

## Asst. Prof. ESRA BİLAL ÖNDER

### Personal Information

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### International Researcher IDs

ScholarID: liAENkQAAAAJ

ORCID: 0000-0003-3314-5735

Publons / Web Of Science ResearcherID: Q-1163-2019

ScopusID: 18036818700

Yoksis Researcher ID: 54027

### Education Information

Doctorate, Dokuz Eylül University, Eğitim Bilimleri Enstitüsü, Fizik Öğretmenliği (YI) (Tezli), Turkey 2004 - 2010

Undergraduate, Dokuz Eylül University, Buca Eğitim Fakültesi, Matematik ve Fen Bilimleri Eğitimi Bölümü, Turkey 1998 - 2003

### Dissertations

Doctorate, Elektrik konusunun modelleme yoluyla öğretiminin kavramsal anlama, akademik başarı ve epistemolojik inançlara etkisi, Dokuz Eylül University, Eğitim Bilimleri Enstitüsü, Fizik Öğretmenliği (YI) (Tezli), 2010

### Research Areas

Education, Teacher Training in Science and Math. at Second. Sch. Lev.

### Academic Titles / Tasks

Assistant Professor, Dokuz Eylül University, İzmir Meslek Yüksekokulu, Elektronik ve Otomasyon Bölümü, 2016 - Continues

Lecturer, Dokuz Eylül University, İzmir Meslek Yüksekokulu, Teknik Programlar Bölümü, 2011 - 2016

### Academic and Administrative Experience

Birim Kalite Komisyonu Üyesi, Dokuz Eylül University, İzmir Meslek Yüksekokulu, Elektronik ve Otomasyon Bölümü, 2022 - Continues

Bölüm Akademik Teşvik Değerlendirme Komisyonu Üyesi, Dokuz Eylül University, İzmir Meslek Yüksekokulu, Elektronik ve Otomasyon Bölümü, 2021 - Continues

Adaptation/Exemption Committee Member, Dokuz Eylül University, İzmir Meslek Yüksekokulu, Elektronik ve Otomasyon Bölümü, 2021 - Continues

Internship Committee Member, Dokuz Eylul University, İzmir Meslek Yüksekokulu, Elektronik ve Otomasyon Bölümü,

2016 - Continues

Mezuniyet Komisyonu, Dokuz Eylul University, İzmir Meslek Yüksekokulu, Elektronik ve Otomasyon Bölümü, 2023 - 2023

Dokuz Eylul University, 2017 - 2017

Dokuz Eylul University, 2017 - 2017

## Courses

Computer Aided Circuit Design in Telecommunication, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Medical Physics, Associate Degree, 2023 - 2024

Analog Electronic, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Medical Physics , Associate Degree, 2023 - 2024

Computer Aided Circuit Design In Telecommunication, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Digital Electronics, Associate Degree, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2012 - 2013

Digital Electronics, Associate Degree, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015

Direct Current Circuits Analysis, Associate Degree, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021

Direct Current Circuit Analysis, Associate Degree, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021

Analog Electronic, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Medical Physics, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Medical Physics, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Circuits Design In Biomedical, Associate Degree, 2020 - 2021

Circuits Design In Biomedical, Associate Degree, 2020 - 2021

Fundamentals of Physics, Associate Degree, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

Computer Electronics, Undergraduate, 2017 - 2018

Scientific Research Methods, Undergraduate, 2017 - 2018

Araştırma Teknikleri, Associate Degree, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013

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

- I. **A microcontroller-based experiment to determine the magnetic field near a straight current carrying wire**  
Önder F., Bilal Önder E., Oğur M.  
THE PHYSICS TEACHER, vol.60, no.7, pp.557-560, 2022 (SCI-Expanded)
- II. **Determining Transistor Characteristics with Arduino**  
Önder F., Bilal Önder E., Oğur M.  
PHYSICS TEACHER, vol.58, no.6, pp.422-424, 2020 (SCI-Expanded)
- III. **Students' understanding of fundamental AC signal concepts**  
Bilal Önder E., Önder F.  
CANADIAN JOURNAL OF PHYSICS, vol.97, no.11, pp.1225-1228, 2019 (SCI-Expanded)
- IV. **Determination of Diode Characteristics by Using Arduino**

Önder F., Bilal Önder E., Oğur M.

PHYSICS TEACHER, vol.57, no.4, pp.244-245, 2019 (SCI-Expanded)

V. **EFFECT OF TEACHING VIA MODELING ON ACHIEVEMENT AND CONCEPTUAL UNDERSTANDING CONCERNING ELECTRICITY**

BİLAL ÖNDER E., EROL M.

JOURNAL OF BALTIC SCIENCE EDUCATION, vol.11, no.3, pp.236-247, 2012 (SSCI)

## Articles Published in Other Journals

- I. **Opinions of Pre-service Physics Teachers About Real and Virtual Physics Experiments**  
BİLAL ÖNDER E., Tanel Z., TANEL R.  
Buca Eğitim Fakültesi Dergisi, no.55, pp.168-193, 2023 (Peer-Reviewed Journal)
- II. **The Effect of Laboratory Practices Supported by Virtual Learning Environments on Educational Technology Self-Efficiencies of Teacher Candidates**  
Tanel Z., Bilal Önder E., Tanel R.  
Osmangazi Journal of Educational Research, vol.9, no.2, pp.119-138, 2022 (Peer-Reviewed Journal)
- III. **AN ARDUINO BASED EXPERIMENT TO PROVE AND TEACH MALUS' LAW**  
Bilal Önder E., Önder F., Oğur M.  
Mühendislik Bilimleri ve Tasarım Dergisi, vol.9, no.3, pp.833-842, 2021 (Peer-Reviewed Journal)
- IV. **Conceptual framework on teaching capacitors and inductors**  
EROL M., BİLAL ÖNDER E.  
Momentum Physics Education Journal, vol.5, no.2, pp.182-193, 2021 (Peer-Reviewed Journal)
- V. **Developing and Testing a Board Game to Learn About Stars**  
TANEL R., BİLAL ÖNDER E.  
INTERNATIONAL JOURNAL OF GAME-BASED LEARNING, vol.10, no.3, pp.62-73, 2020 (ESCI)
- VI. **Simülasyon Destekli Sorgulama Temelli Etkinlikler ile Fotoelektrik Olay Öğretimi**  
Önder F., Bilal Önder E.  
İnönü Üniversitesi Eğitim Fakültesi Dergisi, vol.19, no.3, pp.57-73, 2018 (Peer-Reviewed Journal)
- VII. **Hypothesis Experiment Instruction Hei Method For Investigation And Elimination Of Misconceptions On Friction**  
Bilal Önder E., Erol M.  
Balkan Physics Letters, vol.18, no.181036, pp.269-276, 2010 (Peer-Reviewed Journal)
- VIII. **A Modeling Approach For Teaching Gauss's Law**  
Bilal Önder E., Erol M.  
Balkan Physics Letters, vol.15, no.1, pp.1-6, 2009 (Peer-Reviewed Journal)
- IX. **Student Understanding of Capacitors in a DC Circuit**  
BİLAL ÖNDER E., EROL M.  
Balkan Physics Letters Special Issue, 2008 (Peer-Reviewed Journal)
- X. **Student understanding of some quantum physical concepts wave function Schrödinger s wave equation and wave particle duality**  
BİLAL ÖNDER E., EROL M.  
Sixth International Conference of the Balkan Physical Union, 2007 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **ELEKTRONİK KONULARININ ÖĞRETİMİNDE TINKERCAD UYGULAMASININ KULLANIMI: YARIM VE TAM DALGA DOĞRULTMA DENEYİ ÖRNEĞİ**  
Bilal Önder E.  
15. Uluslararası Sosyal Beşeri ve Eğitim Bilimleri Kongresi, İstanbul, Turkey, 9 - 10 December 2023, pp.608

- II. **Technician Candidates' Conceptual Understanding of Short Circuit**  
Bilal Önder E.  
15. Uluslararası Bilimsel Araştırmalar Kongresi -Sosyal ve Eğitim Bilimleri, 17 - 18 December 2022, pp.73
- III. **Investigation of Metaphoric Perceptions of Associate Degree Students On the Concept of Electromagnetic Radiation**  
Bilal Önder E.  
15. Uluslararası Bilimsel Araştırmalar Kongresi -Sosyal ve Eğitim Bilimleri, Ankara, Turkey, 17 - 18 December 2022, pp.57
- IV. **Meslek Yüksekokulu Öğrencilerinin Elektriksel Direnç Kavramı Hakkındaki Görüşleri**  
Bilal Önder E.  
12. Uluslararası Bilimsel Araştırmalar Kongresi -Sosyal ve Eğitim Bilimleri-, Ankara, Turkey, 17 - 18 December 2021, pp.31-32
- V. **Meslek Yüksekokulu Öğrencilerinin Işık ve Görme Konusundaki Kavramsal Anlamaları**  
BİLAL ÖNDER E., ÖNDER F.  
IZMIR DEMOCRACY UNIVERSITY 1ST INTERNATIONAL EDUCATIONAL RESEARCH CONFERENCE, 4 - 06 October 2019
- VI. **Student Understanding of Fundamental AC Signal Concept**  
BİLAL ÖNDER E., ÖNDER F.  
Turkish Physical Society 34th International Physics Congress, 5 - 09 September 2018
- VII. **Evaluation of vocational school students' attitudes towards physics course in terms of different variables**  
BİLAL ÖNDER E., ÖNDER F.  
International conference on science and education, Antalya, Turkey, 26 - 29 October 2017
- VIII. **Fizik öğretmen adaylarının madde dalgalarına ilişkin kavram yanılgıları**  
ÖNDER F., BİLAL ÖNDER E.  
2. Ulusal Fizik Eğitimi Kongresi, Ankara, Turkey, 10 - 12 September 2015
- IX. **Meslek Yüksekokulu Öğrencilerinin Yarıiletken Konusundaki Kavramsal Anlamaları**  
Bilal Önder E., Önder F.  
2. ULUSAL FİZİK EĞİTİMİ KONGRESİ, Ankara, Turkey, 10 - 12 September 2015
- X. **Undergraduate Students Understanding of Quantum Tunneling**  
ÖZDEMİR E., BİLAL ÖNDER E., EROL M.  
KONGRE, 2 - 05 September 2013
- XI. **Vocational school students'xx conceptual understanding about conductivity**  
BİLAL ÖNDER E.  
International Conference on New Horizons in Education, Roma, Italy, 25 - 27 June 2013
- XII. **Students's understanding on electric current**  
BİLAL ÖNDER E.  
Turkish Physical Society 29th International Physics Congress, Muğla, Turkey, 5 - 08 September 2012
- XIII. **Öğretmen Adaylarının Bilimsel Epistemolojik İnançlarının Bölüm bazında İncelenmesi**  
BİLAL ÖNDER E., EROL M.  
KONGRE, 6 - 09 September 2011
- XIV. **Hipotez-deney-öğretim yönteminin öğrencilerin indüksiyon elektromotor kuvveti konusundaki anlamalarına etkisi**  
BİLAL ÖNDER E., EROL M.  
Türk Fizik Derneği 27. Uluslararası Fizik Kongresi, 14 - 17 September 2010
- XV. **Students'xx view points on uncertainty principle and tunneling**  
ÖZDEMİR E., BİLAL ÖNDER E., EROL M.  
Turkish Physical Society 27th International Congress, 14 - 17 September 2010
- XVI. **Use of analytic rubrics in assessment of classical physics tests**  
ÖZDEMİR E., BİLAL ÖNDER E., EROL M.  
Turkish Physical Society 26th International Congress, 24 - 27 September 2009

- XVII. **Use of Analytic Rubrics in Assessment of Classical Physics Exams**  
ÖZDEMİR E., BİLAL ÖNDER E., EROL M.  
26 th International Conference of The Turkish Physical Society, 24 September 2009
- XVIII. **Hypothesis-Experiment-Instruction (HEI) Method for Investigation and Elimination of Misconceptions on Friction**  
BİLAL ÖNDER E., EROL M.  
26 th International Conference of The Turkish Physical Society, 24 September 2009
- XIX. **A modeling approach for teaching Gauss'xx law**  
BİLAL ÖNDER E., EROL M.  
Turkish Physical Society 25th International Physics Congress, 25 - 29 August 2008
- XX. **Student Understanding of Capacitors in a DC Circuit**  
BİLAL ÖNDER E., EROL M.  
24 th International Conference of The Turkish Physical Society, 28 August 2007
- XXI. **Student understanding of some quantum physical concepts: Wave function, schrodinger's wave equation and wave-particle duality**  
BİLAL ÖNDER E., EROL M.  
6th International Conference of the Balkan-Physical-Union, İstanbul, Turkey, 22 - 26 August 2006, vol.899, pp.479-480
- XXII. **Effects of a hybrid model to the success and attitude on electrostatics**  
BİLAL ÖNDER E., EROL M.  
Turkish Physical Society 23th International Physics Congress, 13 - 16 September 2005

## Scientific Refereeing

Buca Eğitim Fakültesi Dergisi, Other Indexed Journal, December 2023

Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi, Other Indexed Journal, September 2023

Buca Eğitim Fakültesi Dergisi, Other Indexed Journal, February 2023

Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi, Other Indexed Journal, March 2021

Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi, Other Indexed Journal, February 2021

## Metrics

Publication: 40

Citation (WoS): 17

Citation (Scopus): 25

H-Index (WoS): 2

H-Index (Scopus): 2

## Congress and Symposium Activities

15th INTERNATIONAL CONGRESS ON SOCIAL SCIENCES - HUMANITIES AND EDUCATION, Attendee, İstanbul, Turkey, 2023

The 15th International Scientific Research Congress -Social and Educational Sciences-, Session Moderator, Ankara, Turkey, 2022

The 15th International Scientific Research Congress -Social and Educational Sciences-, Attendee, Ankara, Turkey, 2022