

## Asst. Prof. Burcu GÜNDOĞDU

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, The University Of Sheffield, Elektrik-Elektronik Mühendisliği, Turkey 2015 - 2019

Postgraduate, University Of Nottingham {England}, Elektrik Mühendisliğinde Sürdürülebilir Ve Yenilenebilir Enerji, England 2013 - 2014

Undergraduate, Pamukkale University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2006 - 2010

### Dissertations

Doctorate, Control Analysis for Grid Tied Battery Energy Storage System for SOC and SOH Management, The University Of Sheffield, Elektrik-Elektronik Mühendisliği, 2019

Postgraduate, Coordinated Control of a Large Offshore Wind Farm and a HVDC Link, University Of Nottingham {England}, Elektrik Mühendisliğinde Sürdürülebilir Ve Yenilenebilir Enerji, 2014

### Academic Titles / Tasks

Lecturer, Hakkari University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2020 - Continues

### Courses

#### Postgraduate

Güç Elektroniği Sistemleri, Postgraduate, 2022 - 2023

Enerji Sistemleri Analizi, Postgraduate, 2022 - 2023

#### Undergraduate

Güç Elektroniği, Undergraduate, 2020 - 2021

Elektrik-Elektronik Ölçme Temelleri, Undergraduate, 2020 - 2021

Kompleks Değişkenler Teorisi, Undergraduate, 2020 - 2021

Elektrik Elektronik Ölçme Laboratuvarı, Undergraduate, 2020 - 2021

Lineer Cebir, Undergraduate, 2020 - 2021

Elektrik-Elektronik Ölçme Temelleri, Undergraduate, 2019 - 2020

Lineer Cebir, Undergraduate, 2019 - 2020

## Supervised Theses

Burcu G., TÜRKİYE ELEKTRİK ŞEBEKESİ İÇİN YAN HİZMET TEMELLİ BATARYA ENERJİ DEPOLAMA SİSTEMİ TASARIMI VE KONTROLÜ, Doctorate, K.NUR(Student), 2024

Burcu G., GÜÇ ŞEBEKELERİNDE İLETİLEN YAYINIMLARIN GÜÇ KALİTESİ ANALİZİ VE GİDERİLMESİ, Doctorate, S.GENÇ(Student), 2023

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

- I. **The effect of conducted emissions of Grid-Tied three-Phase adjustable drives**  
Genç S., Muneeswaran V., Thomas D., Greedy S., GÜNDOĞDU B., Sarma N., Özgönenel O.  
Engineering Science and Technology, an International Journal, vol.46, 2023 (SCI-Expanded)
- II. **An intelligent power management controller for grid-connected battery energy storage systems for frequency response service: A battery cycle life approach**  
AKPINAR K. N., GÜNDOĞDU B., Özgönenel O., Gezeğin C.  
Electric Power Systems Research, vol.216, 2023 (SCI-Expanded)
- III. **A novel cycle counting perspective for energy management of grid integrated battery energy storage systems**  
AKPINAR K. N., GÜNDOĞDU B., Özgönenel O.  
Energy Reports, vol.9, pp.123-131, 2023 (SCI-Expanded)
- IV. **Scheduling of grid-tied battery energy storage system participating in frequency response services and energy arbitrage**  
GÜNDOĞDU B., Gladwin D. T., Nejad S., Stone D. A.  
IET Generation, Transmission and Distribution, vol.13, no.14, pp.2930-2941, 2019 (SCI-Expanded)
- V. **A battery energy management strategy for U.K. enhanced frequency response and triad avoidance**  
GÜNDOĞDU B., Nejad S., Gladwin D. T., Foster M. P., Stone D. A.  
IEEE Transactions on Industrial Electronics, vol.65, no.12, pp.9509-9517, 2018 (SCI-Expanded)

## Articles Published in Other Journals

- I. **An Efficient Rule-Based Control Algorithm for Frequency Response Ancillary Service with BESS for UK and Turkish Grid Scenarios**  
AKPINAR K. N., GÜNDOĞDU B., Özgönenel O.  
International Journal of Renewable Energy Research, vol.12, no.4, pp.2131-2141, 2022 (ESCI)
- II. **Battery energy management strategies for UK firm frequency response services and energy arbitrage**  
GÜNDOĞDU B., Gladwin D., Stone D.  
JOURNAL OF ENGINEERING-JOE, vol.2019, no.17, pp.4152-4157, 2019 (Peer-Reviewed Journal)

## Papers Published in Refereed Scientific Meetings

- I. **Power Quality Investigation of a Grid-Connected Single-Phase Bidirectional AC/DC for Electric Vehicle Applications**  
Genç S., Gezeğin C., Özgönenel O., AKPINAR K. N., GÜNDOĞDU B., Sarma N.  
12th International Conference on Smart Grid, icSmartGrid 2024, Hybrid, Setubal, Portugal, 27 - 29 May 2024, pp.699-703
- II. **Dynamic Active and Reactive Power Control with Utility-Scale Battery Energy Storage Systems**  
AKPINAR K. N., Özgönenel O., Genç S., GÜNDOĞDU B., Sarma N.  
6th IEEE Global Power, Energy and Communication Conference, GPECOM 2024, Budapest, Hungary, 4 - 07 June 2024, pp.450-454

- III. **Model Predictive Controlled Application of Power Management Algorithm for Battery Energy Storage System Providing Frequency Ancillary Service**  
AKPINAR K. N., SARMA N., GÜNDOĞDU B., ÖZGÖNENEL O.  
14th INTERNATIONAL CONFERENCE on ELECTRICAL and ELECTRONICS ENGINEERING, Bursa, Turkey, 30 November - 02 December 2023
- IV. **Suppression of Conducted Emissions in Three-Phase Adjustable Drive Systems**  
GENÇ S., SARMA N., GÜNDOĞDU B., ÖZGÖNENEL O., GEZEGİN C., TERZİ Ü. K.  
14th INTERNATIONAL CONFERENCE on ELECTRICAL and ELECTRONICS ENGINEERING, Bursa, Turkey, 30 November - 02 December 2023
- V. **Conducted Emissions Analysis of DC-DC Buck Converter**  
Genç S., GÜNDOĞDU B., Özgönenel O.  
4th IEEE Global Power, Energy and Communication Conference, GPECOM 2022, Cappadocia, Turkey, 14 - 17 June 2022, pp.135-138
- VI. **Optimum Battery State of Charge Control for Frequency Response Service**  
AKPINAR K. N., GÜNDOĞDU B., Özgönenel O.  
10th International Conference on Smart Grid, icSmartGrid 2022, İstanbul, Turkey, 27 - 29 June 2022, pp.255-260
- VII. **Influence of Cage Structure on Rotor Bar Current Waveform and Performance in Induction Machines**  
GÜNDOĞDU T., KÖMÜRĞÖZ KIRIŞ G., GÜNDOĞDU B.  
2019 1st Global Power, Energy and Communication Conference (GPECOM), Nevşehir, Turkey, 12 - 15 June 2019
- VIII. **A Fast Battery Cycle Counting Method for Grid-Tied Battery Energy Storage System Subjected to Microcycles**  
GÜNDOĞDU B., Gladwin D.  
2018 International Electrical Engineering Congress (iEECON), Krabi, Thailand, 7 - 09 March 2018
- IX. **Bi-Directional Power Control of Grid-Tied Battery Energy Storage System Operating in Frequency Regulation**  
GÜNDOĞDU B., Gladwin D.  
2018 International Electrical Engineering Congress (iEECON), Krabi, Thailand, 7 - 09 March 2018
- X. **A forecasting battery state of charge management strategy for frequency response in the UK system**  
GÜNDOĞDU B., Gladwin D., Foster M., Stone D.  
2018 IEEE International Conference on Industrial Technology (ICIT), Lyon, France, 20 - 22 February 2018
- XI. **Battery SOC management strategy for enhanced frequency response and day-ahead energy scheduling of BESS for energy arbitrage**  
GÜNDOĞDU B., Gladwin D., Stone D.  
IECON 2017 - 43rd Annual Conference of the IEEE Industrial Electronics Society, Beijing, China, 29 October - 01 November 2017
- XII. **A battery energy management strategy for UK enhanced frequency response**  
GÜNDOĞDU B., Nejad S., Gladwin D., Stone D.  
2017 IEEE 26th International Symposium on Industrial Electronics (ISIE), Edinburgh, United Kingdom, 19 - 21 June 2017
- XIII. **Implementation of fractional slot concentrated windings to induction machines**  
GÜNDOĞDU T., KÖMÜRĞÖZ KIRIŞ G., GÜNDOĞDU B.  
7th IET International Conference on Power Electronics, Machines and Drives (PEMD 2014), Manchester, England, 8 - 10 April 2014
- XIV. **Design of SPSGs with Fractional-Slot Concentrated Windings and Comparison Over Conventional SPSGs**  
GÜNDOĞDU T., KÖMÜRĞÖZ KIRIŞ G., GÜNDOĞDU B.  
Power and Energy / 807: Intelligent Systems and Control / 808: Technology for Education and Learning, Marina del Rey, USA, 11 - 13 November 2013

## **Metrics**

Publication: 21

Citation (Scopus): 175

H-Index (WoS): 2

H-Index (Scopus): 6