



# DERYA BETÜL ÜNSAL ÇELİMLİ

## ASST. PROF.

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAO-5324-2021

ScopusID: 57223914154

Yoksis Researcher ID: 110828



### Biography

Dr. Unsal received a Ph.D. degree in Electrical and Electronics Engineering from Selçuk (Konya Technical) University, Turkey in 2018. She is currently working as an Assistant Professor at Sivas Cumhuriyet University, where she leads the Renewable Energy Research Center (CUYEM). Her current research interests include Communication in Power Networks, Renewables, Distributed Generation Integrations, Micro Grids, Electric Vehicle Integrations, and also Cybersecurity in Smart Grids.

### Learning Knowledge

Doctorate  
2014 - 2018

Ankara Yıldırım Beyazıt University, Fen Bilimleri Enstitüsü, Elektrik ve Elektronik Mühendisliği Doktora (İngilizce) , Turkey

Doctorate  
2014 - 2018

Selçuk Üniversitesi (Konya Teknik Üniversitesi), Fen Bilimleri Enstitüsü, Electrical and Electronics Engineering PhD, Turkey

### Foreign Languages

English, C1 Advanced  
Russian, A2 Elementary

### Certificates, Courses and Trainings

Renewable Energy Sources, Yenilenebilir Enerji ve Enerji Verimliliği Uzmanlığı Eğitimi, Enerji ve Tabii Kaynaklar Bakanlığı, 2021

Cyber Security, Yapay Zeka ve Veri Güvenliği, Bilkent Üniversitesi, 2020

## Dissertations

Doctorate, Controlling the Distributed Energy Resources Using Smart Grid Communication Technologies, Selcuk University, Institute Of Science, Electrical and Electronics Engineering PhD, 2018

## Academic Titles / Tasks

Assistant Professor  
2019 - Continues

Sivas Cumhuriyet University, Fen Bilimleri Enstitüsü, Fen Bilimleri Enstitüsü

Research Assistant PhD  
2018 - 2019

Sivas Cumhuriyet University, Mühendislik Fakültesi, Elektrik Elektronik Müh.

## Supported Projects

1. Kaya H., Ünsal Çelimli D. B., Aksöz A., Akkoyun S., Torun Y., Project Supported by Higher Education Institutions, Enerji verimliliği yaklaşımı ile Akıllı Kampüs Aydınlatma Projesi; Sivas Cumhuriyet Üniversitesi Uygulaması, 2019 - 2020
2. Ünsal Çelimli D. B., Torun Y., EU Supported Other Project, Robot Laboratuvarı Kurulması ve Robot Eğitimlerinin verilmesi TRH2 2 IQVETII P 03 977, 2014 - 2015

## Scholarships

Öncelikli Alanlarda Doktora Tez Çalışması, TÜBİTAK, 2015 - 2018

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

1. **A Comparative Study of AI Methods on Renewable Energy Prediction for Smart Grids: Case of Turkey**  
ÜNSAL ÇELİMLİ D. B., AKSÖZ A., Oyucu S., Guerrero J. M., Guler M.  
Sustainability (Switzerland), vol.16, no.7, 2024 (SCI-Expanded)
2. **Enhancing Cybersecurity in Smart Grids: False Data Injection and Its Mitigation**  
ÜNSAL ÇELİMLİ D. B., Ustun T. S., Hussain S. M. S., ÖNEN A.  
ENERGIES, vol.14, no.9, 2021 (SCI-Expanded)
3. **Medium voltage and Low Voltage applications of new power line communication model for smart grids**  
Ünsal Çelimli D. B.  
Proceedings Of The IEEE, vol.2016, no.1, 2016 (SCI-Expanded)

## Articles Published in Other Journals

1. **IMPLEMENTING SUSTAINABLE SMART CITY MODEL OF A UNIVERSITY CAMPUS**  
ÜNSAL ÇELİMLİ D. B.  
International Research Journal of Engineering and Technology, vol.8, no.12, pp.1710-1716, 2021 (Peer-Reviewed Journal)
2. **Impact and Control Study of LV Communication Networks with PV Penetrated Micro Grid**  
Ünsal Çelimli D. B., Önen A., Kulaksız A. A.

International Research Journal of Engineering and Technology (IRJET), vol.6, no.8, pp.1402-1411, 2019 (Peer-Reviewed Journal)

3. **Applications of New Power Line Communication Model for Smart Grid**

Ünsal Çelimli D. B.

International Journal of Electrical and Computer Engineering, vol.7, no.3, pp.168-178, 2016 (Scopus)

## Books & Book Chapters

1. **SMART GRID RENEWABLE INTEGRATION SECURITY**

ÜNSAL ÇELİMLİ D. B.

in: Engineering Sciences Issues, Opportunities and Researches, KURT, Halil İbrahim; ERGÜL, Engin, Editor, Livre De Lyon, Lyon, pp.1-18, 2023

2. **RECENT INTERNATIONAL ENERGY RESEARCH EFFECTS ON MULTIDISCIPLINARY SCIENCES**

ÜNSAL ÇELİMLİ D. B.

in: INTERNATIONAL ENERGY RESEARCH AND APPLICATIONS, ALİM YILDIZ, DERYA BETÜL ÜNSAL, Editor, Sivas Cumhuriyet Üniversitesi, Sivas, pp.62-72, 2022

3. **Akıllı Bina Sistemlerinde IOT Uygulamaları ile Enerji Yönetimi**

ÜNSAL ÇELİMLİ D. B., CERAN ÇAMAYAZ Z.

in: MULTİDİSİPLİNER BAKIŞ AÇISIYLA "TÜRKİYE'DE ENERJİ", Derya Betül ÜNSAL, Hilmi ATASEVEN, Editor, Sivas Cumhuriyet Üniversitesi Yayınevi, Sivas, pp.233-243, 2022

4. **INVESTIGATING ELECTRIC VEHICLE INTEGRATION WITH SMART MICRO GRID APPLICATION**

ÜNSAL ÇELİMLİ D. B.

in: INTERNATIONAL ENERGY RESEARCH AND APPLICATIONS, ALİM YILDIZ, DERYA BETÜL ÜNSAL, Editor, SİVAS CUMHURİYET ÜNİVERSİTESİ, Sivas, pp.242-249, 2022

5. **Akıllı Şebekelerde Kullanılan Bina Sistemleri ve Erişilebilirlik Yönüyle AFAD Sivas Ofisi Uygulaması**

ÜNSAL ÇELİMLİ D. B., GÜNEŞ İ.

in: MULTİDİSİPLİNER BAKIŞ AÇISIYLA "TÜRKİYE'DE ENERJİ", Derya Betül ÜNSAL, Hilmi ATASEVEN, Editor, Sivas Cumhuriyet Üniversitesi Yayınevi, Sivas, pp.251-261, 2022

6. **ENERJİ VE ÇEVRE BAKIŞ AÇISIYLA SÜRDÜRÜLEBİLİRLİK**

Ünsal Çelimli D. B.

in: ULUSLARARASI ÇEVRE SORUNLARINA GENEL BAKIŞ, DERYA BETÜL ÜNSAL, MELTEM SARIOĞLU CEBEÇİ, TURGAY BIŞGİN, AHMET TURAN BOZPOLAT, Editor, Nobel Yayınevi, Ankara, pp.183-193, 2021

7. **ÜNİVERSİTE KAMPÜS BİNALARI İÇİN ENERJİ VERİMLİLİĞİ VE TASARRUFU ÖNERİLERİ**

ÜNSAL ÇELİMLİ D. B., KARABULUT K.

in: Mühendislik Alanında Araştırma ve Değerlendirmeler , Doç. Dr. Selahattin BARDAK, Dr. Öğr. Üyesi Neslihan AYDIN, Dr. Öğr. Üyesi Yalçın BOZTOPRAK, Editor, Gece Kitaplığı Yayınevi, Ankara, pp.187-197, 2021

## Refereed Congress / Symposium Publications in Proceedings

1. **PHOTOVOLTAICS ENERGY CONTRIBUTION AND THEIR IMPACT ON CARBON EMISSIONS REDUCTION IN TÜRKİYE**

ÜNSAL ÇELİMLİ D. B.

II. International Energy Days Symposium, Sivas, Turkey, 27 September 2023, vol.1, pp.339-345

2. **IMPROVEMENTS OF NEXT GENERATION IOT APPLICATIONS SECURITY CHALLENGES**

PEKDEMİR Z., YÜKSEK A. G., ÜNSAL ÇELİMLİ D. B.

II. International Energy Days, Sivas, Turkey, 27 September 2023, vol.2, pp.329-338

3. **The Impact of Energy Researches on Current Interdisciplinary Sciences**

ÜNSAL ÇELİMLİ D. B.

INTERNATIONAL ENERGY DAYS SYMPOSIUM, Sivas, Turkey, 04 October 2022, vol.1, pp.65-69

4. **Electromagnetic Field Levels Analysis for Grid Connected Smart Devices**  
ÜNSAL ÇELİMLİ D. B., KURT H.  
International Energy Days, Sivas, Turkey, 04 October 2022, vol.1, pp.75-79
5. **Protection of Microgrids with Renewable Integration**  
ÜNSAL ÇELİMLİ D. B., PEKDEMİR Z.  
International Energy Days Symposium, Sivas, Turkey, 3 - 04 October 2022, vol.1, pp.80-85
6. **Energy efficient solutions for grid-connected smart buildings**  
ÜNSAL ÇELİMLİ D. B., CERAN ÇAMAYAZ Z.  
INTERNATIONAL ENERGY DAYS SYMPOSIUM, Sivas, Turkey, 3 - 04 October 2022, vol.1, pp.57-61
7. **Applications of Neural Network For Smart Grid Security with Renewables Integration**  
ÜNSAL ÇELİMLİ D. B.  
8th International Applied Sciences Congress, Turkey, 24 - 26 December 2021, pp.135-145
8. **INVESTIGATION OF SMART CAMPUS DESIGN FOR ENERGY PROVIDENCE AND EFFICIENCY**  
ÜNSAL ÇELİMLİ D. B.  
8th International Applied Sciences Congress, Turkey, 24 - 26 December 2021, pp.145-155
9. **INVESTIGATION OF LSTM FOR ENERGY DEMAND RESPONSE APPLICATIONS**  
Ünsal Çelimli D. B., Güler M.  
TUBA World Conference on Energy Science and Technology (TUBA WCEST-2021), İstanbul, Turkey, 8 - 12 August 2021, vol.1, no.143, pp.143-151
10. **Increasing Accessibility Level with Smart Ramp Solution for Registered Buildings in Sivas Historical City Square**  
ÜNSAL ÇELİMLİ D. B.  
ICMEPS 2021, Kayseri, Turkey, 04 May 2021
11. **A review: communication security on smart grid**  
ÜNSAL ÇELİMLİ D. B., TORUN Y., AKSÖZ A.  
7th Eur. Conf. Ren. Energy Sys, 10 - 12 June 2019
12. **Adaptive Neuro-Fuzzy Interface System-based Energy Management Application for a Residential Photovoltaic On-Grid System**  
BAKIR H., younas u., ÜNSAL ÇELİMLİ D. B., KULAKSIZ A. A.  
International Conference on Energy Research, Marmaris, 11 - 13 April 2019
13. **Adaptive Neuro-Fuzzy Interface System-based Energy Management Application for a Residential Photovoltaic On-Grid System**  
BAKIR H., KULAKSIZ A. A., ÜNSAL ÇELİMLİ D. B.  
International Conference on Energy Research, 11 - 13 April 2019
14. **Investigation of Energy Quality on MGs Under High Penetration of PV Generation**  
ÜNSAL ÇELİMLİ D. B., KULAKSIZ A. A., ÖNEN A.  
International Conference on Innovative Engineering Applications, Sivas, Turkey, 20 - 22 October 2018
15. **Controlling The Distributed Energy Resources Using Smart Grid Standards**  
ÜNSAL ÇELİMLİ D. B., DOĞAN H., TORUN Y., KOÇKANAT S.  
International Conference on Innovative Engineering Applications 2018, Sivas, Turkey, 20 - 22 September 2018, pp.578-585
16. **Investigation of LV Networks with EVs under High Penetration of PV Generation**  
ÜNSAL ÇELİMLİ D. B., KULAKSIZ A. A., ÖNEN A.  
IATS 2017, Elazığ, Turkey, 19 - 22 October 2017, vol.9, pp.3609-3617
17. **CURRENT VOLTAGE CURVE PREDICTION OF ANNEALED NiN GAAS SI IN SCHOTTKY BARRIER DIODE USING ANFIS**  
KOÇKANAT S., DOĞAN H., TÜRKAY Y., ŞEKER M., ÜNSAL ÇELİMLİ D. B., ÇIKAN M.  
5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017
18. **PHOTOELECTRICAL PARAMETER CALCULATION OF METAL ORGANIC INORGANIC PHOTO DIODE USING AN APPROACH BASED MABC ALGORITHM**  
DOĞAN H., KOÇKANAT S., TÜRKAY Y., ÇIKAN M., ÜNSAL ÇELİMLİ D. B.

- 5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017
19. **ANNEALING TEMPERATURE DEPENDENT CHARACTERIZATION OF NI AU N GAN SCHOTTKY DIODE USING ARTIFICIAL BEE COLONY ALGORITHM**  
DOĞAN H., KOÇKANAT S., TÜRKAY Y., ŞEKER M., ÇIKAN M., ÜNSAL ÇELİMLİ D. B.  
5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017
20. **ELECTRICAL PARAMETER DETERMINATION OF AL P SI SCHOTTKY DIODE FROM I V AND C V CURVES USING MABC BASED METHOD**  
KOÇKANAT S., DOĞAN H., TÜRKAY Y., ÇIKAN M., ÜNSAL ÇELİMLİ D. B.  
5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017
21. **ABC method analysis for the Capacitance Voltage characteristics of Ni n GaAS In schottky barrier diode**  
DOĞAN H., KOÇKANAT S., ÜNSAL ÇELİMLİ D. B.  
NanoTR-12, 3 - 05 June 2016
22. **The parameter extraction of Al Ruthenium II complex p Type Si Heterojunction diode using optimization method**  
ÜNSAL ÇELİMLİ D. B., DOĞAN H., KOÇKANAT S.  
NANOTR12, 3 - 05 June 2016
23. **ABC Artificial Bee Colony method analysis for the Capacitance Voltage characteristics of Ni n GaAS In schottky barrier diode**  
ÜNSAL ÇELİMLİ D. B., DOĞAN H., KOÇKANAT S.  
NANOTR12, İzmit, Turkey, 3 - 05 June 2016
24. **ABC method analysis for the Capacitance Voltage characteristic of Ni n GaAS In schottky barrier diode**  
DOĞAN H., KOÇKANAT S., ÜNSAL ÇELİMLİ D. B.  
12th International Nanoscience and Nanotechnology Conference, 3 - 05 June 2016
25. **Medium Voltage and Low Voltage Applications of New Power Line Communication Model for Smart Grids**  
ÜNSAL ÇELİMLİ D. B., Koc A. H., Yalcinoz T., Onaran I.  
IEEE International Energy Conference (ENERGYCON), Leuven, Belgium, 4 - 08 April 2016
26. **New Power Line Communication Model For Smart Grids**  
ÜNSAL ÇELİMLİ D. B.  
International Conference on Electrical and Electronics Engineering 2015, 28 - 29 April 2015
27. **PWM UYGULAMALI ÇİZGİ İZLEYEN ROBOT TASARIMI**  
Unsal D. B.  
5.ULUSLARARASI ROBOT YARIŞMASI, Ankara, Turkey, 12 - 13 May 2011

### Artistic Activity

- ÜNSAL ÇELİMLİ D. B., Dağıtk Şebekeler- Akıllı Şebekeler- Süper Şebekeler, January 2015
- ÜNSAL ÇELİMLİ D. B., BİTİRME PROJELERİ SERGİSİ -PWM UYGULAMALI DC MOTOR İLE HIZ KONTROLLÜ ÇİZGİ İZLEYEN BİR ROBOTUN TASARIMI VE GERÇEKLENMESİ-DANIŞMANI: YRD.DOÇ.DR. YAVUZ TÜRKAY , June 2011

### Academic and Administrative Experience

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2020 - Continues	<b>Manager of Research and Application Center</b>	Sivas Cumhuriyet University, Rektörlük, Yeni ve Yenilenebilir Enerji Uygulama ve Araştırma Merkezi (CUYEM)
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## Courses

Sayısal Elektronik Laboratuvarı, Undergraduate, 2019 - 2020  
Elek/Elektr. Müh. Giriş-1, Undergraduate, 2019 - 2020  
Elek/Elektr. Müh. Giriş-2, Undergraduate, 2018 - 2019  
Sayısal Elektronik Laboratuvarı, Undergraduate, 2019 - 2020  
Elek/Elektr. Müh. Giriş-2, Undergraduate, 2018 - 2019  
Sayısal Elektronik, Undergraduate, 2019 - 2020  
Enerji Üretim Ve İletimi, Undergraduate, 2019 - 2020  
Elek/Elektr. Müh. Giriş-1, Undergraduate, 2019 - 2020  
Enerji Üretim Ve İletimi, Undergraduate, 2019 - 2020  
Seminer Dersi, Postgraduate, 2019 - 2020  
Enerji Dağıtım, Undergraduate, 2018 - 2019  
Enerji Dağıtım, Undergraduate, 2018 - 2019  
Uzmanlık Alan Dersi, Postgraduate, 2019 - 2020  
Sayısal Elektronik, Undergraduate, 2019 - 2020  
Biyomedikal Cihazlar, Associate Degree, 2019 - 2020  
Bitirme Ödevi, Undergraduate, 2018 - 2019  
ENERJİ ÜRETİMİ VE İLETİMİ, Undergraduate, 2017 - 2018  
Elektrikle Tahrik, Undergraduate, 2018 - 2019  
Elektrikle Tahrik, Undergraduate, 2018 - 2019  
ELEKTRİK ELEKTRONİK MÜHENDİSLİĞİNE GİRİŞ-I, Undergraduate, 2017 - 2018  
Bitirme Ödevi, Undergraduate, 2018 - 2019

## Activities in Scientific Journals

Iet Communications, Publication Committee Member, 2020 - Continues  
Annales Des Telecommunications-Annals Of Telecommunications, Publication Committee Member, 2017 - Continues

## Memberships / Tasks in Scientific Organizations

IEEE, Member, 2011 - Continues, Turkey

## Scientific Refereeing

TUBITAK Project, 1005 - National New Ideas and Products Research Support Program, Sivas Cumhuriyet University, Turkey, June 2021  
TUBITAK Project, 1011 - International Scientific Research Projects Participation Program (UBAP), Sivas Cumhuriyet University, Turkey, June 2021  
TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, Sivas Cumhuriyet University, Turkey, May 2021  
IET COMMUNICATIONS, SCI Journal, August 2020  
IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, SCI Journal, August 2020  
ANNALES DES TELECOMMUNICATIONS-ANNALS OF TELECOMMUNICATIONS, SCI Journal, June 2020

## Tasks In Event Organizations

Ünsal Çelimli D. B., INTERNATIONAL ENERGY DAYS SYMPOSIUM, Scientific Congress, Sivas, Turkey, Ekim 2022  
Ünsal Çelimli D. B., ÇEVRE VE ENERJİ SEMPOZYUMU, Scientific Congress, Sivas, Turkey, Haziran 2022

Ünsal Çelimli D. B., Yıldırım T., ASYU 2021, Scientific Congress, Elazığ, Turkey, Ekim 2021

Ünsal Çelimli D. B., Yıldırım T., IEEE INISTA 2021, Scientific Congress, Kocaeli, Turkey, Ağustos 2021

Ünsal Çelimli D. B., Önen A., ICMEPS 2021, Scientific Congress, Kayseri, Turkey, Haziran 2021

Ataseven H., Ünsal Çelimli D. B., Şeker A., 1.Enerji Günleri Sempozyumu, Scientific Congress, Sivas, Turkey, Haziran 2021

Ünsal Çelimli D. B., Ataseven H., Verimli Toplantılar, Scientific Congress, Sivas, Turkey, Mayıs 2021

## Metrics

Publication: 42

Citation (WoS): 18

Citation (Scopus): 18

H-Index (WoS): 3

H-Index (Scopus): 3

## Congress and Symposium Activities

INTERNATIONAL ENERGY DAYS, Moderator, Sivas, Turkey, 2023

5. INTERNATIONAL PCFM CONFERENCE, Moderator, Sivas, Turkey, 2022

ENVIRONMENT AND ENERGY SYMPOSIUM, Moderator, Sivas, Turkey, 2022

SUSTAINABLE ENERGY CONFERENCE, Moderator, Sivas, Turkey, 2022

ICMEPS 2021, Moderator, Kayseri, Turkey, 2021

ÇEVRE GÜNLERİ, Working Group, Sivas, Turkey, 2021

I. ENERJİ GÜNLERİ, Working Group, Sivas, Turkey, 2021

## Research Areas

Communication Networks, Wireless Communication, Optical Communication, Sattelite Communication, Information Security and Reliability, Neural Networks, Electrical and Electronics Engineering, Generating Stations and Plants, Electric Power Transmission, Distribution and Protection, Renewable energy

## Representation and Promotion Activities

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2023 - 2023

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2023 - 2023

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2023 - 2023

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2023 - 2023

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2023 - 2023

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2023 - 2023

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, YENİ VE YENİLENEBİLİR ENERJİ UYGULAMA VE ARAŞTIRMA MERKEZİ, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Sivas Cumhuriyet Üniversitesi, Turkey, Sivas, 2021 - 2021

Institutional Promotion, Cumhuriyet Üniversitesi Youtube, Turkey, Sivas, 2021 - 2021

## Non Academic Experience

DEVLET PLANLAMA TEŞKİLATI  
TÜRK STANDARTLARI ENSTİTÜSÜ