

# ERDAL IRMAK

## PROF.

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### International Researcher IDs

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ScopusID: 24824489900

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## Learning Knowledge

Doctorate  
2001 - 2007

Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (Dr), Turkey

Postgraduate  
1997 - 2001

Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (YI) (Tezli), Turkey

Undergraduate  
1993 - 1997

Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi Bölümü, Turkey

## Certificates, Courses and Trainings

Occupational Health and Safety, İşyeri Hekimliği ve İş Güvenliği Uzmanlığı Eğitici Belgesi (Occupational Safety Expertise Training Certificate), Republic of Türkiye, Ministry of Labour and Social Security, General Directorate of Occupational Health and Safety, 2012

## Dissertations

Doctorate, Implementation of the internet based laboratory for distance education, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (Dr), 2007

Postgraduate, Design and implementation of computer controlled building security system, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (YI) (Tezli), 2001

## Academic Titles / Tasks

Professor  
2019 - Continues

Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği

Associate Professor  
2013 - 2019

Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği

Assistant Professor

2012 - 2013

Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği

Assistant Professor

2009 - 2012

Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi

Lecturer PhD

2007 - 2009

Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi

Research Assistant

1998 - 2007

Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi

## Supported Projects

1. Irmak E., Kondolot Solak E., Kaya S., Taşkın Çakıcı G., Yiyit Doğan S., Project Supported by Higher Education Institutions, Design, Characterization and Efficiency Analysis of a New Organic Solar Cell with Synthesized Magnetite Additive, 2023 - 2024
2. IRMAK E., Project Supported by Higher Education Institutions, Dağıtık Üretim Tabanlı Bir Mikroşebekenin Tasarımı ve Olay Tetiklemeli Merkezi Olmayan Hiyerarşik Kontrol Yöntemi ile Kontrolü, 2020 - 2024
3. Güler N., Irmak E., Project Supported by Higher Education Institutions, Batarya Şarj Ünitesinin Çok Seviyeli DA/DA Dönüştürücü ile Tasarımı ve Model Öngörmeli Yöntem (MPC) ile Kontrolü, 2017 - 2019
4. Irmak E., Tepe İ. F., TUBITAK Project, Akıllı Şebekelerde Konut Yüklerinin Gerçek Zamanlı Fiyatlandırmaya Göre Talep Yanıtının Optimizasyonu, 2017 - 2018
5. Kurt E., IRMAK E., Erasmus Project, Innovative European Studies on Renewable Energy Systems, 2015 - 2018
6. Irmak E., Tekincan E. B., TUBITAK Project, Atık Isı Enerjisinden Elektrik Enerjisi Üretimi ve Tasarlanan Termoelektrik Jeneratör Sistemi ile Hibrit Araçlara Uygulanması, 2016 - 2017
7. Irmak E., Güler N., Project Supported by Higher Education Institutions, Rüzgâr Enerji Sistemleri için Çoklu Giriş Olanak Sağlayan Bir Güç Dönüştürücüsü Tasarımı ve Uygulanması, 2016 - 2017
8. Irmak E., Kilisli H., Hazer E., TUBITAK Project, Rotoru Sargılı Asenkron Motorlar İçin Bilgisayar Kontrollü Hız Denetim Sistemi Tasarımı, 2013 - 2014
9. Irmak E., Güler N., Project Supported by Higher Education Institutions, Senkron Generatörlerin dsPIC Kullanılarak Paralel Bağlanması ve Arayüz Üzerinden Yük Kontrolünün Gerçekleştirilmesi, 2011 - 2013
10. Irmak E., Köse A., Project Supported by Higher Education Institutions, Elektrik Enerji Kalitesinin İzlenmesi ve İyileştirilmesi, 2011 - 2013
11. IRMAK E., Project Supported by Higher Education Institutions, PLC VE SCADA SİSTEMLERİ İÇİN ÇOKLU ORTAM DESTEKLİ BİR EĞİTİM SETİ TASARIMI ve UYGULAMASI, 2011 - 2013
12. Irmak E., Ersan M., TUBITAK Project, Kablo Ucu Belirleme ve Arıza Tespit Sistemi Tasarımı, 2011 - 2012
13. IRMAK E., Project Supported by Higher Education Institutions, Endüstriyel İşletmelerde Elektrik Güç Parametrelerinin İnternet Üzerinden Takibi ve Analizi, 2011 - 2012
14. Irmak E., Güler N., Köse A., Project Supported by Higher Education Institutions, Endüstriyel İşletmelerde Elektrik Güç Parametrelerinin İnternet Üzerinden Takibi ve Analizi, 2011 - 2012
15. Demirbaş Ş., Irmak E., Project Supported by Higher Education Institutions, Elektrik Makineleri Dersleri ve Deneylelerinin Gerçekleştirilmesi için İnternet Tabanlı Uzaktan Eğitim, 2006 - 2008

## Designed Lessons

Irmak E., KRİTİK ALTYAPILAR VE GÜVENLİĞİ, Masters (Non-Thesis), 2020 - 2021  
Irmak E., AKILLI ŞEBEKELERDE SİBER GÜVENLİK, Postgraduate, 2019 - 2020  
Irmak E., ENERJİ DAĞITIMI, Undergraduate, 2019 - 2020  
Irmak E., AKILLI ŞEBEKELER, Undergraduate, 2019 - 2020  
Irmak E., GÜÇ SİSTEMLERİNİN MODELLENMESİ VE SİMÜLASYONU, Doctorate, 2019 - 2020  
Irmak E., AKILLI ŞEBEKELER VE UYGULAMALARI, Doctorate, 2019 - 2020  
Irmak E., PRIVACY AND SECURITY APPLICATIONS IN SMART GRIDS, Postgraduate, 2019 - 2020

## Taught Courses And Trainings

Irmak E., Elektrik İç Tesislerinin Denetimi ve Raporlama Eğitimi, 2022 - 2022  
Irmak E., Orta Gerilim (OG) Sistem Tasarımı ve Elektrik Altyapısı Eğitimi, 2022 - 2022

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

- Optimizing real-time demand response in smart homes through fuzzy-based energy management and control system**  
Tepe İ. F., Irmak E.  
ELECTRICAL ENGINEERING, vol.2024, pp.1-25, 2024 (SCI-Expanded)
- Development and Integration of a Digital Twin Model for a Real Hydroelectric Power Plant**  
Ersan M., Irmak E.  
SENSORS, vol.24, no.13, pp.1-33, 2024 (SCI-Expanded)
- Enhanced PV Power Prediction Considering PM10 Parameter by Hybrid JAYA-ANN Model**  
Irmak E., Yeşilbudak M., Taşdemir O.  
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.52, no.11, pp.1998-2007, 2024 (SCI-Expanded)
- Reduction of a Real Power System: Turkish Transmission System Case**  
Yeşil M., Irmak E.  
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.52, no.7, pp.1155-1173, 2024 (SCI-Expanded)
- Design and Implementation of an Energy Management System with Event-Triggered Distributed Secondary Control in DC Microgrids**  
Calpbiniçi A., Irmak E., Kabalcı E.  
ENERGIES, vol.17, no.3, pp.1-28, 2024 (SCI-Expanded)
- Event-triggered distributed secondary control for enhancing efficiency, reliability and communication in island mode DC microgrids**  
Irmak E., Kabalcı E., Calpbiniçi A.  
IET RENEWABLE POWER GENERATION, vol.18, no.1, pp.78-94, 2024 (SCI-Expanded)
- Electric Vehicle Advancements, Barriers, and Potential: A Comprehensive Review**  
Çolak A. M., Irmak E.  
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.51, no.17, pp.2010-2042, 2023 (SCI-Expanded)
- Digital Transformation of Microgrids: A Review of Design, Operation, Optimization, and Cybersecurity**  
Irmak E., Kabalcı E., Kabalcı Y.  
ENERGIES, vol.16, no.12, pp.1-58, 2023 (SCI-Expanded)
- Advances in organic photovoltaic cells: a comprehensive review of materials, technologies, and performance**  
Kondolot Solak E., Irmak E.  
RSC ADVANCES, vol.13, no.18, pp.12244-12269, 2023 (SCI-Expanded)
- An Integrated Energy Control System to Provide Optimum Demand Side Management of a Grid-Interactive Microgrid**

- Tepe I. F., Irmak E.  
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.51, no.6, pp.619-638, 2023 (SCI-Expanded)
11. **A State-of-the-Art Review on Electric Power Systems and Digital Transformation**  
Çolak M., IRMAK E.  
Electric Power Components and Systems, vol.51, no.11, pp.1089-1112, 2023 (SCI-Expanded)
12. **Estimation of inertia constant in Turkish power system and its analysis during real system disturbances**  
Yesil M., IRMAK E.  
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, vol.31, no.11, 2021 (SCI-Expanded)
13. **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, vol.114, pp.485-498, 2021 (SCI-Expanded)
14. **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 (SCI-Expanded)
15. **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 (SCI-Expanded)
16. **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 (SCI-Expanded)
17. **A novel design for e-laboratories: Simultaneously accessible experimental application platform**  
IRMAK E., CALPBİNİCİ A.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.32, no.2, pp.363-375, 2017 (SCI-Expanded)
18. **Design and experimental analysis of an advanced static VAR compensator with computer aided control**  
Irmak E., Bayındır R., Köse A.  
ISA TRANSACTIONS, vol.64, pp.384-393, 2016 (SCI-Expanded)
19. **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 (SCI-Expanded)
20. **Design and Implementation of a Remote Laboratory Platform Using MATLAB Builder for NE**  
Colak I., IRMAK E., KABALCI E., Issi F.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.22, no.4, pp.617-629, 2014 (SCI-Expanded)
21. **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 (SCI-Expanded)
22. **A Real Time Application for Analysing Impacts of Frequency Variation on Induction Motor Parameters**  
IRMAK E.  
PRZEGLAD ELEKTROTECHNICZNY, vol.88, pp.290-293, 2012 (SCI-Expanded)
23. **A Remote Laboratory Experiment for 4-Quadrant Control of a DC Motor**  
IRMAK E., BAYINDIR R., Colak I., Soysal M.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.19, no.4, pp.747-758, 2011 (SCI-Expanded)
24. **COMPUTER BASED IMPLEMENTATION OF SPEED CONTROL EXPERIMENT DEPENDING ON FREQUENCY VARIATION FOR INDUCTION MOTORS**  
IRMAK E., VADİ S.

- JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.26, no.1, pp.57-62, 2011 (SCI-Expanded)
25. **A Novel Web-Based Laboratory for DC Motor Experiments**  
Colak I., DEMİRBAŞ Ş., SAĞIROĞLU Ş., IRMAK E.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.19, no.1, pp.125-135, 2011 (SCI-Expanded)
  26. **Design of an AC-DC-AC converter for wind turbines**  
KABALCI E., IRMAK E., Colak I.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.35, no.2, pp.169-175, 2011 (SCI-Expanded)
  27. **Development of a real time energy monitoring platform**  
BAYINDIR R., IRMAK E., Colak I., Bektas A.  
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.33, no.1, pp.137-146, 2011 (SCI-Expanded)
  28. **DESIGN OF A REMOTELY ACCESSIBLE E-LABORATORY PLATFORM**  
IRMAK E.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.24, no.2, pp.311-322, 2009 (SCI-Expanded)
  29. **TORQUE AND SPEED CONTROL OF WOUND ROTOR INDUCTION MOTOR BY ADJUSTING THE ROTOR RESISTANCE WITH A MICROCONTROLLER**  
DEMİRBAŞ Ş., IRMAK E., Bayhan S., Colak I.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.23, no.4, pp.801-809, 2008 (SCI-Expanded)
  30. **MICROCONTROLLER BASED DC/DC BOOST CONVERTER FOR SOLAR ENERGY SYSTEMS**  
DEMİRTAŞ M., SEFA İ., IRMAK E., Colak I.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.23, no.3, pp.719-728, 2008 (SCI-Expanded)
  31. **Remote controlling and monitoring of HVAC system over Internet**  
Colak I., DEMİRBAŞ Ş., SEFA İ., IRMAK E., Kahraman H. T.  
JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH, vol.67, no.9, pp.680-684, 2008 (SCI-Expanded)
  32. **USAGE OF MATLAB WEB SERVER FOR E-LEARNING PLATFORMS**  
IRMAK E.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.23, no.2, pp.495-506, 2008 (SCI-Expanded)

### Articles Published in Other Journals

1. **A Review of Control Strategies and Metaheuristic Algorithms Used in DC Microgrids**  
Tepe I. F., IRMAK E.  
INTERNATIONAL JOURNAL OF RENEWABLE ENERGY RESEARCH, vol.12, no.2, pp.799-818, 2022 (ESCI)
2. **Computer Forensics and Examination of Digital Evidence on Windows Operating System**  
Önel B., Irmak E.  
Politeknik Dergisi, vol.24, no.3, pp.1187-1196, 2021 (ESCI)
3. **Early Period Impacts of the Covid-19 Pandemic on Turkish Electricity Profile**  
Firik B., Irmak E.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, vol.9, no.1, pp.40-56, 2021 (Peer-Reviewed Journal)
4. **Separation of Incoming E-Mails Through Artificial Intelligence Techniques**  
Yağanoğlu M., Irmak E.  
European Journal of Science and Technology, no.21, pp.690-696, 2021 (Peer-Reviewed Journal)
5. **LINUX TABANLI SUNUCULARDA VE KABLOSUZ AĞLARDA SİBER SALDIRILARIN TESPİTİ VE ÖNLENMESİ**

- Irmak E., Zengin S., Bülbül H. İ.  
Uluslararası Bilgi Güvenliği Mühendisliği Dergisi, vol.6, no.2, pp.89-107, 2020 (Peer-Reviewed Journal)
6. **Kritik Altyapı Operatörleri İçin Görüntü İşleme Tabanlı Bir Yorgunluk tespit ve Uyarı Sistemi.**  
Yeşil O., Irmak E., Bülbül H. İ.  
Uluslararası Bilgi Güvenliği Mühendisliği Dergisi, vol.6, no.1, pp.35-44, 2020 (Peer-Reviewed Journal)
7. **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 (Peer-Reviewed Journal)
8. **Endüstriyel Kontrol Sistemleri ve SCADA Uygulamalarının Siber Güvenliği: Modbus TCP Protokolü Örneği**  
IRMAK E., ERKEK İ.  
G.Ü. Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.6, no.1, pp.1-16, 2018 (Peer-Reviewed Journal)
9. **Experimental Analysis of The Internal Attacks on Scada Systems**  
IRMAK E., Erkek I., Ozcelik M. M.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.30, no.4, pp.216-230, 2017 (ESCI)
10. **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 (Peer-Reviewed Journal)
11. **Orta Ölçekli Bir İşletmenin Enerji İzleme Sisteminin Tasarlanması**  
IRMAK E., GÜLER N., CALPBİNİCİ A.  
Pamukkale Üniv. Mühendislik Bilimleri Dergisi, vol.18, no.2, pp.123-131, 2012 (Peer-Reviewed Journal)
12. **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 (ESCI)
13. **Asenkron Motorlar İçin Denetleyici Tabanlı Koruma ve Yol Verme Rölesi Tasarımı ve Uygulaması**  
BAYINDIR R., DEMİRBAŞ Ş., IRMAK E., BEKİROĞLU E.  
Politeknik Dergisi, vol.10, no.1, pp.1-5, 2007 (Peer-Reviewed Journal)
14. **Asenkron Motor Benzetimi İçin Web Tabanlı Bir Eğitim Aracı**  
DEMİRBAŞ Ş., IRMAK E., ÇOLAK İ.  
Politeknik Dergisi, vol.9, no.4, pp.147-152, 2007 (Peer-Reviewed Journal)
15. **DA Motorunun Dört Bölge Denetiminin Eğitim Amaçlı Gerçekleştirilmesi**  
ÇOLAK İ., SOYSAL M., IRMAK E., BAYINDIR R.  
Politeknik, vol.10, no.3, pp.219-227, 2007 (Peer-Reviewed Journal)
16. **Doğru Akım Motorunun Temel Giriş Sinyallerine Tepkisinin İnternet Üzerinden Benzetimi**  
IRMAK E.  
Politeknik Dergisi, vol.9, no.2, pp.71-77, 2006 (Peer-Reviewed Journal)
17. **Bilgisayar Kontrollu Bina Güvenlik Sisteminin Tasarımı ve Uygulaması**  
ÇOLAK İ., IRMAK E.  
G.Ü. Fen Bilimleri Dergisi, vol.16, no.2, pp.411-421, 2003 (Peer-Reviewed Journal)
18. **Merdiven Aydınlatmasının Pasif Kızılötesi Yaklaşım Sensörü ile Kontrolü**  
YILMAZ C., GÜRDAL O., IRMAK E.  
Politeknik Dergisi, vol.3, no.1, pp.45-50, 2000 (Peer-Reviewed Journal)

## Books & Book Chapters

1. **Endüstriyel Kontrol Sistemlerinin Siber Güvenliği**  
ERKEK İ., IRMAK E.  
in: SİBER GÜVENLİK VE SAVUNMA: Biyometrik ve Kriptografik Uygulamalar, Sağiroğlu Şeref, Akleylek Sedat,

## Refereed Congress / Symposium Publications in Proceedings

1. **Optimal Sizing of Battery Energy Storage Systems Participating in Primary Frequency Control in Turkish Power Grid**  
Yeşil M., Tör O. B., Küçükler M., Irmak E.  
IEEE 6th Global Power, Energy and Communication Conference, Budapest, Hungary, 4 - 07 June 2024, pp.1-10
2. **AGC Integration and Parameter Optimization for The Reduced Dynamic Model of Turkish Power Grid**  
Yeşil M., Irmak E.  
IEEE 6th Global Power, Energy and Communication Conference, Budapest, Hungary, 4 - 07 June 2024, pp.1-12
3. **Modeling, Analysis and Optimization of Energy Management in An Islanded Microgrid**  
Gök R., Değirmenci S., Irmak E., Öztürk N.  
IEEE 6th Global Power, Energy and Communication Conference, Budapest, Hungary, 4 - 07 June 2024, pp.1-6
4. **Optimization of Seasonal Wind Energy Forecasts with PSO Algorithm**  
Taşdemir O., Tepe İ. F., Irmak E.  
IEEE 6th Global Power, Energy and Communication Conference, Budapest, Hungary, 4 - 07 June 2024, pp.1-10
5. **Applications, Insights and Implications of Digital Twins in Smart City Management**  
Ersan M., Irmak E., Çolak A. M.  
IEEE 12th International Conference on Smart Grid , Setúbal, Portugal, 27 - 29 May 2024, pp.378-383
6. **Design and Model Predictive Control of A Bidirectional Ev Fast Charging Station Operating in A DC Microgrid**  
Tepe İ. F., Irmak E.  
IEEE 12th International Conference on Smart Grid, Setúbal, Portugal, 27 - 29 May 2024, pp.521-529
7. **Enhancing Cybersecurity of A Hydroelectric Power Plant Using Its Digital Twin Model**  
Erkek İ., Irmak E.  
IEEE 12th International Conference on Smart Grid , Setúbal, Portugal, 27 - 29 May 2024, pp.372-377
8. **Persistence Techniques in Microsoft Active Directory: Detection and Mitigation Strategies**  
Şentürk Z., Irmak E.  
12th International Symposium on Digital Forensics and Security (ISDFS 2024), Texas, United States Of America, 29 - 30 April 2024, pp.1-6
9. **Modeling, Analysis and Optimization of Energy Management in An Islanded Microgrid**  
Gök R., DEĞİRMENCİ S., IRMAK E., ÖZTÜRK N.  
6th IEEE Global Power, Energy and Communication Conference, GPECOM 2024, Budapest, Hungary, 4 - 07 June 2024, pp.537-542
10. **A Brief Overview and Key Points in Electric Vehicle Charging Systems**  
Çolak İ., Irmak E., Tepe İ. F.  
5th International Conference on Control Systems, Mathematical Modeling, Automation and Energy Efficiency, Lipeck, Russia, 8 - 10 November 2023, pp.956-964
11. **Digital Twin Approach for Current Protection Relays: Utilizing Real-Time Data for Optimal Protection**  
Ersan M., Çelebioğlu T. K., Irmak E.  
12th International Conference on Renewable Energy Research and Applications (ICRERA), Oshawa, Canada, 29 August - 01 September 2023, pp.597-606
12. **Preliminary Studies on Dynamic Reduction of the Turkish Transmission Network**  
Yeşil M., Irmak E.  
12th International Conference on Renewable Energy Research and Applications (ICRERA), Oshawa, Canada, 29 August - 01 September 2023, pp.581-590
13. **Distributed Hierarchical Control for Voltage Stability and Proportional Current Sharing in Island-Mode DC Microgrids**  
Calpbinici A., Irmak E., Kabalcı E.

- 5th Global Power, Energy and Communication Conference (GPECOM), Nevşehir, Turkey, 14 - 16 June 2023, pp.388-393
14. **Daily Prediction of PV Power Output Using Particulate Matter Parameter with Artificial Neural Networks**  
Irmak E., Yeşilbudak M., Taşdemir O.  
11th International Conference on Smart Grid (icSmartGrid), Paris, France, 4 - 07 June 2023, pp.1-4
  15. **Governor Control Systems in Hydroelectric Power Plants: Overview, Challenges, and Recommendations**  
Ersan M., Irmak E.  
11th International Conference on Smart Grid (icSmartGrid), Paris, France, 4 - 07 June 2023, pp.1-9
  16. **Evaluation of SCADA Test Beds and Design of a New Software-Based Test Bed**  
Erkek İ., Irmak E.  
11th International Conference on Smart Grid (icSmartGrid), Paris, France, 4 - 07 June 2023, pp.1-8
  17. **Synergistic Effects of Magnetite Nanoparticles in the Hole Transport Layer of Organic PV Cells**  
IRMAK E., KONDOLOT SOLAK E., KAYA S., YİYİT DOĞAN S., Cakici G. T.  
5th IEEE Global Power, Energy and Communication Conference, GPECOM 2023, Cappadocia, Turkey, 14 - 16 June 2023, pp.508-512
  18. **Review and Comparative Analysis of Metaheuristic MPPT Algorithms in PV Systems Under Partial Shading Conditions**  
Tepe İ. F., Irmak E.  
2022 11th International Conference on Renewable Energy Research and Applications, İstanbul, Turkey, 18 - 21 September 2022, pp.471-479
  19. **An Estimation Algorithm for Distributed Hierarchical Control Used in Microgrids**  
CALPBİNİCİ A., KABALCI E., IRMAK E.  
4th IEEE Global Power, Energy and Communication Conference (IEEE GPECOM), Cappadocia, Turkey, 14 - 17 June 2022, pp.378-382
  20. **A New Bus Reduction Approach based on Extended REI Model**  
Yesil M., IRMAK E.  
4th IEEE Global Power, Energy and Communication Conference (IEEE GPECOM), Cappadocia, Turkey, 14 - 17 June 2022, pp.400-405
  21. **Cyber Security of Internet Connected ICS/SCADA Devices and Services**  
ERKEK İ., IRMAK E.  
International Conference on Information Security and Cryptology (ISCTURKEY), Ankara, Turkey, 02 December 2021, vol.2021, pp.75-80
  22. **Design of an Energy Management System for AC/DC Microgrid**  
Calpbiniçi A., Irmak E., Kabalci E., Bayındır R.  
3rd Global Power, Energy and Communication Conference (GPECOM), Nevşehir, Turkey, 5 - 08 October 2021, pp.1-5
  23. **Distributed Hierarchical Control for Proportional Current Sharing in PV Systems**  
Calpbiniçi A., Irmak E., Kabalci E.  
2nd IEEE Global Power, Energy and Communication Conference, GPECOM 2020, Virtual, İzmir, Turkey, 20 - 23 October 2020, pp.108-113
  24. **Optimization of PID Parameters Using Ant Colony Algorithm for Position Control of DC Motor**  
Şimşek E. C., Köse A., Şahin M., Irmak E.  
8th International Conference on Renewable Energy Research and Applications, Brasov, Romania, 3 - 06 November 2019
  25. **A Modified Droop Control Method for PV Systems in Island Mode DC Microgrid**  
Irmak E., Güler N., Kabalci E., Calpbiniçi A.  
8th International Conference on Renewable Energy Research and Applications, Brasov, Romania, 3 - 06 November 2019, pp.1008-1013
  26. **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
27. **Effects of Change in Wind Energy Generation on the Power Grid Angle**  
YEŞİL M., KÖSE A., IRMAK E.  
IEEE Global Power, Energy and Communication Conference, Nevşehir, Turkey, 12 - 15 June 2019
28. **Software and Hardware Implementation of a Graphical User Interface for Solar Power Plants**  
IRMAK E., ERSAN M., GÜNEY O.  
IEEE Global Power, Energy and Communication Conference, 12 - 15 June 2019
29. **A NEW APPROACH FOR ELECTRICITY ENERGY GENERATION FROM WASTE HEAT ENERGY: BATTERY CHARGER WITH THERMOELECTRIC GENERATOR**  
IRMAK E., KÖSE A., TEKINCAN E. B.  
6th European Conference on Renewable Energy Systems (ECRES 2018), İstanbul, Turkey, 25 - 27 June 2018
30. **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
31. **Usage of the Nodal Pricing Technique in Electricity Market**  
Irmak E., Calpbınici A.  
6th European Conference on Renewable Energy Systems (ECRES'2018), İstanbul, Turkey, 25 - 27 June 2018, pp.1-5
32. **Design and Technical Analysis of a Two-Terminal Voltage Source Converter based HVDC System**  
IRMAK E., Yeşil M.  
6th European Conference on Renewable Energy Systems (ECRES'xx2018), 25 - 27 June 2018
33. **Design of A Load Sharing Method for Unbalanced Power Systems**  
IRMAK E., TEKE H.  
7th International Conference on Advanced Technologies~ICAT'xx18, 28 April - 01 May 2018
34. **An Overview of Cyber-Attack Vectors on SCADA Systems**  
IRMAK E., Erkek I.  
6th International Symposium on Digital Forensic and Security (ISDFS), Antalya, Turkey, 22 - 25 March 2018, pp.350-354
35. **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
36. **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
37. **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
38. **A Smart Home Application Based on Wireless Sensor Networks**  
IRMAK E., GÖÇMEN G., KÖSE A.  
V. European Conference on Renewable Energy Systems (ECRES'xx2017), 27 - 30 August 2017
39. **A Hybrid Trust Based Intrusion Detection System for Wireless Sensor Networks**  
Ozcelik M. M., IRMAK E., Ozdemir S.  
International Symposium on Networks, Computers and Communications (ISNCC), Marrakech, Morocco, 16 - 18 May 2017
40. **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
41. **Adding New Parameters to Attacker Profile by Using Multi Attribute Utility Theory and Probability Analysis of the Success of Cyber Attack**  
IRMAK E., ERKEK İ.  
9th International Conference on Information Security and Cryptology, 25 - 26 October 2016
42. **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, İstanbul, Turkey, 28 - 31 August 2016
43. **Cyber security in Critical Infrastructure**  
IRMAK E.  
International Cyber Security Workshop and Certificate Program, 23 - 27 May 2016
44. **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, United Kingdom, 20 - 23 November 2016, pp.1039-1045
45. **Simulation and ZigBee Based Wireless Monitoring of the Amount of Consumed Energy at Smart Homes**  
Irmak E., Köse A., Gocmen G.  
5th IEEE International Conference on Renewable Energy Research and Applications (ICRERA), Birmingham, United Kingdom, 20 - 23 November 2016, pp.1019-1023
46. **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, United Kingdom, 20 - 23 November 2016, pp.1024-1028
47. **Effects of Renewable Energy Sources on the Power System**  
BAYINDIR R., DEMİRBAŞ Ş., IRMAK E., Cetinkaya U., Ova A., Yesil M.  
17th IEEE International Power Electronics and Motion Control Conference (PEMC), Varna, Bulgaria, 25 - 30 September 2016, pp.388-393
48. **Modeling and Simulation of a Static VAR Compensator based on FC-TCR**  
KÖSE A., IRMAK E.  
5th IEEE International Conference on Renewable Energy Research and Applications (ICRERA), Birmingham, United Kingdom, 20 - 23 November 2016, pp.924-927
49. **Concept of 4th Dimension for Databases**  
IRMAK E., KURTULDU Ö.  
14th International Conference on Machine Learning and Applications, Miami, United States Of America, 9 - 11 December 2015
50. **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
51. **Concept of 4th Dimension for Databases**  
IRMAK E., Kurtuldu O.  
IEEE 14th International Conference on Machine Learning and Applications ICMLA, Florida, United States Of America, 9 - 11 December 2015, pp.1159-1162
52. **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
53. **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

54. **A Survey on Public Awareness Towards Renewable Energy in Turkey**  
IRMAK E., AYAZ M. S., GOK S. G., SAHIN A. B.  
3rd THE INTERNATIONAL CONFERENCE on RENEWABLE ENERGY RESEARCH and APPLICATIONS (ICRERA), Wisconsin, United States Of America, 19 - 22 October 2014, pp.932-937
55. **A Web Based Real Time Industrial Energy Monitoring System**  
IRMAK E., BÜLBÜL H. İ., KÖSE A., CALPBİNİCİ A.  
Fourth International Conference on Power Engineering, Energy and Electrical Drives (POWERENG), İstanbul, Turkey, 13 - 17 May 2013, pp.1713-1716
56. **The Estimation of Students' Academic Success by Data Mining Methods**  
GOKER H., BÜLBÜL H. İ., IRMAK E.  
12th International Conference on Machine Learning and Applications (ICMLA), Florida, United States Of America, 4 - 07 December 2013, pp.535-539
57. **Monitoring the quality of electrical energy and improving it using thyristor controlled reactor**  
IRMAK E., COLAK I., SAGIROGLU Ş., KÖSE A., KABALCI E.  
1st International Conference on Renewable Energy Research and Applications, ICRERA 2012, Nagasaki, Japan, 11 - 14 November 2012
58. **Yenilenebilir Enerji Kaynakları Üzerine Eğitim Amaçlı Bir Simulasyon Çalışması**  
GÜLER N., ERSAN M., IRMAK E.  
1. Ulusal Meslek Yüksekokulları Çalıştayı ve Öğrenci Sempozyumu~UMÇÖS'xx2012, Turkey, 13 - 15 June 2012
59. **Kablo Ucu Belirleme ve Arıza Tespit Sistemi**  
IRMAK E., ERSAN M.  
1. Ulusal Meslek Yüksekokulları Çalıştayı ve Öğrenci Sempozyumu~UMÇÖS'2012, Nevşehir, Turkey, 13 - 15 June 2012, pp.1-5
60. **Güneş Enerjisiyle Led li Aydınlatma Sistemi ve Operatör Panel Üzerinden İzleme ve Kontrol Uygulaması**  
IRMAK E., KÖSE A.  
Ulusal Meslek Yüksekokulları Çalıştayı ve Öğrenci Sempozyumu, Nevşehir, Turkey, 13 - 15 June 2012, pp.34-41
61. **Remote Monitoring and Reporting the Parameters of A Hybrid Power System via Internet**  
ÇOLAK İ., IRMAK E., GÜLER N., İSSİ F.  
EVER'12, 22 - 25 March 2012
62. **Implementation of an Interactive Remote Laboratory Platform for Stepper Motor Experiments**  
IRMAK E., ÇOLAK İ., KABALCI E., KÖSE A.  
15th International Power Electronics and Motion Control Conference and Exposition (EPE-PEMC ECCE Europe), Novi-Sad, Serbia, 4 - 06 September 2012
63. **FPGA Based Parallel Connection System of Separate Voltage Sources**  
IRMAK E., COLAK I., BULBUL H. İ., GULER N., CALPBINICI A.  
1st International Conference on Renewable Energy Research and Applications (ICRERA), Nagasaki, Japan, 11 - 14 November 2012
64. **A comparative study of harmonic extraction methods for single phase shunt active power filter**  
ÇOLAK İ., BAYINDIR R., IRMAK E., KAPLAN O.  
2011 International Conference on Power Engineering, Energy and Electrical Drives, Malaga, Spain, 11 - 13 May 2011
65. **Design of a Parameter Determination System for Non-Isolated Converter Topologies**  
ÇOLAK İ., IRMAK E., YEŞİLBUDAK M., KABALCI E.  
International Aegean Conference on Electrical Machines and Power Electronics & Electromotion Joint Conference~ACEMP'2011, İstanbul, Turkey, 8 - 11 September 2011, pp.1-4
66. **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
67. **Development of a Real Time Monitoring and Control System for PLC Based Elevator**

Irmak E., Colak I., Kaplan O., Köse A.

14th European Conference on Power Electronics and Applications (EPE)/ECCE Europe Conference on Power Electronics and Adjustable Speed Drives - Towards the 20-20-20 Target, Birmingham, United Kingdom, 30 August - 01 September 2011

**68. Design and Implementation of a Computer Interacted Smart Home System Based on PLC**

Irmak E., Kabalcı E., Köse A.

4th International Conference of Application of Information and Communication Technologies (AICT), Toskent, Uzbekistan, 12 - 14 October 2010, pp.1-5

**69. Rüzgâr Türbinleri İçin AA-DA Çevirici Tasarımı**

Kabalcı E., Irmak E., Çolak İ.

Nükleer ve Yenilenebilir Enerji Kaynakları Konferansı~NUYEK2009, Ankara, Turkey, 28 - 29 September 2009, pp.1-4

**70. Design of a 6-Pulse Multilevel SPWM Controlled Converter For Fixed Speed Wind Turbines**

Çolak İ., Kabalcı E., Irmak E., Bayındır R.

5th International Conference on Technical and Physical Problems of Power Engineering~TPE2009, Bilbao, Spain, 3 - 05 September 2009, pp.293-297

**71. Modeling of an SPWM Controlled AC-DC-AC Converter for Fixed Speed Wind Turbines**

Çolak İ., Kabalcı E., Irmak E., Bayındır R.

5th International Conference on Technical and Physical Problems of Power Engineering~TPE-2009, Bilbao, Spain, 3 - 05 September 2009, pp.288-293

**72. Usage of .NET Platform to Build up Interactive Simulations for Electrical Machines**

IRMAK E., BULUT H., SAĞIROĞLU Ş., Colak I.

35th Annual Conference of the IEEE-Industrial-Electronics-Society, Porto, Portugal, 3 - 05 November 2009, pp.115-118

**73. The Fuzzy Logic Control of a Multilevel Converter in a Variable Speed Wind Turbine**

BAYINDIR R., Colak I., KABALCI E., IRMAK E.

8th International Conference on Machine Learning and Applications, Florida, United States Of America, 13 - 15 December 2009, pp.787-788

**74. A New Tool for Four-Quadrant Drive System of DC Motor Based on Microcontroller**

Çolak İ., Bayındır R., Irmak E., Soysal M.

4rd International Conference on Technical and Physical Problems in Power Engineering~TPE2008, Pitesti, Romania, 4 - 06 September 2008, pp.216-219

**75. A Virtual Laboratory Platform Based on .NET Framework**

Çolak İ., Sağiroğlu Ş., Irmak E., Bulut H.

2nd International Future Learning Conference on Innovations in Learning for the Future 2008: e-learning, İstanbul, Turkey, 27 - 29 March 2008, pp.800-807

**76. A Web Based Real Time Speed Control Experiment on Ultrasonic Motor for Educational Purposes**

IRMAK E., BAYINDIR R., Colak I., SAĞIROĞLU Ş., BAL G.

International Symposium on Power Electronics, Electrical Drives, Automation and Motion, Ischia, Italy, 11 - 13 June 2008, pp.1451-1452

**77. Low-Cost and High Sensitive Microcontroller Based Data Acquisition System for Renewable Energy Sources**

DEMİRTAŞ M., SEFA İ., IRMAK E., Colak I.

International Symposium on Power Electronics, Electrical Drives, Automation and Motion, Ischia, Italy, 11 - 13 June 2008, pp.196-199

**78. A novel integrated web based learning system for electrical machines education**

Colak I., IRMAK E., DEMİRBAŞ Ş., Sagioglu Ş.

International Conference on Power Engineering, Energy and Electrical Drives, POWERENG 2007, Setúbal, Portugal, 12 - 14 April 2007, pp.265-269

**79. Remote Control Of DC Motor Over the Internet**

ÇOLAK İ., DEMİRBAŞ Ş., IRMAK E., SEFA İ., BAYINDIR R.

3rd International Conference on Technical and Physical Problems in Power Engineering, Ankara, Turkey, 29 - 31 May 2006, pp.216-219

80. **Açık ve Kapalı Döngü Denetim Sistemlerinin Web Tabanlı Benzetimi**  
ÇOLAK İ., IRMAK E., BAYINDIR R., DEMİRBAŞ Ş., SEFA İ.  
6. International Educational Technology Conference, 19 - 21 April 2006
81. **Temel Elektrik Devrelerinin Analizi için İnternet Tabanlı Bir Eğitim Aracı**  
ÇOLAK İ., IRMAK E., SEFA İ., DEMİRBAŞ Ş., BAYINDIR R.  
6th International Educational Technology Conference, FAMAGUSTA, Cyprus (Kkct), 19 - 21 April 2006, pp.446-451
82. **Açık veya Kapalı Döngü Denetim Sistemlerinin Web Tabanlı Benzetimi**  
ÇOLAK İ., IRMAK E., BAYINDIR R., DEMİRBAŞ Ş., SEFA İ.  
6 th International Educational Technology Conference, Eastern Mediterranean University, Gazimagusa, Cyprus (Kkct), 19 - 21 April 2006, pp.446-451
83. **Doğru Akım Motorlarının Web Tabanlı Modellenmesi ve Analizi**  
DEMİRBAŞ Ş., IRMAK E., SEFA İ., BAYINDIR R., ÇOLAK İ.  
Bilimde Modern Yöntemler Sempozyumu, Turkey, 16 - 18 November 2005
84. **Teknik Eğitimde İnternet Teknolojisinin Kullanımı**  
ÇOLAK İ., DEMİRBAŞ Ş., IRMAK E., BAYINDIR R.  
1. Uluslararası Mesleki ev Teknik Eğitim Teknolojileri Kongresi, 5 - 07 September 2005

## Academic and Administrative Experience

2022 - Continues	<b>Eğitim ve Müfredat Kurulu üyesi</b>	Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği
2020 - Continues	<b>Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi</b>	Gazi University, Araştırma ve Uygulama Merkezleri, Non-İyonizan Radyasyondan Korunma Merkezi Müdürlüğü (Gnrk)
2021 - 2023	<b>Head of ADEK Commission</b>	Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği
2020 - 2022	<b>Rektörlük Stratejik Plan Komisyonu Üyesi</b>	Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği
2020 - 2022	<b>Rektörlük Kalite Komisyonu Üyesi</b>	Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği
2020 - 2022	<b>Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi</b>	Gazi University, Araştırma ve Uygulama Merkezleri, Kariyer Planlama Uygulama ve Araştırma Merkezi Müdürlüğü
2020 - 2022	<b>Director of Vocational School</b>	Gazi University, Teknik Bilimler Meslek Yüksekokulu
2018 - 2019	<b>Assistant Director of the Institute</b>	Gazi University, Fen Bilimleri Enstitüsü
2016 - 2016	<b>Assistant Director of the Institute</b>	Gazi University, Bilişim Enstitüsü
2011 - 2012	<b>Assistant Director of Vocational School</b>	Gazi University, Gazi Meslek Yüksekokulu

## Courses

İşyeri Eğitimi, Undergraduate, 2022 - 2023  
Güç Sistem Analizi, Undergraduate, 2021 - 2022  
Dönem Projesi (Hoca Ahmet Yesevi Üniversitesi), Postgraduate, 2022 - 2023  
Enerji Dağıtımı (Gazi Üniversitesi), Undergraduate, 2022 - 2023  
Kritik Altyapılar ve Güvenliği (Hoca Ahmet Yesevi Üniversitesi), Postgraduate, 2022 - 2023  
Privacy and Security Applications in Smart Grids, Doctorate, 2022 - 2023  
Akıllı Şebekelerde Siber Güvenlik, Doctorate, 2022 - 2023  
Güç Sistemlerinin Modellenmesi ve Simülasyonu (Gazi Üniversitesi), Postgraduate, 2017 - 2018  
Enerji Dağıtımı (TOBB ETÜ), Undergraduate, 2017 - 2018  
Güç Sistemleri (Gazi Üniversitesi), Undergraduate, 2017 - 2018

## Advising Theses

Irmak E., Elektrik Şebekelerinin Dijital İkiz Modellerinin Oluşturulması ve Bu Modeller Üzerinden Siber Güvenlik Testlerinin Gerçekleştirilmesi, Doctorate, İ.ERKEK(Student), Continues  
Irmak E., Belirlenmedi (öğrenci ders aşamasında), Postgraduate, R.GÖK(Student), Continues  
Irmak E., Kurumsal Yapılarda Windows Etki Alanına Yönelik Tehditler, Önlemler ve Ortam Güvenliği Olgunluk Seviyesinin Tespiti, Postgraduate, Z.Şentürk(Student), Continues  
Irmak E., Belirlenmedi (öğrenci ders aşamasında), Doctorate, Z.Ebru(Student), Continues  
Irmak E., Yenilenebilir Enerji Kaynakları Kullanılan Bir Mikro Şebekenin Tasarımı ve Hiyerarşik Enerji Yönetim Sistemi ile Kontrolü, Doctorate, A.CALPBİNİCİ(Student), Continues  
Irmak E., Hidroelektrik Santrallerde Enerji Yönetimi ve Optimizasyonu, Doctorate, M.ERSAN(Student), Continues  
Irmak E., A Novel Power Estimation Study for Photovoltaic Energy Systems, Doctorate, O.Taşdemir(Student), Continues  
Irmak E., Türkiye Elektrik Şebekesi İçin Bir Otomatik Üretim Kontrol Modelinin Geliştirilmesi ve Rüzgar Santrallerinin Bu Modele Etkilerinin İncelenmesi, Doctorate, M.YEŞİL(Student), Continues  
Irmak E., Optimization of power sharing in grid-connected microgrids byartificial intelligence methods, Postgraduate, İ.Fatımanur(Student), 2023  
Irmak E., Design And Implementation Of A Novel Dc/Dc Converter Using Model Predictive Control Method For Distributed Generation Sources, Doctorate, N.Güler(Student), 2019  
IRMAK E., Integration Of A Vsc-Based HvdC Line To Turkish Electricity Transmission Network And System Stability Analysis, Postgraduate, M.Yeşil(Student), 2018  
IRMAK E., A Novel Approach For Cyber Security Of Modbus Based Scada Systems, Postgraduate, İ.ERKEK(Student), 2018  
IRMAK E., Design And Implementation Of Static Excitation System For Synchronous Generator Used In Hydroelectric Power Plants, Postgraduate, M.Ersan(Student), 2017  
IRMAK E., Investigation of wireless sensor networks from cyber security perspective and proposing a novel intrusion detection system, Postgraduate, M.MELİH(Student), 2017  
IRMAK E., Design of an E-laboratory allowing simultaneous access to electrical machines experimental sets, Postgraduate, A.CALPBİNİCİ(Student), 2014  
IRMAK E., Parallel connection of synchronous generators using dsPIC and achieving the load-sharing control over an interface, Postgraduate, N.GÜLER(Student), 2012

## Activities in Scientific Journals

Electric Power Components And Systems, Editor, 2022 - Continues

Gazi University Journal of Science Part A: Engineering and Innovation, Editor, 2019 - Continues  
International Journal of Renewable Energy Research (IJRER), Editor, 2017 - Continues  
Gazi University Journal of Science, Editor, 2017 - Continues  
Uluslararası Bilgi Güvenliği Mühendisliği Dergisi, Editor, 2015 - Continues  
TÜBAV Bilim Dergisi, Publication Committee Member, 2009 - Continues  
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, Editor, 2018 - 2022

## Memberships / Tasks in Scientific Organizations

Senior Member, IEEE, Member, 2010 - Continues, United States Of America

## Tasks In Event Organizations

Irmak E., IEEE 6th Global Power, Energy and Communication Conference Puan, Scientific Congress, Budapest, Hungary, Haziran 2024  
Irmak E., IEEE 12th International Conference on Smart Grid, Scientific Congress, Setúbal, Portugal, Mayıs 2024  
Irmak E., 11th International Conference on Smart Grid, Scientific Congress, Paris, France, Haziran 2023  
Demirci M., Irmak E., 15th International Information Security and Cryptology Conference, Scientific Congress, Ankara, Turkey, Ekim 2022  
Irmak E., 11th International Conference on Renewable Energy Research and Applications, Scientific Congress, İstanbul, Turkey, Eylül 2022  
Irmak E., 10th International Conference on Smart Grid, Scientific Congress, İstanbul, Turkey, Haziran 2022  
Irmak E., 4th Global Power, Energy and Communication Conference, Scientific Congress, Nevşehir, Turkey, Haziran 2022  
Irmak E., Kondolot Solak E., Özer A., Özbaş M., Şentürk Z., Kutbay N. H., Kaya L., YİYİT DOĞAN S., Sanayide Eğitim İhtiyacının Değerlendirilmesi Çalıştayı, Workshop Organization, Ankara, Turkey, Mart 2022  
Demirci M., Irmak E., 14th International Information Security and Cryptology Conference, Scientific Congress, Ankara, Turkey, Aralık 2021  
Kondolot Solak E., Irmak E., 6. International Congress of Academic Research, Scientific Congress, Turkey, Ağustos 2021  
Irmak E., Batman Enerji Zirvesi, Workshop Organization, Batman, Turkey, Mayıs 2021  
Irmak E., 18th IEEE International Conference on Machine Learning and Applications - ICMLA 2019, Scientific Congress, Florida, United States Of America, Aralık 2019  
Irmak E., 17th IEEE International Conference on Machine Learning and Applications, Scientific Congress, Florida, United States Of America, Aralık 2018  
Irmak E., Elektrik Elektronik Mühendisliği Kongresi, Scientific Congress, İstanbul, Turkey, Kasım 2017

## Mobility Activity

Other Exchange Programme, Faculty Exchange, Hoca Ahmet Yesevi Türk Kazak Üniversitesi, Kazakistan, 2023 - 2023  
Bilateral Colloboration Agreement, Language Course, Georgia State University, United States Of America, 2011 - 2011

## Metrics

Publication: 136  
Citation (WoS): 439  
Citation (Scopus): 689  
H-Index (WoS): 14  
H-Index (Scopus): 16

## Congress and Symposium Activities

EMO Ankara Şubesi Lisanssız Güneş Enerji Santralleri Ulusal Çalıştayı, Invited Speaker, Ankara, Turkey, 2022  
10th International Conference on Smart Grid, Invited Speaker, İstanbul, Turkey, 2022  
Akıllı Şebekeler Ulusal Çalıştayı, Invited Speaker, Ankara, Turkey, 2022  
Batman Enerji Zirvesi, Invited Speaker, Batman, Turkey, 2021  
Uluslararası Türk Enerji Birliği Kongresi, Invited Speaker, Ankara, Turkey, 2021  
Eğitim ve Süreçler Bağlamında Meslek Yüksekokullarının Bugünü ve Geleceği Çalıştayı, Invited Speaker, Yozgat, Turkey, 2021  
IEEE Türkiye GP Power&Energy (PES) Sempozyumu, Invited Speaker, Ankara, Turkey, 2020  
Nişantaşı Üniversitesi Teknoloji ve Etik Çalıştayı, Invited Speaker, İstanbul, Turkey, 2017

## Invited Talks

Elektrik Şebekelerinde Sistem Çökmesi ve Yeniden Toparlanma: Türkiye Örneği, Seminar, Hoca Ahmet Yesevi Üniversitesi, Turkey, February 2017  
Cyber Security in Critical Infrastructure, Workshop, İstanbul Gelişim Üniversitesi, Turkey, May 2016

## Research Areas

Information System Reliability, Energy, Direct Energy Conversion and Energy Storage, Power System Analysis, Generating Stations and Plants, Electric Power Transmission, Distribution and Protection, Protection Systems, Renewable energy, High Voltage Technique, Power Apparatus (transformers,reactors,switchgear,etc.), Power Quality

## Non Academic Experience

University, Hoca Ahmet Yesevi Uluslararası Türk-Kazak Üniversitesi, Elektrik Elektronik Mühendisliği  
Hoca Ahmet Yesevi Ünviersitesi (Kazakistan)  
Georgia State University  
University, Georgia State University, The Middle East Institute