

# Prof. NİHAT ÖZTÜRK

## Personal Information

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## International Researcher IDs

ScholarID: hXai17UAAAAJ

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Publons / Web Of Science ResearcherID: H-8697-2018

ScopusID: 23968464700

Yoksis Researcher ID: 134336

## Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (Dr), Turkey 2000 - 2006

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (YI) (Tezli), Turkey 1997 - 2000

Undergraduate, Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi Bölümü, Turkey 1993 - 1996

## Foreign Languages

English, B2 Upper Intermediate

## Dissertations

Doctorate, Yumuşak Anahtarlamalı Asenkron Motorun Dolaylı Vektör Denetiminin Gerçekleştirilmesi, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (Dr), 2006

Postgraduate, Alan Yönlendirmeli Asenkron Motora Bulanık Kontrolün Uygulanması, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (YI) (Tezli), 2000

## Research Areas

Electric Motor Drivers, Power Converters

## Academic Titles / Tasks

Professor, Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği, 2019 - Continues

Associate Professor, Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği, 2014 - 2019

Assistant Professor, Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi, 2009 - 2014

Lecturer PhD, Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi, 2006 - 2009

Research Assistant, Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi, 1998 - 2006

## Academic and Administrative Experience

Gazi University, Teknoloji Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2015 - 2016

Gazi University, Atatürk Meslek Yüksekokulu, 2012 - 2014

Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi Bölümü, 2010 - 2012

## Courses

ELEKTRİKELEKTRONİK MÜHENDİSLİĞİNDE YAPAY ZEKA UYGULAMALARI, Doctorate, 2021 - 2022

YAPAY ZEKA TEKNİKLERİ, Undergraduate, 2021 - 2022

Devre Analizi-II, Undergraduate, 2021 - 2022

DEVRE ANALİZİ LAB.II, Undergraduate, 2021 - 2022

## Advising Theses

ÖZTÜRK N., Development Of A Modular And Reconfigurable Actuator Control Hardware Platform Based On Triz Methodology, Postgraduate, E.BİLGEHAN(Student), 2019

ÖZTÜRK N., Sip (Session initiation protocol) attacks and security measures, Postgraduate, M.YÜKSEL(Student), 2017

ÖZTÜRK N., A New Approach To Reduce Commutation Current Ripple For Three-Phase Brushless Direct Current Motors, Doctorate, E.ÇELİK(Student), 2016

ÖZTÜRK N., Constant voltage output control with diode clamped three level inverter, Postgraduate, R.CANBAZ(Student), 2014

ÖZTÜRK N., Graphical interface aided simulation of speed control of permanent magnet synchronous motor with genetic based fuzzy logic controller, Postgraduate, E.ÇELİK(Student), 2012

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

- I. **Improving speed control characteristics of PMDC motor drives using nonlinear PI control**  
Çelik E., Bal G., ÖZTÜRK N., BEKİROĞLU E., Houssein E. H., OCAK C., Sharma G.  
Neural Computing and Applications, vol.36, no.16, pp.9113-9124, 2024 (SCI-Expanded)
- II. **MPPT Design for PV-Powered WPT System with Irregular Pulse Density Modulation**  
Unal K., Bal G., Oncu S., Öztürk N.  
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.1, pp.1-9, 2023 (SCI-Expanded)
- III. **Sensitivity Factor-Based Congestion Mitigation in DPS Applying Novel Hybrid GWPSO**  
Gautam A., Sharma P., Kumar Y., Sharma G., Gautam A., Çelik E., ÖZTÜRK N.  
Electric Power Components and Systems, vol.51, no.6, pp.555-567, 2023 (SCI-Expanded)
- IV. **Frequency Support Studies of a Microgrid Having DG-WTG Using ANFIS and with the Application of HAE-FC and RFB**  
Rameshar V., Sharma G., Bokoro P. N., Çelik E., ÖZTÜRK N.  
Electric Power Components and Systems, vol.51, no.15, pp.1584-1596, 2023 (SCI-Expanded)
- V. **Improved load frequency control of interconnected power systems using energy storage devices and a new cost function**  
Celik E., ÖZTÜRK N., Houssein E. H.  
NEURAL COMPUTING & APPLICATIONS, vol.35, no.1, pp.681-697, 2023 (SCI-Expanded)
- VI. **Analytical MPPT Control and Comparative Analysis for PV Panel Connected to DC Microgrid**  
Çelik K., DEMİRTAŞ M., ÖZTÜRK N.  
Electric Power Components and Systems, vol.51, no.11, pp.1075-1088, 2023 (SCI-Expanded)
- VII. **Novel fuzzy 1PD-TI controller for AGC of interconnected electric power systems with renewable power generation and energy storage devices**  
Çelik E., ÖZTÜRK N.

Engineering Science and Technology, an International Journal, vol.35, 2022 (SCI-Expanded)

- VIII. **Influence of energy storage device on load frequency control of an interconnected dual-area thermal and solar photovoltaic power system**  
Celik E., ÖZTÜRK N., Houssein E. H.  
NEURAL COMPUTING & APPLICATIONS, vol.34, no.22, pp.20083-20099, 2022 (SCI-Expanded)
- IX. **Commutation current ripple minimization of brushless DC motor drive based on programmed phase current references**  
Celik E., Öztürk N.  
ELECTRICAL ENGINEERING, vol.103, no.6, pp.2661-2674, 2021 (SCI-Expanded)
- X. **Advancement of the search process of salp swarm algorithm for global optimization problems**  
Celik E., Öztürk N., Arya Y.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.182, 2021 (SCI-Expanded)
- XI. **(1+PD)-PID cascade controller design for performance betterment of load frequency control in diverse electric power systems**  
Celik E., Öztürk N., Arya Y., Ocak C.  
NEURAL COMPUTING & APPLICATIONS, vol.33, no.22, pp.15433-15456, 2021 (SCI-Expanded)
- XII. **A new objective function design for optimization of secondary controllers in load frequency control**  
Yilmaz Z. Y., BAL G., Celik E., ÖZTÜRK N., GÜVENÇ U., Arya Y.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.36, no.4, pp.2053-2067, 2021 (SCI-Expanded)
- XIII. **Wind turbine speed control of a contactless piezoelectric wind energy harvester**  
Celik E., KURT E., ÖZTÜRK N.  
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.107, no.2, pp.226-238, 2020 (SCI-Expanded)
- XIV. **A new fuzzy logic estimator for reduction of commutation current pulsation in brushless DC motor drives with three-phase excitation**  
Celik E., ÖZTÜRK N.  
NEURAL COMPUTING & APPLICATIONS, vol.31, pp.1125-1134, 2019 (SCI-Expanded)
- XV. **A hybrid symbiotic organisms search and simulated annealing technique applied to efficient design of PID controller for automatic voltage regulator**  
Celik E., ÖZTÜRK N.  
SOFT COMPUTING, vol.22, no.23, pp.8011-8024, 2018 (SCI-Expanded)
- XVI. **First application of symbiotic organisms search algorithm to off-line optimization of PI parameters for DSP-based DC motor drives**  
Celik E., ÖZTÜRK N.  
NEURAL COMPUTING & APPLICATIONS, vol.30, no.5, pp.1689-1699, 2018 (SCI-Expanded)
- XVII. **A Neural Network Design for the Estimation of Nonlinear Behavior of a Magnetically-Excited Piezoelectric Harvester**  
Celik E., UZUN Y., KURT E., ÖZTÜRK N., TOPALOĞLU N.  
JOURNAL OF ELECTRONIC MATERIALS, vol.47, no.8, pp.4412-4420, 2018 (SCI-Expanded)
- XVIII. **Zero-current switching technique for constant voltage constant frequency sinusoidal PWM inverter**  
ÖZTÜRK N., KAPLAN O., Celik E.  
ELECTRICAL ENGINEERING, vol.100, no.2, pp.1147-1157, 2018 (SCI-Expanded)
- XIX. **Attenuating saturated-regulator operation effect of brushless DC motors through genetic-based fuzzy logic estimator**  
Celik E., ÖZTÜRK N.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.26, no.6, pp.3207-3225, 2018 (SCI-Expanded)
- XX. **Cogging torque reduction by optimal design of PM synchronous generator for wind turbines**  
ÖZTÜRK N., Dalcali A., Celik E., Sakar S.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.28, pp.17593-17600, 2017 (SCI-Expanded)
- XXI. **Application of artificial neural network to estimate power generation and efficiency of a new axial**

### **flux permanent magnet synchronous generator**

Celik E., Gor H., ÖZTÜRK N., KURT E.

INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.28, pp.17692-17699, 2017 (SCI-Expanded)

XXII. **An educational tool for the genetic algorithm-based fuzzy logic controller of a permanent magnet synchronous motor drive**

ÖZTÜRK N., Celik E.

INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING EDUCATION, vol.51, no.3, pp.218-231, 2014 (SCI-Expanded)

XXIII. **Speed control of permanent magnet synchronous motors using fuzzy controller based on genetic algorithms**

ÖZTÜRK N., Celik E.

INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.43, no.1, pp.889-898, 2012 (SCI-Expanded)

XXIV. **Speed Control for DC Motor Drive based on Fuzzy and Genetic PI Controller - A Comparative Study**

ÖZTÜRK N.

ELEKTRONIKA IR ELEKTROTEHNIKA, vol.123, no.7, pp.43-48, 2012 (SCI-Expanded)

XXV. **A Novel Control Technique for Soft-switching Sinusoidal Pulse Width Modulation Inverter**

BAL G., ÖZTÜRK N.

ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.39, no.1, pp.31-45, 2011 (SCI-Expanded)

XXVI. **ANALYSIS OF SWITCHING LOSSES OF HARD AND SOFT SWITCHING IN FULL BRIDGE CONVERTER**

ÖZTÜRK N.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.23, no.1, pp.147-155, 2008 (SCI-Expanded)

### **Articles Published in Other Journals**

I. **Design of Hybrid Controller for Automatic Voltage Regulator**

Bal G., Öztürk N., Öncü S., Ünal K.

JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.1, no.1, 2021 (ESCI)

II. **Cogging Torque Minimization Using Skewed and Separated Magnet Geometries**

Dalcali A., KURT E., Celik E., ÖZTÜRK N.

JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.23, no.1, pp.223-230, 2020 (ESCI)

III. **Estimation of the Clearance Effect in the Blanking Process of CuZn30 Sheet Metal Using Neural Network—A Comparative Study**

ÇELİK E., ÇAVUŞOĞLU O., GÜRÜN H., ÖZTÜRK N.

Bilişim Teknolojileri Dergisi, vol.11, no.2, pp.187-193, 2018 (Peer-Reviewed Journal)

IV. **SIP Saldırıları ve Güvenlik Yöntemleri**

Yüksel M., ÖZTÜRK N.

Bilişim Teknolojileri Dergisi, vol.10, no.3, pp.301-310, 2017 (Peer-Reviewed Journal)

V. **Doğru akım motor sürücülerini için PI parametrelerinin simbiyotik organizmalar arama algoritması ile optimal ayarı**

ÇELİK E., ÖZTÜRK N.

Bilişim Teknolojileri Dergisi, vol.10, no.3, pp.311-318, 2017 (Peer-Reviewed Journal)

VI. **Application of genetic algorithms to core loss coefficient extraction**

Öztürk N., Çelik E.

Progress In Electromagnetics Research M, vol.19, pp.133-146, 2011 (Scopus)

### **Refereed Congress / Symposium Publications in Proceedings**

- I. **A Hybrid AC/DC Power Flow Solution Including VSC Multi Terminal HVDC Systems by Flexible Unified Branch Model**  
Al Sinayyid B. N., ÖZTÜRK N.  
6th IEEE Global Power, Energy and Communication Conference, GPECOM 2024, Budapest, Hungary, 4 - 07 June 2024, pp.549-553
- II. **Modeling, Analysis and Optimization of Energy Management in An Islanded Microgrid**  
Gök R., Değirmenci S., Irmak E., Öztürk N.  
6th IEEE Global Power, Energy and Communication Conference, GPECOM 2024, Budapest, Hungary, 4 - 07 June 2024, pp.537-542
- III. **Investigation of The Circulating Current Based on The Power Sharing with The Droop Control Method in The Parallel-Connected Inverters**  
Degirmenci S., ÖZTÜRK N.  
12th IEEE International Conference on Renewable Energy Research and Applications, ICRERA 2023, Oshawa, Canada, 29 August - 01 September 2023, pp.548-555
- IV. **Analytical Investigation of PV Panel Operated at Maximum Power Point on DC Microgrid**  
ÇELİK K., DEMİRTAŞ M., ÖZTÜRK N.  
11th International Conference on Renewable Energy Research and Application (ICRERA2022), İstanbul, Turkey, 18 September 2022, pp.324-329
- V. **Comparison the Performance of Different Optimization Methods in Artificial Intelligence Based Electricity Production Forecasting**  
Kaysal K., Hocaoglu F. O., Öztürk N.  
10th International Conference on Smart Grid, icSmartGrid 2022, İstanbul, Turkey, 27 - 29 June 2022, pp.236-239
- VI. **Pulse Density Modulation Controlled WPT Charger for LEVs**  
Bal G., Ünal K., Oncu S., Öztürk N.  
10th International Conference on Smart Grid, icSmartGrid 2022, İstanbul, Turkey, 27 - 29 June 2022, pp.271-274
- VII. **Trigger Time Optimization for Multistage Railgun Using Genetic Algorithm**  
Özer R., Öztürk N.  
11th IEEE International Conference on Renewable Energy Research and Applications, ICRERA 2022, İstanbul, Turkey, 18 - 21 September 2022, pp.241-246
- VIII. **An Application of PDM Technique for MPPT in Solar Powered Wireless Power Transfer Systems**  
Bal G., Öncü S., Öztürk N., Ünal K.  
International Conference on Renewable Energy Research and Application (ICRERA), 26 - 29 September 2021
- IX. **A Short-Term Load Demand Forecasting based on the Method of LSTM**  
Bodur I., Celik E., ÖZTÜRK N.  
10th IEEE International Conference on Renewable Energy Research and Applications, ICRERA 2021, İstanbul, Turkey, 26 - 29 September 2021, pp.171-174
- X. **The Comparing of Linear Damping Methods for Constant Power Loads and Stability Analysis**  
BODUR F., KAPLAN O., ÖZTÜRK N.  
10th IEEE International Conference on Renewable Energy Research and Applications, ICRERA 2021, İstanbul, Turkey, 26 - 29 September 2021, pp.294-300
- XI. **HAVAYOLU AÇIKLIĞI BASINCINA BAĞLI OLARAK ALVEOLAR BASINCIN BULANIK MANTIK DENETLEYİCİ İLE KONTROLÜ**  
Bayazit A., BURUNKAYA M., ÖZTÜRK N.  
6. ULUSLARARASI MUHENDISLIK MİMARLIK VE TASARIM KONGRESİ, İstanbul, Turkey, 17 - 18 December 2020, pp.357-364
- XII. **İki alanlı termik güç sistemi yük frekans kontrolünde PID denetleyicinin simbiyotik organizmalar arama algoritması ile tasarımı**  
ÖZTÜRK N., ÇELİK E., YENEN Z.  
Uluslararası Marmara Fen ve Sosyal Bilimler Kongresi, 1 - 03 November 2019
- XIII. **Two-Degrees-of-Freedom PID Controller For AC/DC Converters**  
ÖZTÜRK N., ÇELİK E.

8TH INTERNATIONAL CONFERENCE ON RENEWABLE ENERGY RESEARCH AND APPLICATIONS, Brasov, Romania,  
3 - 06 November 2019

- XIV. **Enhancing Adaptability Features of Electronics in Instrumentation Hardware with TRIZ**  
Uyar E. B., ÖZTÜRK N.  
11th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 28 - 30  
November 2019, pp.527-531
- XV. **Türkiye’de TRIZ Uygulamaları: Bir Tez Veritabanıİncelemesi**  
Uyar E. B., Şahin M., ÖZTÜRK N.  
ELECO 2018, Elektrik-Elektronik ve Biyomedikal Mühendisliği Konferansı, Turkey, 30 November - 01 December  
2018, pp.449-453
- XVI. **Design of PID controlled-automatic voltage regulator system based on a new neighborhood strategy  
of simulated annealing**  
ÇELİK E., ÖZTÜRK N., BAL G.  
4th International Conference on Engineering and Natural Sciences, Kiev, Ukraine, 2 - 06 May 2018, pp.102
- XVII. **COGGING TORQUE REDUCTION BY USING THE SKEWING AND SEPARATED MAGNET TECHNIQUES**  
DALCALI A., KURT E., ÇELİK E., ÖZTÜRK N.  
THE 6TH EUROPEAN CONFERENCE ON RENEWABLE ENERGY SYSTEMS, İstanbul, Turkey, 25 - 27 June 2018
- XVIII. **Particle Swarm Optimization Based Determination of Learning Parameters in Artificial Neural  
Networks with Backpropagation Learning Algorithm**  
ÇELİK E., ÖZTÜRK N., DALCALI A.  
International Conference on Advanced Technologies, Computer Engineering and Science, Karabük, Turkey, 11 - 13  
May 2018, pp.592-597
- XIX. **Implementation of a call system with power line communication**  
BAL G., Daldal N., ÖZTÜRK N.  
2009 International Conference on Application of Information and Communication Technologies, AICT 2009, Baku,  
Azerbaijan, 14 - 16 October 2009
- XX. **Implementation of Indirect Vector Control to Induction Motor with Zero Current Transition Inverter**  
BAL G., ÖZTÜRK N., BEKİROĞLU E.  
22nd International Symposium on Information Communication and Automation Technologies, Sarajevo, Bosnia  
And Herzegovina, 29 - 31 October 2009, pp.345-346
- XXI. **Investigation of Switching Losses for Sinusoidal PWM Zero Current Switching Inverter and Resonant  
Link Inverter**  
BAL G., ÖZTÜRK N., BEKİROĞLU E.  
35th Annual Conference of the IEEE-Industrial-Electronics-Society, Porto, Portugal, 3 - 05 November 2009, pp.550-  
551
- XXII. **Sıfır Akım Anahtarlama Yöntemi ile IGBT deki Kesim Kayıplarının Azaltılması**  
ÖZTÜRK N.  
1. Uluslararası Mesleki ve Teknik Eğitim Teknolojileri Kongresi, MTET-2005, 5-7 Eylül 2005, İstanbul, 5 - 07  
September 2005

## Supported Projects

OCAK C., ÖZTÜRK N., ÇELİK E., YENİPİNAR B., KÜYÜK M. A., Project Supported by Higher Education Institutions, Elektrik  
Tahrikli Araçların Sürüş Çevrimine Dayalı Evirici ve Motor Verimliliklerinin Değişken Anahtarlama Frekansları Altında  
Haritalandırılarak Araştırılması, 2023 - Continues

Ünal K., Bal G., Kaplan O., Yenipınar B., Çelik E., Ocak C., Bekiroğlu E., Bodur F., Öztürk N., Project Supported by Higher  
Education Institutions, Elektrikli Araçlar ve Güç sistemleri için Kompakt Yapılı Menzıl Arttırıcı, 2024 - 2025

ÖZTÜRK N., BAL G., ÖNCÜ S., ÜNAL K., Project Supported by Higher Education Institutions, Hafif Elektrikli Araçlar için  
Güneş Enerjisi ile Beslenen Kablosuz Şarj Sisteminin Tasarımı, 2021 - 2023

ÖZTÜRK N., Project Supported by Higher Education Institutions, ÜÇ SEVİYELİ DİYOT TUTMALI EVİRİCİ İLE ÇEŞİTLİ

YÜKLERDE HARMONİKLERİN ANALİZ EDİLMESİ (OMİK-RL-RC)?, 2011 - 2014

## Activities in Scientific Journals

JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, Committee Member, 2023 - Continues

Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, Committee Member, 2019 - Continues

## Scientific Refereeing

IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, SCI Journal, May 2020

IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, SCI Journal, February 2020

IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, SCI Journal, February 2020

## Metrics

Publication: 67

Citation (WoS): 479

Citation (Scopus): 642

H-Index (WoS): 11

H-Index (Scopus): 14

## Non Academic Experience

Gazi Üniversitesi