

## Res. Asst. İLKNUR BALDAN IŞIK

### Personal Information

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### International Researcher IDs

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ScopusID: 50123456789

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### Education Information

Postgraduate, Cukurova University, Sağlık Bilimleri Enstitüsü, Temel Tıp Bilimleri, Turkey 2014 - 2017

Postgraduate, Cukurova University, Fen Bilimleri Enstitüsü, Fizik, Turkey 2014 - 2017

Undergraduate Double Major, Cukurova University, Fen-Edebiyat Fakültesi, Kimya, Turkey 2011 - 2014

Undergraduate, Cukurova University, Fen-Edebiyat Fakültesi, Fizik, Turkey 2010 - 2013

Undergraduate, Kütahya Dumlupınar University, Fen Edebiyat Fakültesi, Fizik, Turkey 2008 - 2010

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Postgraduate, Torasik aorta uygulanan pulslu manyetik alanın apoptotik etkilerinin kasılma parametreleri üzerinden incelenmesi / Investigation of apoptotic effects of thoracic aortic pulsed magnetic field with contraction parameters, Cukurova University, Tıp Fakültesi, Temel Tıp Bilimleri, 2017

Postgraduate, Hadronik iletken kalorimetre (HF)'de kullanılan QIE10 kartlarının Pedestal, CapID, ICI testleri, Cukurova University, Fen Bilimleri Enstitüsü, 2017

### Research Areas

Physics, Atomic and Molecular Physics, Surfaces, Interfaces, Thin Films and Nanosystems, Natural Sciences

### Academic Titles / Tasks

Research Assistant, Cukurova University, Fen-Edebiyat Fakültesi, Fizik, 2021 - Continues

Research Assistant, Kocaeli University, Fen Bilimleri Enstitüsü, 2017 - 2021

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

- I. **One-pot synthesis of multifunctional ternary PtCuNi alloys: Magnetic properties and efficient hydrogen evolution reaction in alkaline media**  
Baldan Işık I., Kaya D., Ekicibil A., Karadağ F.  
ELECTROCHIMICA ACTA, vol.477, pp.143794, 2024 (SCI-Expanded)
- II. **Bifunctional bimetallic PtNi, PtCu, and NiCu nanoparticles: Electrocatalytic activities for hydrogen evolution reaction and magnetic properties**  
Baldan Işık I., Kaya D., Işık H. H., Ekicibil A., Karadağ F.  
Materials Science and Engineering: B , vol.300, pp.117081, 2024 (SCI-Expanded)
- III. **Electrocatalytic hydrogen evolution on metallic and bimetallic Pd–Co alloy nanoparticles**  
Kaya D., Isik H. H., Isik İ., Sigircik G., Tuken T., Karadag F., Ekicibil A.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.2, no.3, pp.1-2, 2023 (SCI-Expanded)
- IV. **Effect of 40 Hz Magnetic Field Application in Posttraumatic Muscular Atrophy Development on Muscle Mass and Contractions in Rats**  
Çiçek F., Taştekin B., Baldan Işık I., Tokuş M., Pelit A., Öcal I., Günay I., Ogur H. U., Çiçek H.  
BIOELECTROMAGNETICS, vol.1, no.9, pp.1-8, 2022 (SCI-Expanded)
- V. **Pre-application of pulsed magnetic field protects oxidative stress-induced apoptosis of vascular smooth muscle cells**  
Çiçek F., Coşkun Ç., Baldan Işık İ., Tokuş M., Günay İ.  
International Journal of Radiation Research, vol.20, no.2, pp.277-282, 2022 (SCI-Expanded)
- VI. **The analyses of solvent effects on infrared spectra and thermodynamic parameters, Hirshfeld surface, reduced density gradient and molecular docking of ketoprofen as a member of nonsteroidal anti-inflammatory drugs**  
Baldan Işık İ., Tekin N., Güneşdoğdu Sağdıncı S.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1250, no.3, pp.131861, 2022 (SCI-Expanded)
- VII. **Magnetically separable low Pt substituted Co nanoparticles: Investigation of structural, magnetic, and catalytic properties**  
Kaya D., Işık H. H., Baldan Işık İ., Adanur İ., Wang Y., Akyol M., Karadağ F., Ekicibil A.  
PHYSICA B-CONDENSED MATTER, vol.632, no.413765, pp.413765-413770, 2022 (SCI-Expanded)
- VIII. **Theoretical (Hirshfeld surface, molecular docking, structural, electronic properties, NBO and NLO analyses) and spectroscopic studies of 6-chloro-2-oxindole in monomeric and dimeric forms**  
Baldan Işık İ., Güneşdoğdu Sağdıncı S.  
JOURNAL OF MOLECULAR STRUCTURE, no.1245, pp.130981, 2021 (SCI-Expanded)
- IX. **Single crystal X-ray structural characterization, Hirshfeld surface analysis, Electronic Properties, NBO, and NLO calculations and vibrational analysis of monomeric and dimeric forms 5-nitro-2-oxindole**  
Güneşdoğdu Sağdıncı S., Akcay B. K., Yıldız S. Z., Baldan Işık İ.  
NEW JOURNAL OF CHEMISTRY, no.45, pp.10070-10088, 2021 (SCI-Expanded)
- X. **Pulsed magnetic field maintains vascular homeostasis against H<sub>2</sub>O<sub>2</sub>-induced oxidative stress.**  
Günay İ., Baldan İ., Tokuş M., Coşkun Ç., Öcal I., Çiçek F.  
General physiology and biophysics, vol.39, no.6, pp.579-586, 2020 (SCI-Expanded)
- XI. **Thermal behaviors of exotic Zc (3900) state in tetraquark approach**  
Baldan Işık İ., Sundu Pamuk H., Veli E.  
European Physical Journal Plus, vol.135, no.1, pp.1-9, 2020 (SCI-Expanded)

## Articles Published in Other Journals

- I. **HADRONİK İLERİ KALORİMETRE (HF)'DE KULLANILAN QIE10 KARTLARINININ PEDESTAL, CAPID VE İCI TESTLERİ**  
BALDAN İ., EŞKUT E.  
Ç.Ü Fen ve Mühendislik Bilimleri Dergisi, vol.35, no.1, pp.71-80, 2018 (Non Peer-Reviewed Journal)

## Papers Published in Refereed Scientific Meetings

- I. **Synthesis and Evaluation of Bimetallic Pt<sub>62</sub>Ni<sub>38</sub> Electrocatalyst for Hydrogen Evolution Reaction**  
Baldan Işık I., Kaya D., Işık H. H., Ekicibil A., Karadağ F.  
6th International Conference on Physical Chemistry & Functional Materials, Adana, Turkey, 13 - 14 June 2023, no.27, pp.42
- II. **THE STRUCTURAL ANALYSIS OF Pt<sub>18</sub>Cu<sub>82</sub> ALLOY CATALYST FOR HYDROGEN EVOLUTION REACTION IN ALKALINE MEDIA**  
IŞIK H. H., KAYA D., BALDAN IŞIK İ., KARADAĞ F., EKİCİBİL A.  
9th International Marmara Sciences Congress, Kocaeli, Turkey, 09 December 2022, pp.12
- III. **INVESTIGATION OF BIMETALIC Pt<sub>30</sub>Co<sub>70</sub> NANOPARTICLE FOR ELECTROCHEMICAL HYDROGEN EVOLUTION**  
Baldan Işık I., Kaya D., Işık H. H., Ekicibil A., Karadağ F.  
9th International Marmara Sciences Congress, Kocaeli, Turkey, 09 December 2022, pp.88-93
- IV. **ENHANCED HER PROCESS WITH ULTRA-SMALL Pt<sub>25</sub>Au<sub>75</sub> ALLOY NANOPARTICLES**  
Işık H. H., Baldan Işık İ., Kaya D., Karadağ F., Ekicibil A.  
IV. INTERNATIONAL CONFERENCE ON NATURAL SCIENCES AND TECHNOLOGIES (ICONAT-2022), Antalya, Turkey, 24 August 2022, pp.72
- V. **INVESTIGATION OF HYDROGEN EVOLUTION REACTION WITH LOW-Pt LOADING IN PtCu ALLOY**  
Baldan Işık İ., Işık H. H., Kaya D., Ekicibil A., Karadağ F.  
IV. INTERNATIONAL CONFERENCE ON NATURAL SCIENCES AND TECHNOLOGIES (ICONAT-2022), Antalya, Turkey, 24 August 2022, pp.73
- VI. **THE CATALYTIC PROPERTIES OF TRIMETALIC Pt<sub>35</sub>Cu<sub>38</sub>Co<sub>27</sub> NANOPARTICLE**  
Baldan Işık I., Işık H. H., Kaya D., Karadağ F., Ekicibil A.  
8th INTERNATIONAL MARMARA SCIENCE AND SOCIAL CONGRESS, Kocaeli, Turkey, 14 - 16 May 2022, pp.53
- VII. **The Structural Properties Of Pt<sub>20</sub>cu<sub>80</sub> Catalyst For Hydrogen Evolution Reaction**  
Işık H. H., Baldan Işık I., Kaya D., Karadağ F., Ekicibil A.  
8th International Marmara Sciences Congress, Kocaeli, Turkey, 14 - 16 May 2022, pp.52
- VIII. **The Hirshfeld Surface analysis, non-linear optical (NLO) and electronic properties studies of 3,5,7-trichloro-3-methyl-2(3H)- indolone**  
Baldan Işık İ., Güneşdoğdu Sağdıncı S.  
8th International Conference on Materials Science and Nanotechnology for Next Generation, Elazığ, Turkey, 14 July - 16 August 2021, pp.101
- IX. **Analysis Of Coal By Laser Induced Plasma Spectroscopy Technique**  
BALDAN IŞIK İ., IŞIK H. H., DEMİR A.  
Turkish Physical Society 35th International Physics Congress, 03 September 2019 - 08 September 2018
- X. **H<sub>2</sub>O<sub>2</sub> differently effects to the contractions of thoracic aorta in vivo magnetic field exposure**  
GÜNAY İ., BALDAN İ., ÇİÇEK F., ÖCAL I., COŞKUN Ç.  
30th ANNUALBIOPHYSICS CONGRESS(INTERNATIONAL), 10 - 13 October 2018
- XI. **Effects of Pulsed Magnetic Fields to Vascular Responses**  
ÇİÇEK F., GÜNAY İ., BALDAN İ., ÖCAL I.  
International Congress on Biological and Medical Sciences 2018, Niğde, Turkey, 31 October - 03 November 2018
- XII. **PMF Regulate Fibrocartilage Activity in Microfractures**  
BALDAN IŞIK İ., GÜNAY İ., ÇİÇEK H.  
International Congress on Biological and Medical Sciences 2018, Niğde, Turkey, 31 October - 03 November 2018
- XIII. **Thermal QCD sum rules for Zc(3900) Treated as a Tetraquark State**  
Baldan İ., Veli E., Sundu Pamuk H.  
Türk Fizik Derneği 34. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 09 October 2018
- XIV. **The effects of 40 Hz pulsed magnetic fields on H<sub>2</sub>O<sub>2</sub>-induced Ca<sup>2+</sup> responses in the vascular smooth muscle cells**  
Çiçek F., Baldan İ., Taştekin B., Öcal I., Günay İ.

6th World Congress of Oxidative Stress, Calcium Signaling and TRP Channels, Isparta, Turkey, 24 - 27 May 2017, pp.506

**XV. Quantitative Analysis of Low Atomic Number Elements by Laser Induced Breakdown Spectroscopy Technique**

Demir A., Kaya E. B., Turan K., Baldan Işık İ., Işık H. H.

10th Euro-Mediterranean Symposium on Laser-Induced Breakdown Spectroscopy, Brno, Czech Republic, 8 - 13 September 2019, pp.169-170

## Supported Projects

Kaya D., Karadağ F., Ekicibil A., Baldan Işık I., Işık H. H., Project Supported by Higher Education Institutions, Modifiye Edilmiş Polyol Yöntemi ile Çok Fonksiyonlu Co-PtCu Çekirdek-Kabuk Nanoparçacık Üretimi, Yapısal ve Katalitik Özelliklerinin İncelenmesi, 2021 - 2022

Karadağ F., Ayaş A. O., Ekicibil A., Işık H. H., Akyol M., Kılıç Çetin S., Kaya D., BALDAN IŞIK İ., Project Supported by Higher Education Institutions, Cu Katkılı Pt Nanoparçacıkların Katalitik Özelliklerinin İncelenmesi ve Elektronik Özelliklerinin Yoğunluk Fonksiyonel Teorisi Density Functional Theory Yöntemi ile Araştırılması, 2021 - 2022

Ekicibil A., Karadağ F., Kaya D., Ayaş A. O., Baldan Işık I., Işık H. H., Project Supported by Higher Education Institutions, PtAu Nanoparçacıkların Manyetik ve Katalitik Özelliklerinin İncelenmesi, 2020 - 2022

Güneşdoğdu Sağdıncı S., Eşme A., Baldan Işık I., Project Supported by Higher Education Institutions, MEME KANSERİNDE İN VİTRO TERAPÖTİK ETKİNLİĞİNİN BELİRLENMESİ İÇİN ÇEŞİTLİ OKSİNDOL BİLEŞİKLERİNİN VE BUNUN TÜREVLERİNİN METAL-ŞELAT KOMPLEKSLERİNİN SENTEZLENMESİ, KARAKTERİZE EDİLMESİ, 2019 - 2021

Yilmazkaya Süngü J., Baldan Işık I., Project Supported by Higher Education Institutions, TENSÖR MEZONLARIN HADRONİK PARAMETRELERİNİN TERMAL KRİTOPLAM KURALLARI YÖNTEMİ İLE İNCELENMESİ, 2018 - 2020

Sundu Pamuk H., Veli E., Yilmazkaya Süngü J., Baldan Işık I., Project Supported by Higher Education Institutions, HAFIF DÖRT KUARKLI YAPILARIN FİZİKSEL ÖZELLİKLERİNİN İNCELENMESİ, 2018 - 2018

Günay I., Çiçek F., Baldan Işık I., Project Supported by Higher Education Institutions, Pulsu Manyetik Alanın (PMA) Apoptotik Protein Ekspresyonlarına Etkilerinin Rat Vasküler Düz Kaslarda İncelenmesi, 2017 - 2018

Eşkut E., Baldan Işık I., Project Supported by Higher Education Institutions, Hadronik Fıçı (HB) Kalorimetresi için Radyasyon Zararının (Raddam) Tespiti Çalışmaları, 2016 - 2018

## Metrics

Publication: 27

## Scholarships

Üstün Başarı Bursu, Special Institutions and Organizations, 2011 - 2013