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EDUCATIONAL INFORMATION

Degree	University	Department	Year(s)
Doctoral Degree	Marmara University	Fizik (Phd) (ingilizce)	2018
Master's Degree	Marmara University	Fizik (Master's) (tezli)	2012 - 2017
Bachelor's Degree	University of Mediterranean	Department of Physics	2005 - 2011

RESEARCH AREAS

Condensed Matter Physics, Nanomaterial, Quantum Chemistry, Solid State Physics, Computational Material Science, Optics, Opticianry Science, Artificial Intelligence /Machine Learning Algorithms

ACADEMIC DUTIES

Duty	University	Area	Year(s)
Teaching Assistant	Istanbul University of Development	Department of Medical Services and Techniques	2023 - 2025
Teaching Assistant	Altinbas University	Department of Medical Services and Techniques	2022 -
Teaching Assistant	Marmara University	Department of Mathematics and Science Education	2018 - 2019

ADMINISTRATIVE DUTIES

Duty	University	Year(s)
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ACADEMIC AND PROFESSIONAL MEMBERSHIPS

Organisation	Membership	Year(s)
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NON-UNIVERSITY EXPERIENCE

Country	Organisation	Duty	Year(s)
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BOOKS

ARTICLES

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

International 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

International DOI: 10.1016/j.saa.2024.125244

ARTICLES

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

International 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 Güleriyüz , Sajjad H. Sumrra , Abrar U. Hassan, Ayesha Mohyuddin , Mohamed.H.H. Mahmoud

Materials Today Communications, 2025

International 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

International

On the quest for solar energy harvesters and nonlinear optics: a DFT exploration of A-D-D-A framework with varying sp² 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

International 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

Kadhum 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

International 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

International 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

International 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

International DOI: 10.1016/j.saa.2024.125244

Molecular engineering on tyrian purple natural dye as TiO₂ 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

International DOI: 10.1016/j.jmgm.2024.108894

ARTICLES

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

International 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

International 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

International 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

International 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

GÜLERİYÜZ CİHAT, Mohyuddin Ayesha, Hassan abrar ul

Optical Materials, 2024

International 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

International DOI: 10.1016/j.orgel.2025.107227

Excited state dependent fast switching NLO behavior investigation of sp hybridized donor crystal as D- π -A push-pull switches

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

Results in Chemistry, 2024

International DOI: 10.1016/j.rechem.2024.101382

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

Hassan abrar ul, GÜLERİYÜZ CİHAT

Latin American Applied Research - An international journal, 2023

International DOI: 10.52292/j.laar.2023.986

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

Hassan abrar ul, GÜLERİYÜZ CİHAT

EdiUNS - Editorial de la Universidad Nacional del Sur, 2023

International DOI: 10.52292/j.laar.2023.986

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

ÖZÖNDER ŞENER, ÜNLÜ CANER, GÜLERİYÜZ CİHAT, TRABZON LEVENT

American Chemical Society (ACS), 2023

International DOI: 10.1021/acsomega.2c06091

ARTICLES

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

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

Results In Chemistry, 2022

International 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., GÜLERİYÜZ CİHAT

JOURNAL OF FLUORESCENCE, 2022

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

Novel pull-push organic switches with D- π -A structural designs:Computational design of star shape organic materials

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

Structural Chemistry, 2022

International 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, GÜLERİYÜZ CİHAT, Hassan Sadaf ul, Javed Mohsin, Muhsan Muhammad Salman, Mohyuddin Ayesha

Journal of Fluorescence, 2022

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

THEORETICAL EVALUATION OF THE PERMEABILITY OF DISCHARGE ITEM (LiOOH) IN Li-O₂ BATTERIES

GÜLERİYÜZ CİHAT, Hassan abrar ul

Latin American Applied Research - An international journal, 2021

International DOI: 10.52292/j.laar.2021.595

Structural order and charge transfer in highly strained carbon nanobelts

GÜLERİYÜZ CİHAT, YAVUZ İLHAN, Aydın Gülsevim, Koçak Olkan

New Journal of Chemistry, 2020

International 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 Güleriyüz, Sajjad H Sumrra, Abrar U Hassan, Hasan Güleriyüz, Ayesha Mohyuddin, Hussein AK Kyhoiesh, Sadaf Noreen, Ashraf Y Elnaggar

Materials Science in Semiconductor Processing, 2025

International DOI: 10.1016/j.mssp.2025.109331

PROCEEDINGS

INVESTIGATION ELECTRONIC PROPERTIES OFSTABLE B3B MOLECULE: A DFT STUDY

GÜLERİYÜZ CİHAT

X-INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH, 2024

International

“COMPUTATIONAL DESIGN OF ORGANIC MOLECULE WITHIN DONOR - π - ACCEPTOR: A DFT STUDY

GÜLERİYÜZ CİHAT

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

International

Probing the Adsorption Properties of Sulfur Monoxide On β 12 Borophene

GÜLERİYÜZ CİHAT,BLEDA ERDİ ATA

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

International

PROCEEDINGS

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

GÜLERYÜZ CİHAT, BLEDA ERDİ ATA

TPS 38th International Physics Congress, 2022

International

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

International

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

International

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

GÜLERYÜZ CİHAT, YAVUZ İLHAN

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

International

PROJECTS

MAKİNE ÖĞRENME Sİ YARDIMIYLA ORGANİK BOYALI MERCEKLERİN UV ABSORPSİYON MİKTARLARIN TAHMİN EDİLMESİ (Advisor)

TÜBİTAK Project, 21.04.2025 - 26.04.2026

National Continues

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

Tübitak 3501, 15.04.2021 - 01.01.2022

National Completed

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

Research Project, 11.03.2016 -

National Pending

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

Tübitak 1001, 01.11.2018 - 01.11.2020

National Completed

THESIS SUPERVISION

COURSES

Course Type	Course Code	Course Name
Associate Degree	OPT104	GEOMETRİK OPTİK II
Associate Degree	OPT114	OPTİSYENLİKTE UYGULAMALAR
Associate Degree	OPT214	OPTİSYENLİK UYGULAMALARI II
Associate Degree	OPT111	OPTİSYENLİĞE GİRİŞ
Associate Degree	OPT213	OPTİSYENLİK UYGULAMALARI I
Associate Degree	OPT109	GEOMETRİK OPTİK I
Associate Degree	OPT113	MALZEME BİLGİSİ

COURSES

Associate Degree	OPT232	OPTİSYENLİKTE FİZİK
Associate Degree	OPT227	OPTİSYENLİK PAKET PROGRAMLARI
Associate Degree	OPT218	OPTİSYENLİK UYGULAMALARI II

PERSONAL INFORMATION

CONTACT INFORMATION

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