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### EĞİTİM BİLGİLERİ

Derece	Üniversite	Bölüm	Yıl
Doktora	Marmara Üniversitesi	Fizik (DR) (ingilizce)	2018
Yüksek Lisans	Marmara Üniversitesi	Fizik (YL) (tezli)	2012 - 2017
Lisans	Akdeniz Üniversitesi	Fizik Bölümü	2005 - 2011

### ARAŞTIRMA ALANLARI

Yoğun Madde Fiziği, Nanomalzeme, Kuantum Kimyası, Katıhal Fiziği, Hesaplamalı Malzeme Bilimi, Optik, Optisyenlik Bilimi, Yapay Zeka /Makine Öğrenmesi Algoritmaları

### AKADEMİK GÖREVLER

Görev	Üniversite	Alan	Yıl
Öğretim Görevlisi	İstanbul Gelişim Üniversitesi	Tıbbi Hizmetler ve Teknikler Bölümü	2023 - 2025
Öğretim Görevlisi	Altınbaş Üniversitesi	Tıbbi Hizmetler ve Teknikler Bölümü	2022 -
Öğretim Görevlisi	Marmara Üniversitesi	Matematik ve Fen Bilimleri Eğitimi Bölümü	2018 - 2019

### İDARİ GÖREVLER

Görev	Üniversite	Yıl
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### AKADEMİK VE MESLEKİ ÜYELİKLER

Kurum	Üyelik	Yıl
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### ÜNİVERSİTE DIŞI DENEYİM

Ülke	Kurum	Görev	Yıl
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### KİTAPLAR

### MAKALELER

**DFT-guided structural modeling of end-group acceptors at Y123 core for sensitizers as high-performance organic solar dyes and NLO responses**

Hassan abrar ul, Sumrra Sajjad H., zafar muddasar, Mohyuddin Ayesha, nooreen sadaf, nooreen sadaf, GÜLERYÜZ CİHAT  
Journal of Molecular Modeling, 2023

Uluslararası DOI: 10.1007/s00894-023-05668-4

**Theoretical calculations of nonlinear optical responses for interpreting nonconjugated molecular systems to affect non-optimal properties**

GÜLERYÜZ CİHAT, Sumrra Sajjad H., Mohyuddin Ayesha, Hassan abrar ul, Dahshan Alaa  
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 2025

Uluslararası DOI: 10.1016/j.saa.2024.125244

**MAKALELER****A machine learning and DFT assisted analysis of benzodithiophene based organic dyes for possible photovoltaic applications**

GÜLERYÜZ CİHAT, Sumrra Sajjad H., Hassan abrar ul, Mohyuddin Ayesha, Waheeb Azal S, Awad Masar A, Jalfan Ayad R., noreen sadaf, Kyhoiesh Hussein AK, El Azab Islam H.

Journal of Photochemistry and Photobiology A: Chemistry, 2025

Uluslararası DOI: 0.1016/j.jphotochem.2024.116157

**A machine learning and data-oriented quest to screen the degree of long-range order/disorder in polymeric materials**

Cihat Güleryüz , Sajjad H. Sumrra , Abrar U. Hassan, Ayesha Mohyuddin , Mohamed.H.H. Mahmoud

Materials Today Communications, 2025

Uluslararası DOI: 10.1016/j.mtcomm.2025.111624

**Graphene Endowed Nanocomposite Sheet: Synthesis, Characterization and Thermal Stability: Synthesis and Thermal Stability of Graphene Nanocomposite Sheet**

Madiha Nosheen, Abrar Ul Hassan, Muhammad Salman Muhsan, Sohail Nadeem, Ayesha Mohyuddin,

Pakistan Journal of Scientific and Industrial Research Series A: Physical Sciences , 2024

Uluslararası

**On the quest for solar energy harvesters and nonlinear optics: a DFT exploration of A-D-D-A framework with varying sp<sup>2</sup> hybridization**

GÜLERYÜZ CİHAT, Rehman Muhammad M. U., Hassan abrar ul, Abass Zainab A., Mohyuddin Ayesha, zafar muddasar, Alotaibi Mohammed T.

Journal of Computational Electronics, 2025

Uluslararası DOI: 10.1007/s10825-024-02240-y

**Evaluating the electronic and structural basis of carbon selenide-based quantum dots as photovoltaic design materials: A DFT and ML analysis**

Kadhun Afaf M., Waheeb Azal S., Awad Masar A., Hassan abrar ul, Sumrra Sajjad H., GÜLERYÜZ CİHAT, Mohyuddin Ayesha, noreen sadaf, Kyhoiesh Hussein AK, Alotaibi Mohammed T.

Solar Energy, 2024

Uluslararası DOI: 10.1016/j.optmat.2024.116023

**A fast and efficient machine learning assisted prediction of urea and its derivatives to screen crystal propensity with experimental validation**

GÜLERYÜZ CİHAT, Sumrra Sajjad H., Hassan abrar ul, Mohyuddin Ayesha, noreen sadaf, Elnaggar Ashraf Y., Elnaggar Ashraf Y.

Materials Today Communications, 2025

Uluslararası DOI: 10.1016/j.mtcomm.2025.111692

**Exploring structural basis of photovoltaic dye materials to tune power conversion efficiencies: A DFT and ML analysis of Violanthrone**

Sumrra Sajjad H., GÜLERYÜZ CİHAT, Hassan abrar ul, Abass Zainab A., Hanoon Talib M., Mohyuddin Ayesha, Kyhoiesh Hussein AK, Alotaibi Mohammed T.

Materials Chemistry and Physics, 2025

Uluslararası DOI: 10.1016/j.matchemphys.2024.130196

**Theoretical calculations of nonlinear optical responses for interpreting nonconjugated molecular systems to affect non-optimal properties**

GÜLERYÜZ CİHAT, Sumrra Sajjad H., Mohyuddin Ayesha, Hassan abrar ul, Dahshan Alaa

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 2025

Uluslararası DOI: 10.1016/j.saa.2024.125244

**Molecular engineering on tyrian purple natural dye as TiO<sub>2</sub> based fine-tuned photovoltaic dye material: DFT molecular analysis**

GÜLERYÜZ CİHAT, Hasan Duha M., Awad Masar A, Waheeb Azal S, Hassan abrar ul, Mohyuddin Ayesha, Kyhoiesh Hussein AK, Alotaibi Mohammed T.

Journal of Molecular Graphics and Modelling, 2025

Uluslararası DOI: 10.1016/j.jmgm.2024.108894

## MAKALELER

### **A graph neural network assisted reverse polymers engineering to design low bandgap benzothiophene polymers for light harvesting applications**

Abrar U Hassan, Cihat Güleriyüz, Islam H El Azab, Ashraf Y Elnaggar, Mohamed HH Mahmoud

Materials Chemistry and Physics, 2025

[Uluslararası](#) DOI: 10.1016/j.matchemphys.2025.130747

### **A machine learning analysis to predict the stability driven structural correlations of selenium-based compounds as surface enhanced materials**

Cihat Güleriyüz, Sajjad H Sumrra, Abrar U Hassan, Ayesha Mohyuddin, Ashraf Y Elnaggar, Sadaf Noreen

Materials Chemistry and Physics, 2025

[Uluslararası](#) DOI: 10.1016/j.matchemphys.2025.130786

### **A machine learning assisted designing and chemical space generation of benzophenone based organic semiconductors with low lying LUMO energies**

Cihat Güleriyüz, Abrar U Hassan, Hasan Güleriyüz, Hussein AK Kyhoiesh, Mohamed HH Mahmoud

Materials Science and Engineering: B, 2025

[Uluslararası](#) DOI: 10.1016/j.mseb.2025.118212

### **Chemical modification-induced enhancements in quantum dot photovoltaics: a theoretical and molecular descriptive analysis**

Duha M Hasan, Shaimaa H Mallah, Azal S Waheeb, Cihat Güleriyüz, Abrar U Hassan, Hussein AK Kyhoiesh, Ashraf Y Elnaggar, Islam H El Azab, Mohamed HH Mahmoud

Structural Chemistry, 2025

[Uluslararası](#) DOI: 10.1007/s11224-025-02505-7

### **Exploration of deep UV-NLO responses of non-conjugated crystal systems by harnessing aprotic solvents: DFT vs experimental**

GÜLERYÜZ CİHAT, Mohyuddin Ayesha, Hassan abrar ul

Optical Materials, 2024

[Uluslararası](#) DOI: 10.1016/j.optmat.2024.116023

### **A rapid UV/Vis assisted designing of benzodithiophene based polymers by machine learning to predict their light absorption for photovoltaics**

Abrar U Hassan, Cihat Güleriyüz, Sajjad H Sumrra, Sadaf Noreen, Mohamed HH Mahmoud

Organic Electronics, 2025

[Uluslararası](#) DOI: 10.1016/j.orgel.2025.107227

### **Excited state dependent fast switching NLO behavior investigation of sp hybridized donor crystal as D- $\pi$ -A push-pull switches**

GÜLERYÜZ CİHAT, Sumrra Sajjad H., Nyiang K. Nkungli, Hassan abrar ul, Muhsan Muhammad Salman

Results in Chemistry, 2024

[Uluslararası](#) DOI: 10.1016/j.rechem.2024.101382

### **COMPUTATIONAL DESIGNING OF DEFERIPRONE BASED NOVEL DRUGS AS EFFICIENT ANTI-PARKINSON AGENTS**

Hassan abrar ul, GÜLERYÜZ CİHAT

Latin American Applied Research - An international journal, 2023

[Uluslararası](#) DOI: 10.52292/j.laar.2023.986

### **COMPUTATIONAL DESIGNING OF DEFERIPRONE BASED NOVEL DRUGS AS EFFICIENT ANTI-PARKINSON AGENTS**

Hassan abrar ul, GÜLERYÜZ CİHAT

EdiUNS - Editorial de la Universidad Nacional del Sur, 2023

[Uluslararası](#) DOI: 10.52292/j.laar.2023.986

### **Doped Graphene Quantum Dots UV-vis Absorption Spectrum: A High-Throughput TDDFT Study**

ÖZÖNDER ŞENER, ÜNLÜ CANER, GÜLERYÜZ CİHAT, TRABZON LEVENT

American Chemical Society (ACS), 2023

[Uluslararası](#) DOI: 10.1021/acsomega.2c06091

## MAKALELER

### **Theoretical probing of 3d nano metallic clusters as next generation non-linear optical materials**

Hassan abrar ul, GÜLERYÜZ CİHAT, Nyiang K. Nkungli, Sumrra Sajjad H.

Results In Chemistry, 2022

Uluslararası DOI: 10.1016/j.rechem.2022.100627

### **A DFT Study on New Photovoltaic Dyes to Investigate their NLO Tuning at Near Infrared Region (NIR) as Pull-push Effect by End Capped Acceptors**

Hassan Sadaf ul, Sumrra Sajjad H., Naza Muhammad F., GÜLERYÜZ CİHAT

JOURNAL OF FLUORESCENCE, 2022

Uluslararası DOI: 10.1007/s10895-022-03075-1

### **Novel pull-push organic switches with D- $\pi$ -A structural designs:Computational design of star shape organic materials**

Hassan abrar ul, Mohyuddin Ayesha, GÜLERYÜZ CİHAT, Nadeem Sohail, Nyiang K. Nkungli, Sadaf Hassan U., Muhsin Javed

Structural Chemistry, 2022

Uluslararası DOI: 10.1007/S11224-022-01983-3

### **Structural and Electronic (Absorption and Fluorescence) Properties of a Stable Triplet Diphenylcarbene: A DFT Study**

Hassan abrar ul, Nadeem Sohail, GÜLERYÜZ CİHAT, Hassan Sadaf ul, Javed Mohsin, Muhsan Muhammad Salman, Mohyuddin Ayesha

Journal of Fluorescence, 2022

Uluslararası DOI: 10.1007/s10895-022-02969-4

### **THEORETICAL EVALUATION OF THE PERMEABILITY OF DISCHARGE ITEM (LiOOH) IN Li-O<sub>2</sub> BATTERIES**

GÜLERYÜZ CİHAT, Hassan abrar ul

Latin American Applied Research - An international journal, 2021

Uluslararası DOI: 10.52292/j.laar.2021.595

### **Structural order and charge transfer in highly strained carbon nanobelts**

GÜLERYÜZ CİHAT, YAVUZ İLHAN, Aydın Gülsevım, koçak olkan

New Journal of Chemistry, 2020

Uluslararası DOI: 10.1039/D0NJ03455J

### **Benzothiophene semiconductor polymer design by machine learning with low exciton binding energy: A vast chemical space generation for new structures**

Shaimaa H Mallah, Cihat Gülerüz, Sajjad H Sumrra, Abrar U Hassan, Hasan Gülerüz, Ayesha Mohyuddin, Hussein AK Kyhoiesh, Sadaf Noreen, Ashraf Y Elnaggar

Materials Science in Semiconductor Processing, 2025

Uluslararası DOI: 10.1016/j.mssp.2025.109331

## BİLDİRİLER

### **INVESTIGATION ELECTRONIC PROPERTIES OFSTABLE B3B MOLECULE: A DFT STUDY**

GÜLERYÜZ CİHAT

X-INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH, 2024

Uluslararası

### **“COMPUTATIONAL DESIGN OF ORGANIC MOLECULE WITHIN DONOR - $\pi$ - ACCEPTOR: A DFT STUDY**

GÜLERYÜZ CİHAT

40.Turkish Physics Society Congress, Bodrum, 2024, 2024

Uluslararası

### **Probing the Adsorption Properties of Sulfur Monoxide On $\beta$ 12 Borophene**

GÜLERYÜZ CİHAT, BLEDA ERDİ ATA

39.Turkish Physics Society Congress, Bodrum, 2023, 2023

Uluslararası

## BİLDİRİLER

**Molecular Junction Conductance of Organic Molecules: from Naphthacene to Rubrene (03OP11)**

GÜLERYÜZ CİHAT, BLEDA ERDİ ATA

TPS 38th International Physics Congress, 2022

Uluslararası

**Magnetic Tunneling Junction of Half-metallicities via Transport and Pure Spin Current of Nanoribbons**

GÜLERYÜZ CİHAT

New Frontiers of Natural Sciences: 1st International Selçuk Meeting, 2022

Uluslararası

**Accurate Prediction of Polaron-Binding and Reorganization Energies of Organic Semiconductors by using DFT**

GÜLERYÜZ CİHAT, YAVUZ İLHAN

I.International Multidisciplinary Studies and Research, 2019

Uluslararası

**Accurate Prediction of Polaron-Binding and Reorganization Energies of Organic Semiconductors**

GÜLERYÜZ CİHAT, YAVUZ İLHAN

33.Turkish Physics Society Congress, Bodrum, 2017, 2017

Uluslararası

## PROJELER

**MAKİNE ÖĞRENMESİ YARDIMIYLA ORGANİK BOYALI MERCEKLERİN UV ABSORPSİYON MİKTARLARIN TAHMİN EDİLMESİ (Danışman)**

TÜBİTAK Projesi, 21.04.2025 - 26.04.2026

Ulusal Devam Ediyor

**Yapay Zeka ve Hesaplamalı Kuantum Mekaniği ile Yeni Nano-Malzemelerin Keşfi (Bursiyer)**

Tübitak 3501, 15.04.2021 - 01.01.2022

Ulusal Tamamlandı

**Bir Boyutlu Atomik Zincirlerin Manyetik Ve Kuantum Transport Özelliklerinin İlk Prensiplere Dayalı İncelenmesi (Araştırmacı)**

Araştırma Projesi, 11.03.2016 -

Ulusal Beklemede

**Mxene Tabanlı İki Boyutlu Malzemelerin Fiziksel Özelliklerinin Yoğunluk Fonksiyoneli Teorisiyle (Dft) İncelenmesi (Bursiyer)**

Tübitak 1001, 01.11.2018 - 01.11.2020

Ulusal Tamamlandı

## TEZ DANIŞMANLIKLARI

## DERSLER

Ders Türü	Ders Kodu	Ders Adı
Önlisans	OPT104	GEOMETRİK OPTİK II
Önlisans	OPT114	OPTİSYENLİKTE UYGULAMALAR
Önlisans	OPT214	OPTİSYENLİK UYGULAMALARI II
Önlisans	OPT111	OPTİSYENLİĞE GİRİŞ
Önlisans	OPT213	OPTİSYENLİK UYGULAMALARI I
Önlisans	OPT109	GEOMETRİK OPTİK I
Önlisans	OPT113	MALZEME BİLGİSİ

## DERSLER

Önlisans	OPT232	OPTİSYENLİKTE FİZİK
Önlisans	OPT227	OPTİSYENLİK PAKET PROGRAMLARI
Önlisans	OPT218	OPTİSYENLİK UYGULAMALARI II

## KİŞİSEL BİLGİLER

### İLETİŞİM BİLGİLERİ

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