

## Prof. HANDE KARABIYIK

### Personal Information

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### International Researcher IDs

ScholarID: [uasDcQcAAAAJ](https://orcid.org/0000-0001-6180-2080)

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Publons / Web Of Science ResearcherID: 0-9745-2019

ScopusID: 57972277300

Yoksis Researcher ID: 120062

### Education Information

Doctorate, Ondokuz Mayıs University, Institute Of Science, Fizik (Dr), Turkey 2004 - 2010

Postgraduate, Ondokuz Mayıs University, Institute Of Science, Fizik (Yl) (Tezli), Turkey 2000 - 2004

Undergraduate, Ondokuz Mayıs University, Faculty Of Arts And Sciences, Department Of Physics, Turkey 1995 - 2000

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, 3-etoksisalisilaldehit türevi bazı Schiff bazlarının yapısal özelliklerinin deneysel x-ışını kırınımı ve kuramsal yöntemlerle incelenmesi, Ondokuz Mayıs University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2010

Postgraduate, X-ışınları kırınımı ile C<sub>23</sub>H<sub>13</sub>N<sub>2</sub>O, C<sub>21</sub>H<sub>14</sub>N<sub>4</sub>O<sub>2</sub>S VE C<sub>22</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>4</sub> organik moleküllerinin yapı analizleri, Ondokuz Mayıs University, Fen Bilimleri Enstitüsü, Fizik (Yl) (Tezli), 2004

### Research Areas

Physics, Atomic and Molecular Physics, Interdisciplinary Physics and Related Science and Technology Areas, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Chemistry, Natural Sciences

### Academic Titles / Tasks

Associate Professor, Dokuz Eylül University, Fen Fakültesi, Fizik Bölümü, 2018 - Continues

Lecturer PhD, Dokuz Eylül University, Fen Fakültesi, Fizik Bölümü, 2011 - 2018

Research Assistant, Ondokuz Mayıs University, Faculty Of Arts And Sciences, Department Of Physics, 2002 - 2010

## Academic and Administrative Experience

Deputy Head of Department, Dokuz Eylul University, Fen Fakültesi, Fizik Bölümü, 2023 - Continues  
Fakülte Yönetim Kurulu Üyesi, Dokuz Eylul University, Fen Fakültesi, Fizik Bölümü, 2022 - Continues  
Bölüm Stratejik Plan Komisyonu Başkanı, Dokuz Eylul University, Fen Fakültesi, Fizik Bölümü, 2022 - Continues  
Deputy Head of Department, Dokuz Eylul University, Fen Fakültesi, Fizik Bölümü, 2022 - 2022

## Courses

### Postgraduate

Periyodik Olmayan Kristaller, Postgraduate, 2021 - 2022

### Undergraduate

Fizik 2, Undergraduate, 2021 - 2022, 2019 - 2020, 2018 - 2019

Atom ve Molekül Fiziği, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021

Fizik 1, Undergraduate, 2020 - 2021

Fizik 1, Undergraduate, 2019 - 2020, 2017 - 2018, 2016 - 2017, 2014 - 2015

Fizik 2, Undergraduate, 2017 - 2018

Fizik 2, Undergraduate, 2016 - 2017

Fizik 1, Undergraduate, 2017 - 2018

## Supervised Theses

KARABIYIK H., Determination of HOMHED structural aromaticity index parameters of elements in group-15 and group-16, Postgraduate, E.KANAL(Student), 2016

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

- I. **Benzimidazolium salts bearing ester group: Synthesis, characterization, crystal structure, molecular docking studies, and inhibitory properties against metabolic enzymes**  
GÖK Y., Kaya G., Demir Y., KARABIYIK H., Taskin-Tok T., İzmirli M., AKTAŞ A., GÜLÇİN İ.  
Journal of Molecular Structure, vol.1322, 2025 (SCI-Expanded)
- II. **Synthesis and Characterization of Piano-Stool Ruthenium(II)-Arene Complexes of Isatin Schiff Bases: Cytotoxicity and DNA Intercalation.**  
Karabiyik H., Karaer Tunçay A., İlhan S., Atmaca H., Türkmen H.  
ACS omega, vol.9, no.17, pp.19136-19147, 2024 (SCI-Expanded)
- III. **Cell Death Mechanism of Organometallic Ruthenium(II) and Iridium(III) Arene Complexes on HepG2 and Vero Cells**  
KAVUKCU S. B., Ensarioğlu H. K., KARABIYIK H., Vatanserver H. S., Türkmen H.  
ACS Omega, vol.8, no.40, pp.37549-37563, 2023 (SCI-Expanded)
- IV. **Synthesis, characterization and antimicrobial properties of silver complexes derived from 5,6-Dimethylbenzimidazol-2-ylidene**  
Atalay Çetinkaya E., KOÇ A., Kübra Koç H., KARABIYIK H., KARABIYIK H., Üstün E., ÖZDEMİR İ.  
Polyhedron, vol.237, 2023 (SCI-Expanded)
- V. **Pd-NHC complex catalyzed C-H bond activation reactions of caffeine and 2-isobutylthiazole**  
Bugday N., Khan S., Yasar S., Bulut F., Boulebd H., Karabiyik H., Karabiyik H., Oz E., Rehman A. U., Ozdemir I.  
MOLECULAR CATALYSIS, vol.530, 2022 (SCI-Expanded)
- VI. **Crystal structure, optical properties, spectroscopic characterization and density functional theory studies of a new rhodium (i)-imidazolidin-2-ylidene complexes: Synthesis, characterization and cytotoxic properties**  
KARACA E. Ö., ÇİFTÇİ O., ÖZDEMİR İ., KARABIYIK H., KARABIYIK H., Guerbuez N., ÖZDEMİR İ., Mansour L., Youssef

- A., Hamdi N.  
INORGANICA CHIMICA ACTA, vol.537, 2022 (SCI-Expanded)
- VII. **C(acyl)-C(sp<sup>2</sup>) and C(sp<sup>2</sup>)-C(sp<sup>2</sup>) Suzuki-Miyaura cross-coupling reactions using nitrite-functionalized NHC palladium complexes**  
Cakir S., KAVUKCU S. B., KARABIYIK H., Rethinam S., TÜRKMEN H.  
RSC ADVANCES, vol.11, no.60, pp.37684-37699, 2021 (SCI-Expanded)
- VIII. **Cytotoxic activity and apoptosis induction by a series Ag(I)-NHC complexes on human breast cancer cells and non-tumorigenic epithelial cell line**  
KUTLU T., Yildirim I., KARABIYIK H., KILINÇLI A., TEKEDERELİ İ., GÖK Y., DİKMEN M., AKTAŞ A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1228, 2021 (SCI-Expanded)
- IX. **Arylation of heterocyclic compounds by benzimidazole-based N-heterocyclic carbene-palladium(II) complexes**  
ŞAHİN N., GÜRBÜZ N., KARABIYIK H., KARABIYIK H., ÖZDEMİR İ.  
JOURNAL OF ORGANOMETALLIC CHEMISTRY, vol.907, 2020 (SCI-Expanded)
- X. **Enhanced pi-back-donation resulting in the trans labilization of a pyridine ligand in an N-heterocyclic carbene (NHC) Pd-II precatalyst: a case study**  
KARABIYIK H., YİĞİT B., YİĞİT M., ÖZDEMİR İ., KARABIYIK H.  
ACTA CRYSTALLOGRAPHICA SECTION C-STRUCTURAL CHEMISTRY, vol.75, pp.941-958, 2019 (SCI-Expanded)
- XI. **Geometry dependence of electron donating or accepting abilities of amine groups in 4,4'-disulfanediybis(methylene)dithiazol-2-amine: Pyramidal versus planar**  
KARABIYIK H., KIRILMIŞ C., KARABIYIK H.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1141, pp.650-659, 2017 (SCI-Expanded)
- XII. **Effects of pnictogen and chalcogen bonds on the aromaticities of carbazole-like and dibenzofuran-like molecular skeletons: Cambridge Crystallographic Data Centre (CCDC) Study**  
KARABIYIK H., SEVİNÇEK R., KARABIYIK H.  
JOURNAL OF PHYSICAL ORGANIC CHEMISTRY, vol.28, no.7, pp.490-496, 2015 (SCI-Expanded)
- XIII. **Supramolecular aromaticity**  
KARABIYIK H., SEVİNÇEK R., KARABIYIK H.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1064, pp.135-149, 2014 (SCI-Expanded)
- XIV. **pi-Cooperativity effect on the base stacking interactions in DNA: is there a novel stabilization factor coupled with base pairing H-bonds?**  
KARABIYIK H., SEVİNÇEK R., KARABIYIK H.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.16, no.29, pp.15527-15538, 2014 (SCI-Expanded)
- XV. **Changes in ligating abilities of the singlet and triplet states of normal, abnormal and remote N-heterocyclic carbenes depending on their aromaticities**  
SEVİNÇEK R., KARABIYIK H., KARABIYIK H.  
JOURNAL OF MOLECULAR MODELING, vol.19, no.12, pp.5327-5341, 2013 (SCI-Expanded)
- XVI. **Supramolecular chirality-sensing DNA-mimicry of a norbornane derivative decorated with isoxazoline and methylpyrrolidine-2,5-dione ring**  
Yakali G., KARABIYIK H., KARABIYIK H., GÖKSU G., AYGÜN M., Ocal N., Garcia-Granda S.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1041, pp.164-174, 2013 (SCI-Expanded)
- XVII. **Hydrogen-bridged chelate ring-assisted pi-stacking interactions**  
KARABIYIK H., KARABIYIK H., OCAK İSKELELİ N.  
ACTA CRYSTALLOGRAPHICA SECTION B-STRUCTURAL SCIENCE CRYSTAL ENGINEERING AND MATERIALS, vol.68, pp.71-79, 2012 (SCI-Expanded)
- XVIII. **Anchor Effect on Pedal Motion Observed in Crystal Phase of an Azobenzene Derivative**  
KARABIYIK H., Petek H., OCAK İSKELELİ N., Albayrak C., AĞAR E.  
JOURNAL OF CHEMICAL CRYSTALLOGRAPHY, vol.41, no.11, pp.1642-1648, 2011 (SCI-Expanded)
- XIX. **Aromaticity balance, pi-electron cooperativity and H-bonding properties in tautomerism of salicylideneaniline: the quantum theory of atoms in molecules (QTAIM) approach**  
KARABIYIK H., SEVİNÇEK R., Petek H., AYGÜN M.

JOURNAL OF MOLECULAR MODELING, vol.17, no.6, pp.1295-1309, 2011 (SCI-Expanded)

- XX. **The proton transfer process observed in the structure analysis and DFT calculations of (E)-2-ethoxy-6-[(2-methoxyphenylimino)methyl]phenol**  
Petek H., Albayrak C., ODABAŞOĞLU M., Senel I., BÜYÜKGÜNGÖR O.  
STRUCTURAL CHEMISTRY, vol.21, no.4, pp.681-690, 2010 (SCI-Expanded)
- XXI. **Structural and aromatic aspects for tautomerism of (Z)-6-((4-bromophenylamino)methylene)-2,3-dihydroxycyclohexa-2,4-dienone**  
KARABIYIK H., Petek H., OCAK İSKELELİ N., Albayrak C.  
STRUCTURAL CHEMISTRY, vol.20, no.6, pp.1055-1065, 2009 (SCI-Expanded)
- XXII. **Crystallographic and conformational analysis of two novel trans-azo benzene compounds**  
KARABIYIK H., Petek H., OCAK İSKELELİ N., Albayrak C.  
STRUCTURAL CHEMISTRY, vol.20, no.5, pp.903-910, 2009 (SCI-Expanded)
- XXIII. **Crystallographic and Conformational Analysis of [(Z)-2-ethoxy-6-[(2-hydroxyphenylamino)methylene]cyclohexa-2,4-dienone]**  
Petek H., Albayrak C., Odabasoglu M., Senel I., BÜYÜKGÜNGÖR O.  
JOURNAL OF CHEMICAL CRYSTALLOGRAPHY, vol.38, no.12, pp.901-905, 2008 (SCI-Expanded)
- XXIV. **An intermediate structure trapped in solid-state tautomerization process of (E)-4-[(4-chlorophenylimino)methyl]benzene-1,2,3-triol**  
KARABIYIK H., OCAK İSKELELİ N., Petek H., Albayrak C., AĞAR E.  
JOURNAL OF MOLECULAR STRUCTURE, vol.873, no.1-3, pp.130-136, 2008 (SCI-Expanded)
- XXV. **Crystallographic and conformational analyses of zwitterionic form of (E)-2-methoxy-6-[(2-morpholinoethylimino)methyl]phenolate**  
Petek H., Albayrak C., Iskeleli N. O., Agar E., Senel I.  
JOURNAL OF CHEMICAL CRYSTALLOGRAPHY, vol.37, no.4, pp.285-290, 2007 (SCI-Expanded)
- XXVI. **(E)-2-{1-[(4-Ethoxyphenyl)imino]ethyl}phenol**  
Petek H., Albayrak C., Agar E., Iskelei N. O., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.63, 2007 (SCI-Expanded)
- XXVII. **(E)-4-(p-Tolyldiazenyl)phenol**  
Petek H., Ersahin F., Albayrak C., Agar E., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.62, 2006 (SCI-Expanded)
- XXVIII. **PM3 semiempirical study and its comparison with X-ray crystal structure of 4-[2-methyl-4-(4-methoxyphenylazo)] phenoxyphthalonitrile**  
Iskeleli N. O., KARABIYIK H., Albayrak C., Petek H., Agar E.  
JOURNAL OF CHEMICAL CRYSTALLOGRAPHY, vol.36, no.11, pp.709-714, 2006 (SCI-Expanded)
- XXIX. **(Z)-6-[(2-Fluorophenyliminio)methylene]2,3-dihydroxyphenolate**  
Petek H., Albayrak C., Agar E., Kalkan H.  
ACTA CRYSTALLOGRAPHICA SECTION E-CRYSTALLOGRAPHIC COMMUNICATIONS, vol.62, 2006 (SCI-Expanded)
- XXX. **(E)-4-[(4-chlorophenyl)diazenyl]-2-isopropylphenol**  
Atalay S., Petek H., Iskeleli N. O., Agar E.  
ACTA CRYSTALLOGRAPHICA SECTION E-CRYSTALLOGRAPHIC COMMUNICATIONS, vol.62, 2006 (SCI-Expanded)
- XXXI. **Dimethyl 5-(3,4-dicyano-phenoxy)isophthalate**  
Petek H., Akdemir N., Agar E., Gumrukcuoglu I., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.62, 2006 (SCI-Expanded)
- XXXII. **(E)-2-[(2-morpholinoethylimino)methyl]phenol**  
Petek H., Albayrak C., Iskeleli N., Agar E., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-CRYSTALLOGRAPHIC COMMUNICATIONS, vol.61, 2005 (SCI-Expanded)
- XXXIII. **Propyl 4-(3,4-dicyanophenoxy)benzoate**  
Petek H., Akdemir N., Kantar C., Agar E., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-CRYSTALLOGRAPHIC COMMUNICATIONS, vol.61, 2005 (SCI-Expanded)
- XXXIV. **4-Diphenylmethoxyphthalonitrile**  
Petek H., Akdemir N., Agar E., ÖZİL M., Senel I.

- ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.60, 2004 (SCI-Expanded)
- XXXV. **4-(2,4-dichlorobenzylamino)-3-phenyl-5-p-tolyl-4H-1,2,4-triazole**  
Petek H., Senel I., BEKİRCAN O., Agar E., ŞAŞMAZ S.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.60, 2004 (SCI-Expanded)
- XXXVI. **4,4'-(4,4'-Thiodiphenoxy)diphthalonitrile**  
Petek H., Akdemir N., ÖZİL M., Agar E., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.60, 2004 (SCI-Expanded)
- XXXVII. **4-(anthracen-9-ylmethoxy)phthalonitrile**  
Petek H., Isik S., Akdemir N., Kantar C., Agar E., Senel I.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.60, 2004 (SCI-Expanded)

## Papers Published in Refereed Scientific Meetings

- I. **Aromaticity balance pi electron cooperativity and H bonding properties in tautomerism of salicylideneaniline**  
KARABIYIK H., SEVİNÇEK R., KARABIYIK H., AYGÜN M.  
3rd Turkish Crystallographic Meeting, İzmir, Turkey, 7 - 09 June 2012
- II. **Hydrogen bridged chelate ring assisted pi stacking interactions**  
KARABIYIK H., KARABIYIK H., OCAK İSKELELİ N.  
3rd Turkish Crystallographic Meeting, İzmir, Turkey, 7 - 09 June 2012
- III. **The proton transfer process observed in structure analysis and DFT calculations of E 2 Ethoxy 6 2 methoxyphenylimino methyl phenol**  
KARABIYIK H., ALBAYRAK KAŞTAŞ Ç., ODABAŞOĞLU M., ŞENEL İ., BÜYÜKGÜNGÖR O.  
Chemical Physisc Conference VIII, İstanbul, Turkey, 24 - 25 April 2008
- IV. **Molecular and Crystal Structures of E 2 2 Morpholinoethylimino methyl phenol I and E 2 Methoxy 6 2 Morpholinoethylimino methyl phenol II**  
KARABIYIK H., ALBAYRAK KAŞTAŞ Ç., OCAK İSKELELİ N., AĞAR E., ŞENEL İ.  
2nd Turkish Crystallographic Meeting, Kayseri, Turkey, 17 - 19 May 2006
- V. **Molecular and Crystal Structures of Methyl 4 2 chloro 4 5 dicyano phenoxy 3 5 dimethoxybenzoate I and Dimethyl 5 3 4 dicyanophenoxy isophthalate II**  
KARABIYIK H., AKDEMİR N., AĞAR E., İsmail G., ŞENEL İ.  
2nd Turkish Crystallographic Meeting, Kayseri, Turkey, 17 - 19 May 2006
- VI. **4 4 4 4 tiyodifenoksi diftalonitrilin Kristal ve Molekül Yapısının Analizi**  
KARABIYIK H., AKDEMİR N., ÖZİL M., AĞAR E., ŞENEL İ.  
1. Ulusal Kristalografi Toplantısı, Samsun, Turkey, 22 - 24 April 2004

## Metrics

Publication: 43

Citation (WoS): 350

Citation (Scopus): 331

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H-Index (Scopus): 11