Assoc. Prof. Doğan Çelik

Personal Information

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International Researcher IDs
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Publons / Web Of Science ResearcherID: AAL-8311-2020
ScopusID: 57194050701
Yoksis Researcher ID: 216319

Education Information

Doctorate, Van Yüzüncü Yil University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2016 - 2020
Postgraduate, Van Yüzüncü Yil University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği Bölümü, Turkey 2014 - 2016
Undergraduate, Cukurova University, Mühendislik Mimarlık Fakültesi , Elektrik Elektronik Mühendisliği Bölümü(İngilizce), Turkey 2008 - 2013

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, DEVELOPMENT OF INVERTER CONTROL METHODS FOR MICROGRID APPLICATIONS, Van Yüzüncü Yil University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2020
Postgraduate, DAĞITILMIŞ ÜRETİM SİSTEMLERİNİN MODELLENMESİ, ANALİZİ VE ŞEBEKEYLE ENTEGRASYONUNUN İNCELENMESİ, Van Yüzüncü Yil University, Mühendislik Mimarlık Fakültesi,, Elektrik Elektronik Mühendisliği Anabilim Dalı,, 2016

Research Areas

Electrical and Electronics Engineering, Circuit Theory, Sensing Devices and Transducers, Energy, Power System Analysis, Generating Stations and Plants, Electric Power Transmission, Distribution and Protection, Renewable energy, High Voltage Technique, Power Electronics, Power Converters, Power Quality, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Van Yüzüncü Yil University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği Bölümü, 2023 - Continues

Assistant Professor, Van Yüzüncü Yil University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği Bölümü, 2021 - 2023
Research Assistant, Van Yüzüncü Yil University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği Bölümü, 2014 - 2021

Academic and Administrative Experience

Deputy Head of Department, Van Yüzüncü Yil University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği Bölümü, 2021 - Continues
Head of Department, Van Yüzüncü Yil University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği Bölümü, 2021 - Continues

Courses

Electric Machinery Laboratory II, Undergraduate, 2021 - 2022
Power Electronic Laboratory , Undergraduate, 2021 - 2022
Electric Machinery II, Undergraduate, 2020 - 2021
Power Electronic I, Undergraduate, 2020 - 2021
Renewable Energy Systems, Postgraduate, 2021 - 2022
Power Electronic II, Undergraduate, 2020 - 2021
Electric Machinery I, Undergraduate, 2020 - 2021
Electric Machinery Laboratory I, Undergraduate, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Enhanced control of superconducting magnetic energy storage integrated UPQC for power quality improvement in EV charging station**
Çelik D., Ahmed H.
Journal of Energy Storage, vol.62, 2023 (SCI-Expanded)
II. **Kalman Filter-Based Super-Twisting Sliding Mode Control of Shunt Active Power Filter for Electric Vehicle Charging Station Applications**
Çelik D., Ahmed H., Meral M. E.
IEEE Transactions on Power Delivery, vol.38, no.2, pp.1097-1107, 2023 (SCI-Expanded)
III. **Investigation and analysis of effective approaches, opportunities, bottlenecks and future potential capabilities for digitalization of energy systems and sustainable development goals**
Çelik D., Meral M. E., Waseem M.
ELECTRIC POWER SYSTEMS RESEARCH, vol.211, 2022 (SCI-Expanded)
IV. **Sliding mode based adaptive linear neuron proportional resonant control of Vienna rectifier for performance improvement of electric vehicle charging system**
Ahmed H., Çelik D.
Journal of Power Sources, vol.542, 2022 (SCI-Expanded)
V. **The progress, impact analysis, challenges and new perceptions for electric power and energy sectors in the light of the COVID-19 pandemic**
Çelik D., Meral M. E., Waseem M.
Sustainable Energy, Grids and Networks, vol.31, 2022 (SCI-Expanded)
VI. **A coordinated virtual impedance control scheme for three phase four leg inverters of electric vehicle to grid (V2G)**
Çelik D., Meral M. E.

ENERGY, vol.246, 2022 (SCI-Expanded)

VII. **Lyapunov based harmonic compensation and charging with three phase shunt active power filter in electrical vehicle applications**
Çelik D.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.136, 2022 (SCI-Expanded)

VIII. **Mitigation of DC-link voltage oscillations to reduce size of DC-side capacitor and improve lifetime of power converter**
Meral M. E., Çelik D.
ELECTRIC POWER SYSTEMS RESEARCH, vol.194, 2021 (SCI-Expanded)

IX. **Minimisation of power oscillations with a novel optimal control strategy for distributed generation inverter under grid faulty and harmonic networks**
Meral M. E., Çelik D.
IET Renewable Power Generation, vol.14, no.15, pp.3010-3022, 2020 (SCI-Expanded)

X. **Proportional complex integral based control of distributed energy converters connected to unbalanced grid system**
Meral M. E., Çelik D.
Control Engineering Practice, vol.103, 2020 (SCI-Expanded)

XI. **Multi-objective control scheme for operation of parallel inverter-based microgrids during asymmetrical grid faults**
Çelik D., Meral M. E.
IET RENEWABLE POWER GENERATION, vol.14, no.13, pp.2487-2498, 2020 (SCI-Expanded)

XII. **Voltage support control strategy of grid-connected inverter system under unbalanced grid faults to meet fault ride through requirements**
Çelik D., Meral M. E.
IET GENERATION TRANSMISSION & DISTRIBUTION, vol.14, no.16, pp.3198-3210, 2020 (SCI-Expanded)

XIII. **PERFORMANCE COMPARISON OF SEQUENCE EXTRACTORS FOR REFERENCE CURRENT GENERATION AND SAG/SWELL DETECTION IN POWER SYSTEMS**
Çelik D., Meral M. E.
REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE, vol.65, pp.21-26, 2020 (SCI-Expanded)

XIV. **A novel current control strategy for grid connected renewable energy source inverters**
Meral M. E., Çelik D.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.1, pp.537-550, 2020 (SCI-Expanded)

XV. **Virtual Park-based control strategy for grid-connected inverter interfaced renewable energy sources**
Çelik D., Meral M. E., Inci M.
IET RENEWABLE POWER GENERATION, vol.13, no.15, pp.2840-2852, 2019 (SCI-Expanded)

XVI. **A novel control strategy for grid connected distributed generation system to maximize power delivery capability**
Çelik D., Meral M. E.
ENERGY, vol.186, 2019 (SCI-Expanded)

XVII. **A flexible control strategy with overcurrent limitation in distributed generation systems**
Çelik D., Meral M. E.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.104, pp.456-471, 2019 (SCI-Expanded)

XVIII. **Current control based power management strategy for distributed power generation system**
Çelik D., Meral M. E.
CONTROL ENGINEERING PRACTICE, vol.82, pp.72-85, 2019 (SCI-Expanded)

XIX. **A comprehensive survey on control strategies of distributed generation power systems under normal and abnormal conditions**

Meral M. E., Çelik D.
ANNUAL REVIEWS IN CONTROL, vol.47, pp.112-132, 2019 (SCI-Expanded)

XX. **Benchmarking simulation and theory of various PLLs produce orthogonal signals under abnormal electric grid conditions**
Meral M. E., Çelik D.
ELECTRICAL ENGINEERING, vol.100, no.3, pp.1805-1817, 2018 (SCI-Expanded)

XXI. **Comparison of SRF/PI- and STRF/PR-based power controllers for grid-tied distributed generation systems**
Meral M. E., Çelik D.
ELECTRICAL ENGINEERING, vol.100, no.2, pp.633-643, 2018 (SCI-Expanded)

Articles Published in Other Journals

I. **An Improved Control Method for Current Harmonics, Reactive Power Compensation and Effective Power Flow with Active Power Filter**
Çelik D.
Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.13, no.13, pp.995-1004, 2023 (Peer-Reviewed Journal)

II. **Performance Analysis of Three Levels Three Switches Vienna-Type Rectifier based on Direct Power Control**
Çelik D.
Balkan Journal of Electrical and Computer Engineering, vol.10, no.2, pp.170-177, 2022 (Peer-Reviewed Journal)

III. **Power Management Strategy of Grid Connected Solar Power Generation**
Çelik D., Meral M. E.
International Journal on Technical and Physical Problems of Engineering, vol.10, pp.14-18, 2018 (Scopus)

IV. **DSOGI-PLL BASED POWER CONTROL METHOD TO MITIGATE CONTROL ERRORS UNDER DISTURBANCES OF GRID CONNECTED HYBRID RENEWABLE POWER SYSTEMS**
Meral M. E., Çelik D.
ADVANCES IN ELECTRICAL AND ELECTRONIC ENGINEERING, vol.16, no.1, pp.81-91, 2018 (ESCI)

V. **Modelling, Design and Control of a Single Phase Solid Oxide Fuel Cell based Power System**
Çelik D., Meral M. E.
IĞDIR ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ DERGİSİ, vol.8, no.2, pp.81-88, 2018 (Peer-Reviewed Journal)

VI. **Şebekeye Bağlı SOGI-PLL Tabanlı Tek Fazlı Eviricinin PR ve HCC ile Güç Kontrolü**
Çelik D., Meral M. E.
Yüzüncü Yıl Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.20, pp.10-21, 2015 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Elektrik Dağıtım Şebekelerinde Blokzinciri ve Yapay Zekâ Teknolojileri ile Dijital Dönüşümün Sağlanması**
Boyacı M. Y., Çelik D.
4th International Artificial Intelligence and Data Science Congress, İzmir, Turkey, 14 - 15 March 2024, pp.178-184

II. **Analysis Of Data Communication Systems And Cybersecurity For Photovoltaic Energy Production At Van Yüzüncü Yil University Campus**
Alkan A. U., Çelik D., Saraçoğlu R.
Uluslararası Vizyon Van 2024 Kongresi, Van, Turkey, 8 - 09 February 2024, pp.207

III. **Türkiye İle İran Arasındaki HVDC Back To Back Sisteme İlişkin Taşınabilir Güvenli DA Güç ve Bağlı Hatların Arıza Analizi**
TAŞDEMİR V., MERAL M. E., ÇELİK D.
2nd International Conference on Engineering, Natural and Social Sciences, Konya, Turkey, 04 April 2023, pp.69-74

IV. **Improvement of Transient Response and Mitigating Current Harmonics of Grid-Tied T-Type Inverter Using Proportional Resonant Controller**
ÇELİK D., KÖROĞLU T., EKİCİ E.
XXII International Symposium INFOTEH-JAHORINA 2023, Doğu Saraybosna, Bosnia And Herzegovina, 15 March 2023, pp.262-267

V. **An Isolated High-Power Bidirectional Five-Level NPC Dual Active Bridge DC-DC Converter with Anti-Windup PI Controller for Electric Vehicle-to-Home Application**
Ekici E., Koroglu T., Çelik D.
15th International Conference on Electronics, Computers and Artificial Intelligence, ECAI 2023, Bucharest, Romania, 29 - 30 June 2023

VI. **Trends and Developments of Electric Vehicles: Current State and Future Perspectives**
Çelik D.
3rd INTERNATIONAL CONFERENCE ON FLEXIBLE ELECTRONICS FOR ELECTRICAL VEHICLES (FLEX-EV 2022), Jaipur, India, 28 - 29 July 2022, pp.1-10

VII. **Simulation Examinations on the Shunt Active Power Filter For Harmonic Elimination and Power Factor Correction Capability**
Çelik D.
1st International Conference on Innovative Academic Studies, Konya, Turkey, 10 - 13 September 2022, pp.1362-1366

VIII. **A New Area Towards to Digitalization of Energy Systems: Enables, Challenges and Solutions**
Çelik D., Meral M. E., Waseem M.
14th International Conference on Electronics, Computers and Artificial Intelligence, ECAI 2022, Ploiesti, Romania, 30 June - 01 July 2022

IX. **Scenarios, Virtualization and Applications for Blockchain Technology in Smart Grids**
Çelik D., Emin Meral M., Waseem M.
3rd IEEE Kansas Power and Energy Conference, KPEC 2022, Kansas, United States Of America, 25 - 26 April 2022

X. **Design and Implementation of Band Pass Filter based PI Controlled Shunt Active Power Filter to Fulfill IEEE-519 Harmonic Distortion Limits**
Çelik D., Meral M. E.
1st International Conference on Advances in Engineering, Architecture, Science and Technology, Erzurum Technical University, Erzurum, Turkey, 15 - 17 December 2021, pp.90-95

XI. **Reactive Power Compensation Control for Quasi Z-Source Inverter**
Çelik D., Meral M. E.
TOK 2021 Otomatik Kontrol Ulusal Kongresi, Van, Turkey, 2 - 04 September 2021, pp.148-153

XII. **An overvoltage and undervoltage prevention control for superconducting magnetic energy storage based power converter connected to a weak grid**
Çelik D., Meral M. E.
2nd IEEE International Power and Renewable Energy Conference, IPRECON 2021, Kollam, India, 24 - 26 September 2021

XIII. **Restrictions and Driving Forces for Renewable Energy Production Development and Electrical Energy Demand in General and During COVID-19**
Çelik D., Meral M. E., Waseem M.
12th International Symposium on Advanced Topics in Electrical Engineering (ATEE), Bucharest, Romania, 25 - 27 March 2021

XIV. **A Current Limiting Control Strategy of Grid Connected Inverter for Overcurrent Protection**
Meral M. E., Çelik D.
International Conference on Engineering Technologies (ICENTE'19), Konya, Turkey, 25 - 27 October 2019, pp.205-209

XV. **An improved sequence based control strategy for three phase grid interfaced inverter systems**
Çelik D., Meral M. E.
4th International Conference on Power Electronics and their Applications, ICPEA 2019, Elazığ, Turkey, 25 - 27

September 2019

XVI. **Dual Average Filter based PNS Extractor for Inverter Applications in Power Systems**
Meral M. E., Çelik D.
ENAR'18, Antalya, Turkey, 14 - 16 November 2018, vol.1, no.1, pp.1-10

XVII. **Dağıtım Şebekelerinde Gerilim Çökmesinin D-STATCOM Kullanılarak Kompanze Edilmesi**
Çakmak F., Çelik D., Meral M. E.
IMESET' 17, Bitlis, Turkey, 27 - 29 October 2017, vol.1, no.1, pp.302-307

XVIII. **Generation of Fast and Accurate Positive-Negative Sequences for Control of Three Phase Inverter**
Meral M. E., Çelik D.
2nd International Iğdır Symposium, Iğdır, Turkey, 9 - 12 October 2017, vol.1, no.1, pp.1

XIX. **Modeling and Design of a Single Phase SOFC System's Control**
Çelik D., Meral M. E.
2nd International Iğdır Symposium, Iğdır, Turkey, 9 - 11 October 2017, vol.1, no.1, pp.1

XX. **Power Control and Management of Solar Power Generation**
Çelik D., Meral M. E.
13th International Conference on Technical and Physical Problems of Electrical Engineering, Van, Turkey, 21 - 23 September 2017, vol.1, no.1, pp.269-272

XXI. **The Effect of Disturbances on Grid Tied Power Converters and DSOGI Based Power Controller Solution**
Çelik D., Meral M. E.
5th International Conference on Advanced Technology & Sciences (ICAT'17), İstanbul, Turkey, 9 - 12 May 2017, vol.1, no.1, pp.486-491

XXII. **Comparison of two different Power Controllers for Grid Tied Distributed Generation Systems**
Çelik D., Meral M. E.
International Conference on AdvancedTechnology & Sciences3th International Conference (ICAT'16), Konya, Turkey, 1 - 03 September 2016, vol.1, no.1, pp.781-786

XXIII. **Grid Tied Fuel Cell System Using Single Phase PLL Based SOGI with PI and PR Current Controllers**
Meral M. E., Çelik D.
The 5th International Congress on Engineering and Information (ICEAI 2016), Osaka, Japan, 10 May - 12 June 2016, pp.513-524

Supported Projects

Çelik D., Project Supported by Higher Education Institutions, Lyapunov Based Harmonic Compensation with Three Phase Active Power Filter for Electric Vehicle Applications, 2021 - 2022
Meral M. E., Çelik D., Project Supported by Higher Education Institutions, Şebekeye Bağlı Üç Fazlı Eviricinin Döngüsel İşlemci Emülatörü Tabanlı Gerçek Zamanlı Kontrolü, 2019 - 2021
Meral M. E., Çelik D., Project Supported by Higher Education Institutions, Yenilenebilir Enerji Kaynaklı Eviricilerin GüçAkım Kontrolünde Kullanılan Yöntemlerin İncelenmesi ve Geliştirilmesi, 2017 - 2019

Scientific Refereeing

ENERGY, SCI Journal, January 2021
ENERGY, SCI Journal, December 2020
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, SCI Journal, December 2020
ENERGY, SCI Journal, November 2020
International Transactions on Electrical Energy Systems, SCI Journal, November 2020
ENERGY, SCI Journal, November 2020
RENEWABLE ENERGY, SCI Journal, November 2020

IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, SCI Journal, November 2020
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, SCI Journal, November 2020
ENERGY, SCI Journal, October 2020
RENEWABLE ENERGY, SCI Journal, October 2020
ENERGY, SCI Journal, September 2020
IET POWER ELECTRONICS, SCI Journal, July 2020
ENERGY, SCI Journal, July 2020
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, June 2020
ENERGY, SCI Journal, June 2020
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, May 2020
IEEE ACCESS, SCI Journal, May 2020
RENEWABLE ENERGY, SCI Journal, May 2020
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, April 2020
IET POWER ELECTRONICS, SCI Journal, April 2020
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, SCI Journal, April 2020
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, March 2020
APPLIED ENERGY, SCI Journal, March 2020
APPLIED ENERGY, SCI Journal, March 2020
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, SCI Journal, February 2020
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, February 2020
APPLIED ENERGY, SCI Journal, February 2020
RENEWABLE ENERGY, SCI Journal, January 2020
IET RENEWABLE POWER GENERATION, SCI Journal, January 2020
IET POWER ELECTRONICS, SCI Journal, January 2020
IET GENERATION TRANSMISSION & DISTRIBUTION, SCI Journal, January 2020
IET RENEWABLE POWER GENERATION, SCI Journal, January 2020
RENEWABLE ENERGY, SCI Journal, December 2019
ELECTRONICS LETTERS, SCI Journal, December 2019
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, SCI Journal, October 2019
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, SCI Journal, October 2019
IET GENERATION TRANSMISSION & DISTRIBUTION, SCI Journal, October 2019
IET POWER ELECTRONICS, SCI Journal, October 2019
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, SCI Journal, June 2019
IET POWER ELECTRONICS, SCI Journal, June 2019
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, SCI Journal, June 2019
IET RENEWABLE POWER GENERATION, SCI Journal, May 2019
APPLIED ENERGY, SCI Journal, May 2019
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, SCI Journal, May 2019
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, SCI Journal, May 2019
APPLIED ENERGY, SCI Journal, March 2019
IET RENEWABLE POWER GENERATION, SCI Journal, March 2019
ELECTRONICS LETTERS, SCI Journal, February 2019
IET RENEWABLE POWER GENERATION, SCI Journal, January 2019
ELECTRONICS LETTERS, SCI Journal, January 2019
APPLIED ENERGY, SCI Journal, January 2019
IET POWER ELECTRONICS, SCI Journal, January 2019
IET RENEWABLE POWER GENERATION, SCI Journal, December 2018
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, December 2018
ELECTRONICS LETTERS, SCI Journal, November 2018
APPLIED ENERGY, SCI Journal, November 2018
ELECTRIC POWER SYSTEMS RESEARCH, SCI Journal, November 2018

APPLIED ENERGY, SCI Journal, November 2018
IET POWER ELECTRONICS, SCI Journal, October 2018
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IET RENEWABLE POWER GENERATION, SCI Journal, June 2018
APPLIED ENERGY, SCI Journal, November 2017
APPLIED ENERGY, SCI Journal, November 2017
APPLIED ENERGY, SCI Journal, October 2017
APPLIED ENERGY, SCI Journal, September 2017
APPLIED ENERGY, SCI Journal, May 2017

Metrics

Publication: 50
Citation (WoS): 74
Citation (Scopus): 610
H-Index (WoS): 4
H-Index (Scopus): 16

Non Academic Experience

Performans Yapı Denetim
Business Establishment Private, Karel İnşaat Elektrik Tur.San.Tic.A.Ş
KAREL İNŞAAT ELEKTRİK