

# Prof. HASAN HÜSEYİN ERKAYA

## Personal Information

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## International Researcher IDs

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Publons / Web Of Science ResearcherID: AAA-4803-2020

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## Education Information

Doctorate, Arizona State University, Elektrik Mühendisliği, United States Of America 1984 - 1988

Postgraduate, Arizona State University, Elektrik Mühendisliği, United States Of America 1982 - 1984

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1976 - 1981

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Preparation and Characterization of a Zinc Diffused AlGaAs/GaAs Heterojunction Bipolar Transistor with Aluminum Contacts, Arizona State University, Elektrik Mühendisliği, 1988

Postgraduate, On Tin Diffusion in Gallium Arsenide, Arizona State University, Elektrik Mühendisliği, 1984

## Research Areas

Electrical and Electronics Engineering, Electronic, Electronic Circuits, Renewable energy, Engineering and Technology

## Academic Titles / Tasks

Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ, 2000 - Continues

Associate Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ, 1994 - 2000

Assistant Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ, 1992 - 1994

Assistant Professor, Old Dominion University, Mühendislik Ve Uygulamalı Bilimler, Elektrik Ve Bilgisayar Mühendisliği, 1988 - 1992

## Academic and Administrative Experience

Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 1994 - Continues  
Head of Department, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 2019 - 2020  
Eskisehir Osmangazi University, SANAT VE TASARIM FAKÜLTESİ, 2012 - 2019  
Eskisehir Osmangazi University, SANAT VE TASARIM FAKÜLTESİ, Görsel İletişim Tasarımı Bölümü, 2015 - 2016  
Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 2001 - 2013

## Courses

Fundamentals of Rail Systems, Postgraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Rail Systems Electrification, Postgraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Fundamentals of Electric & Electronics, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020  
The Engineer and Society, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Occupational Health and Safety in various Fields, Postgraduate, 2020 - 2021, 2019 - 2020  
The Short Story, Undergraduate, 2021 - 2022, 2020 - 2021  
Communication via Printed Media, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
The Short Story, Undergraduate, 2021 - 2022, 2020 - 2021  
Fundamentals of Electronics, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
The Engineer and Society, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Communication via Printed Media, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Fundamentals of Electric & Electronics, Undergraduate, 2020 - 2021, 2019 - 2020

## Advising Theses

Erkaya H. H., Design and optimization of a hybrid microgrid that employs various electric vehicle charging strategies, Postgraduate, F.ABDULLAHI(Student), 2021  
Erkaya H. H., Determination of suitable formulas for the train resistance for railway conditions in Turkey, Postgraduate, B.BAŞEĞMEZ(Student), 2018  
Erkaya H. H., Automation of bolt and spring cleaning machine, Postgraduate, L.ÇELİK(Student), 2008  
Erkaya H. H., An electronic log-book and passenger information system design for railroad vehicles, Postgraduate, M.BAKI(Student), 2008  
Erkaya H. H., Computer simulation of semiconductor power devices, Doctorate, M.SERHAT(Student), 2007  
Erkaya H. H., Resonant tunneling semiconductor power switches, Doctorate, B.BARKANA(Student), 2005  
Erkaya H. H., A system design to increase the efficiency of solar panels, Postgraduate, E.ÇIRACI(Student), 2005  
Erkaya H. H., A Stand-alone power supply application with an 85-W solar panel, Postgraduate, Ö.ÖZCANLI(Student), 2001  
Erkaya H. H., Long range data transfer and data processing system, Postgraduate, S.GÜLER(Student), 2001  
Erkaya H. H., Bilgisayarda transformatör tasarımı için program geliştirilmesi, Postgraduate, H.OSMAN(Student), 1997  
Erkaya H. H., Design of Modular Industrial Control Systems, Doctorate, E.BÜYÜKSOLAK(Student), 1994

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

- I. **Semi-conductive carbon from industrial tea waste biomass for a p-n junction**  
AKGÜL G., TOMAKİN M., ERKAYA H. H.  
Biomass Conversion and Biorefinery, 2024 (SCI-Expanded)
- II. **Simulation of storage time versus reverse bias current for p(+)n and pin diodes**

Keserlioglu M. S., ERKAYA H. H.

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.19, no.1, pp.87-96, 2011 (SCI-Expanded)

III. **A model for the resonant tunneling semiconductor-controlled rectifier**

Barkana B. D., ERKAYA H. H.

MICROELECTRONICS JOURNAL, vol.38, pp.871-876, 2007 (SCI-Expanded)

IV. **HIGH-RESOLUTION TRANSMISSION ELECTRON-MICROSCOPE STUDIES OF AN AL-GE-NI OHMIC CONTACT TO GAAS**

GRAHAM R., ERKAYA H. H., EDWARDS J., ROEDEL R.

JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B, vol.6, no.5, pp.1502-1505, 1988 (SCI-Expanded)

V. **SPUTTERED DIELECTRIC FILMS FOR GAAS DIFFUSION MASKS**

ROEDEL R., ERKAYA H. H., EDWARDS J.

JOURNAL OF ELECTRONIC MATERIALS, vol.17, no.3, pp.243-247, 1988 (SCI-Expanded)

VI. **ANOMALOUS DIFFUSION OF TIN IN GAAS**

ERKAYA H. H., ROEDEL R., LAREAU R., WILLIAMS P., LEAVITT J., VONNEIDA A.

JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.132, no.9, pp.2214-2218, 1985 (SCI-Expanded)

## Articles Published in Other Journals

I. **Designing and optimizing a hybrid microgrid supplying various electric vehicle charging modes**

MOHAMUD F. A., ÇETİNBAŞ İ., DEMİRTAŞ M., ERKAYA H. H.

PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, vol.29, pp.701-710, 2023 (ESCI)

II. **ESKİŞEHİR OSMANGAZİ ÜNİVERSİTESİ ELEKTRİK ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ**

Parlaktuna O., Erkaya H. H.

Eskişehir Osmangazi Üniversitesi mühendislik ve mimarlık fakültesi dergisi (online), vol.31, no.4, pp.1077-1086, 2023 (Peer-Reviewed Journal)

III. **Whither Turkey s Energy Policy**

Yazar Y., Erkaya H. H.

Insight Turkey, vol.9, no.4, pp.7-22, 2007 (ESCI)

IV. **Si/SiGe heterojunction bipolar transistors**

ERKAYA H. H.

ESOGÜ MMF Dergisi, vol.13, no.1, pp.46-65, 2000 (Peer-Reviewed Journal)

V. **Ohmic contact characterization with transmission line method**

ERKAYA H. H.

ESGÜ MMF Dergisi, vol.12, no.2, pp.92-105, 1999 (Peer-Reviewed Journal)

## Books & Book Chapters

I. **4- Güç Transistörleri, 5-DC-DC Dönüştürücüler**

Erkaya H. H.

in: Power Electronics, Sedat Sünter, Timur Aydemir, Editor, Nobel Yayınevi, Ankara, pp.134-281, 2015

II. **Practical Railway Engineering**

Erkaya H. H.

Nobel Yayın Dağıtım, Ankara, 2013

III. **Electrical Engineering 101**

Erkaya H. H.

Nobel Yayın Dağıtım, Ankara, 2013

IV. **Introduction to Digital Communication Switching**

Erkaya H. H.

Milli Eğitim Bakanlığı Yayınları, Eskişehir, 1994

## Refereed Congress / Symposium Publications in Proceedings

- I. **Türkiye de Raylı Sistemler Eğitimi**  
ERKAYA H. H.  
Erusis EMO 2015 Elektrikli Raylı Ulaşım sistemleri Sempozyumu, ESKİŞEHİR, Turkey, 8 - 09 May 2015
- II. **Raylı toplu taşıma araçları için bir elektronik seyir defteri ve yolcu bilgilendirme sistemi**  
Gündüz M. B., ERKAYA H. H.  
ELECO2008, Bursa, 26-30 Kasım, 2008, s432-435, Bursa, Turkey, 26 November 2008, pp.432-435
- III. **P+n ve Pin Diyotların Geçici-Hal Davranışlarının İncelenmesi**  
KESERLİOĞLU M. S., ERKAYA H. H.  
Çankaya Üniversitesi 1. Mühendislik ve Teknoloji Sempozyumu, 24-25 Nisan 2008, Ankara/Türkiye., Ankara, Turkey, 24 April 2008
- IV. **P+n ve Pin Diyotların Ters-Toparlanma İşleyişlerinin Bir Boyutlu MatLab Benzetimi**  
KESERLİOĞLU M. S., ERKAYA H. H.  
12. Elektrik, Elektronik, Bilgisayar, Biyomedikal Mühendisliği Ulusal Kongresi, 14-18 Kasım 2007, Eskişehir/Türkiye., Eskişehir, Turkey, 14 November 2007
- V. **Yarıiletken Elemanlar Dersi Eğitiminde Bir-Boyutlu Benzeşim Programı Kullanımı**  
KESERLİOĞLU M. S., ERKAYA H. H.  
Ulusal Teknik Eğitim, Mühendislik ve Eğitim Bilimleri Genç Araştırmacılar Sempozyumu: UMES, 20-22 Haziran 2007, Kocaeli/Türkiye., Kocaeli, Turkey, 20 June 2007
- VI. **A model for resonant tunneling bipolar transistors**  
Barkana B. D., ERKAYA H. H.  
International Conference on Telecommunications and Networking (TeNe)/International Conference on Industrial Electronics, Technology and Automation (IETA), ELECTR NETWORK, 01 January 2006, pp.75-77
- VII. **IGBT Elemanının PiN Diyot Eşdeğer Devre Modeli Yardımı İle DC Akım-Gerilim Karakteristiğinin Elde Edilmesi**  
KESERLİOĞLU M. S., ERKAYA H. H.  
Elektrik-Elektronik-Bilgisayar Mühendisliği Sempozyumu: ELECO, 6-10 Aralık 2006, Bursa/Türkiye., Bursa, Turkey, 06 December 2006
- VIII. **A model for the resonant tunneling bipolar transistor**  
ERKAYA H. H., Barkana B.  
International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CIS2E 06), Bridgeport, USA, December 4 - 14, 2006, Bridgeport, United States Of America, 04 December 2006
- IX. **Modüler kontrol kartları tasarımı ve uygulaması**  
ERKAYA H. H., Büyüksolak E.  
TÜBİTAK-MODİSA Mekatroniks Workshop, Orta Doğu Teknik Üniversitesi, Ankara, 15-19 Kasım 1993, Ankara, Turkey, 15 November 1993
- X. **Taneli mamül tartım sistemi modernizasyonu**  
Büyüksolak E., ERKAYA H. H., Karasu A.  
TÜBİTAK-MODİSA Mekatroniks Workshop, Orta Doğu Teknik Üniversitesi, Ankara, 15-19 Kasım 1993, Ankara, Turkey, 15 November 1993
- XI. **Difficulties in the fabrication of planar GaAlAs/GaAs heterojunction bipolar transistors**  
ERKAYA H. H., Roedel R. J.  
IEEE Proceedings of Southeastcon '91, vol. 2, pp. 973-976, Williamsburg, Virginia, April 8-10, 1991, Williamsburg, United States Of America, 08 April 1991, vol.2, pp.973-976

## **Metrics**

Publication: 26

Citation (WoS): 14

Citation (Scopus): 7

H-Index (WoS): 2

H-Index (Scopus): 1

## **Non Academic Experience**

Osmangazi Üniversitesi

Osmangazi Üniversitesi

Osmangazi Üniversitesi

Anadolu Üniversitesi

Old Dominion University

Arizona State University