - 2019

Non Academic Experience

Saint Mary's University

Coventry University