

## Lect. PhD NAKİ GÜLER

### Personal Information

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### Biography

Naki Guler received the B.Sc., M.Sc., and Ph.D. degrees in electrical and electronic engineering from Gazi University, Ankara, Turkey, in 2010, 2012, and 2019, respectively. He joined the Department of Electricity and Energy, Gazi University, Turkey, in 2012. His current research interests include control and applications of power electronic converters, energy conversion and energy management of renewable sources. He was the recipient of best paper awards at the 6th ICRERA and 12th CPE-POWERENG conferences.

### Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2014 - 2019

Post Graduate, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (Yl) (Tezli), Turkey 2010 - 2012

Under Graduate, Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi Bölümü, Turkey 2005 - 2010

### Dissertations

Doctorate, Dağıtık üretim kaynakları için model öngörülü kontrol yöntemi ile yeni bir DA/DA çevirici tasarımı ve uygulaması, Gazi University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2019

Post Graduate, Senkron generatörlerin dsPIC kullanılarak paralel bağlanması ve arayüz üzerinden yük kontrolünün gerçekleştirilmesi, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (Yl) (Tezli), 2012

### Research Areas

Power Electronics

### Academic Titles / Tasks

Lecturer, Gazi University, Teknik Bilimler Meslek Yüksekokulu, Elektrik Ve Enerji Bölümü, 2012 - Continues

Researcher, TEXAS A&M UNIVERSITY AT QATAR, 2019 - 2019

### Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Multi-Input Multi-Output-Based Sliding-Mode Controller for Single-Phase Quasi-Z-Source Inverters**  
Bagheri F., Komurcugil H., Kukrer O., GÜLER N., Bayhan S.  
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.67, no.8, pp.6439-6449, 2020 (Journal Indexed in SCI)
- II. **Indirect Sliding Mode Control for DC-DC SEPIC Converters**  
Komurcugil H., Biricik S., Güler N.

- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, vol.16, no.6, pp.4099-4108, 2020 (Journal Indexed in SCI)
- III. **A model predictive control-based hybrid MPPT method for boost converters**  
Irmak E., Güler N.  
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.107, no.1, pp.1-16, 2020 (Journal Indexed in SCI)
- IV. **Design, implementation and model predictive based control of a mode-changeable DC/DC converter for hybrid renewable energy systems**  
Güler N., Irmak E.  
ISA Transactions, 2020 (Journal Indexed in SCI Expanded)
- V. **An inverter design for a new permanent magnet synchronous generator**  
GÜLER N., IRMAK E., Gor H., KURT E.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.28, pp.17723-17732, 2017 (Journal Indexed in SCI)
- VI. **Design, implementation, and verification of computer interactive parallel connection system with load-sharing control for synchronous generators**  
GÜLER N., IRMAK E.  
ELECTRICAL ENGINEERING, vol.99, no.1, pp.241-263, 2017 (Journal Indexed in SCI)
- VII. **Design and Analyse of a Parallel Connection Model for Hybrid Energy Systems**  
GÜLER N., DEMİRBAŞ Ş., IRMAK E.  
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.21, no.2, pp.44-49, 2015 (Journal Indexed in SCI)
- VIII. **Application of a high efficient voltage regulation system with MPPT algorithm**  
IRMAK E., GÜLER N.  
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.44, no.1, pp.703-712, 2013 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **9 Seviyeli Paket E-Hücreli Eviriciler için Üstün Burulma Algoritması Tabanlı Kayan Kipli Kontrol Tasarımı**  
Güler N.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.9, no.1, pp.57-70, 2021 (Other Refereed National Journals)
- II. **Fotovoltaik Sistemler için Üç Fazlı Evirici Tasarımı ve Kontrolü**  
GÜLER N., BİRİCİK S.  
Düzce Üniversitesi Bilim ve Teknoloji Dergisi, vol.9, no.1, pp.453-466, 2021 (Other Refereed National Journals)
- III. **Nötr Kenetlemeli Eviriciler için Çok Giriş – Çok Çıkışlı DA-DA Çevirici Tasarımı ve Kontrolü**  
Güler N., Irmak E.  
G.Ü. Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.7, no.1, pp.49-62, 2019 (Other Refereed National Journals)
- IV. **Mikrodenetleyici Temelli Sistemlerde Dspic Kullanımı ve Örnek Uygulama Geliştirme Süreci**  
GÜLER N., IRMAK E.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, vol.4, no.2, pp.71-82, 2016 (Refereed Journals of Other Institutions)
- V. **Endüstriyel Alanlarda Kullanılan Veri İletim Tekniklerinin Karşılaştırılması**  
VADİ S., GÜLER N., BAYINDIR R.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part:C, Tasarım Ve Teknoloji, vol.2, no.1, pp.181-188, 2014 (Other Refereed National Journals)
- VI. **Design of an Energy Monitoring System for a Medium Scale Plant**  
IRMAK E., CALPBİNİCİ A., GÜLER N.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.18, no.2, pp.123-131, 2012 (Other Refereed National Journals)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Weighting Factor Free Lyapunov-Function-Based Model Predictive Control Strategy for Single-Phase T-Type Rectifiers**  
KÖMÜRCÜGİL H., GÜLER N., bayhan s.  
IECON 2020 The 46th Annual Conference of the IEEE Industrial Electronics Society, 18 - 21 October 2020
- II. **Proportional Resonant and Proportional Integral Based Control Strategy for Single Phase Split Source Inverters**  
GÜLER N.  
9th International Conference on Renewable Energy Research and Applications, ICRERA 2020, Glasgow, England, 27 - 30 September 2020, pp.510-514
- III. **A Modified Droop Control Method for PV Systems in Island Mode DC Microgrid**  
IRMAK E., GÜLER N., KABALCI E., CALPBİNİCİ A.  
8th International Conference on Renewable Energy Research and Applications, 3 - 06 November 2019
- IV. **MPPT Based Model Predictive Control of Grid Connected Inverter for PV Systems**  
GÜLER N., IRMAK E.  
8th International Conference on Renewable Energy Research and Applications, 3 - 06 November 2019
- V. **Modeling, Analysis and Sliding Mode Controller Design of High Voltage Gain Switched-Z-Source Inverter**  
Bagheri F., Komurcugil H., Kukrer O., Bayhan S., GÜLER N.  
IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (IEEE IES CPE-POWERENG), Sonderborg, Denmark, 23 - 25 April 2019
- VI. **Application of MPPT Controlled Boost Converter for Photovoltaic Systems**  
Irmak E., Güler N., Yavuz A.  
6th European Conference on Renewable Energy Systems (ECRES'2018), İstanbul, Turkey, 25 - 27 June 2018, pp.6-11
- VII. **Model Predictive Control of Grid-Tied Three Level Neutral Point Clamped Inverter Integrated with A Double Layer Multi-Input Single Output DC/DC Converter**  
IRMAK E., GÜLER N.  
12th IEEE International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Doha, Qatar, 10 - 12 April 2018
- VIII. **Application of A Boost Based Multi-Input Single-Output DC/DC Converter**  
IRMAK E., GÜLER N.  
th International Conference on Renewable Energy Research and Applications~ICRERA'xx2017, 5 - 08 November 2017
- IX. **Güneş Enerji Santralleri için Bir Dizi Evirici ve Enerji İzleme Sistemi Tasarımı**  
IRMAK E., GÜLER N., ERSAN M.  
9. Otomatik Kontrol Ulusal Toplantısı~TOK'2017, Turkey, 21 - 23 September 2017
- X. **PI Controlled Solar Energy Supported Static Excitation System for Synchronous Generators**  
IRMAK E., GÜLER N., Ersan M.  
5th IEEE INTERNATIONAL CONFERENCE on RENEWABLE ENERGY RESEARCH and APPLICATIONS, Birmingham, England, 20 - 23 November 2016
- XI. **PI Controlled Solar Energy Supported Static Excitation System for Synchronous Generators**  
IRMAK E., GÜLER N., ERSAN M.  
5th International Conference on Renewable Energy Research and Applications, 20 - 23 November 2016
- XII. **Design and Simulation of a New Inverter for an Axial Flux Permanent Magnet Generator**  
GÜLER N., IRMAK E., GÖR H., KURT E.  
4th European Conference on Renewable Energy Systems, 28 - 31 August 2016
- XIII. **DESIGN AND APPLICATION OF A NOVEL SINGLE INPUT - MULTI OUTPUT DC/DC CONVERTER**  
GÜLER N., IRMAK E.  
5th IEEE International Conference on Renewable Energy Research and Applications (ICRERA), Birmingham,

England, 20 - 23 November 2016, pp.1039-1045

- XIV. **PI CONTROLLED SOLAR ENERGY SUPPORTED STATIC EXCITATION SYSTEM DESIGN AND SIMULATION FOR SYNCHRONOUS GENERATORS**  
IRMAK E., GÜLER N., Ersan M.  
5th IEEE International Conference on Renewable Energy Research and Applications (ICRERA), Birmingham, England, 20 - 23 November 2016, pp.1024-1028
- XV. **Design of a Computer Controlled Speed Control System for Wound Rotor Induction Machines**  
IRMAK E., ÇOLAK İ., GÜLER N., Emre H., Kilisli H.  
37th Int. Telecommunications Energy Conference~INTELEC'xx2015, 18 - 22 October 2015
- XVI. **Design Of A Computer Controlled Speed Control System for Wound-Rotor Induction Machines**  
IRMAK E., Colak I., GÜLER N., Hazer E., Kilisli H.  
IEEE International Telecommunications Energy Conference (INTELEC), Namba, PEOPLES R CHINA, 18 - 22 October 2015
- XVII. **Short-Circuit Fault Analysis on Microgrid**  
BAYINDIR R., IRMAK E., ISSI F., GÜLER N.  
4th International Conference on Renewable Energy Research and Applications (ICRERA), Palermo, Italy, 22 - 25 November 2015, pp.1248-1252
- XVIII. **Yenilenebilir Enerji Kaynakları Üzerine Eğitim Amaçlı Bir Simulasyon Çalışması**  
GÜLER N., Ersan M., IRMAK E.  
1. Ulusal Meslek Yüksekokulları Çalıştay ve Öğrenci Sempozyumu~UMÇÖS'xx2012, Turkey, 13 - 15 June 2012
- XIX. **Remote Monitoring and Reporting the Parameters of A Hybrid Power System via Internet**  
ÇOLAK İ., IRMAK E., GÜLER N., ISSI F.  
EVER'12, 22 - 25 March 2012
- XX. **FPGA Based Parallel Connection System of Separate Voltage Sources**  
IRMAK E., Colak I., Bulbul H. İ. , Guler N., Calpbiniçi A.  
1st International Conference on Renewable Energy Research and Applications (ICRERA), Nagasaki, Japan, 11 - 14 November 2012
- XXI. **Design and Application of a Novel Zero Crossing Detector Circuit**  
IRMAK E., ÇOLAK İ., KAPLAN O., GÜLER N.  
International Conference on Power Engineering, Energy and Electrical Drives~POWERENG2011, 11 - 13 May 2011

## Supported Projects

- Bagheri F., Güler N., TUBITAK Project, Design, Sliding Mode Control And Implementation Of A Bidirectional Dual Active Dc-Dc Converter To Interface Renewable Energy Sources, 2020 - 2022
- Güler N., Project Supported by Higher Education Institutions, Dokuz Seviyeli Çevirici Kullanarak Bir Doğrultucu Tasarımı ve Kontrolü, 2020 - 2021
- Güler N., Irmak E., Project Supported by Higher Education Institutions, BATARYA ŞARJ ÜNİTESİNİN ÇOK SEVİYELİ DA/DA DÖNÜŞTÜRÜCÜ İLE TASARIMI VE MODEL ÖNGÖRMELİ YÖNTEM (MPC) İLE KONTROLÜ, 2017 - 2019
- GÜLER N., IRMAK E., Project Supported by Higher Education Institutions, RÜZGAR ENERJİ SİSTEMLERİ İÇİN ÇOKLU GİRİŞE OLANAK SAĞLAYAN BİR GÜÇ DÖNÜŞTÜRÜCÜSÜ TASARIMI VE UYGULAMASI, 2016 - 2017
- GÜLER N., IRMAK E., Project Supported by Higher Education Institutions, Senkron Generatörlerin dsPIC Kullanılarak Paralel Bağlanması ve Arayüz Üzerinden Yük Kontrolünün Gerçekleştirilmesi, 2011 - 2013
- Irmak E., Güler N., Köse A., Project Supported by Higher Education Institutions, Endüstriyel İşletmelerde Elektrik Güç Parametrelerinin İnternet Üzerinden Takibi ve Analizi, 2011 - 2012

## Memberships / Tasks in Scientific Organizations

- IEEE IES Young Professionals Turkey representative, Member, 2020 - Continues, Turkey

IEEE Turkey, Young Professionals - PES Representative, Member, 2020 - 2021, Turkey

## **Citations**

Total Citations (WOS):47

h-index (WOS):4

## **Awards**

Güler N., Irmak E., Best Paper Award, 12Th Ieee International Conference On Compatibility, Power Electronics And Power Engineering (Cpe-Powereng), April 2018

Güler N., Irmak E., Best Paper Award, International Conference On Renewable Energy Research And Applications~Icrera'2017, November 2017