

## Res. Asst. MUHAMMED BÜYÜKTEMİZ

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, Gazi University, Fen Fakültesi, Kimya, Turkey 2020 - Continues

Postgraduate, Gazi University, Fen Fakültesi, Kimya, Turkey 2018 - 2020

Undergraduate, Ihsan Dogramaci Bilkent University, Faculty Of Science, Department Of Chemistry, Turkey 2005 - 2012

### Foreign Languages

English, C2 Mastery

### Dissertations

Postgraduate, Active center design of non-heme enzymes based on secondary sphere effects , Gazi University, Fen Fakültesi, Kimya, 2020

### Research Areas

Computational Chemistry, Chemical Kinetics, Quantum Mechanics, Transition Metals, Photochemistry of Inorganic Molecules, Inorganic Reaction Mechanisms and Kinetics, Catalysis, Coordination Chemistry, Chemistry of Dyes and Pigments

### Academic Titles / Tasks

Research Assistant, Gazi University, Fen Fakültesi, Kimya, 2020 - Continues

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

- I. Homoprotocatechuate dioxygenase active site: Imitating the secondary sphere base via computational design**  
BÜYÜKTEMİZ M., DEDE Y.  
Turkish Journal of Chemistry, vol.47, no.5, pp.1116-1124, 2023 (SCI-Expanded)
- II. The Role of the Redox Non-Innocent Hydroxyl Ligand in the Activation of O<sub>2</sub> Performed by [Ni(H**

(OH)].

Kim J., Büyüktemiz M., Alici G., Baik M., Dede Y.

CHEMISTRY - A EUROPEAN JOURNAL, vol.2022, 2022 (SCI-Expanded)

- III. **Light-Driven Water Oxidation with Ligand-Engineered Prussian Blue Analogues**  
Ahmad A. A., Ghobadi T. G. U., BÜYÜKTEMİZ M., ÖZBAY E., DEDE Y., KARADAŞ F.  
INORGANIC CHEMISTRY, vol.61, no.9, pp.3931-3941, 2022 (SCI-Expanded)
- IV. **Building an Iron Chromophore Incorporating Prussian Blue Analogue for Photoelectrochemical Water Oxidation**  
Ghobadi T. G. U., Ghobadi A., Demirtas M., BÜYÜKTEMİZ M., Ozvural K. N., YILDIZ E., Erdem E., YAĞLIOĞLU H. G., DURGUN E., DEDE Y., et al.  
CHEMISTRY-A EUROPEAN JOURNAL, vol.27, no.35, pp.8966-8976, 2021 (SCI-Expanded)
- V. **When Does Fusing Two Rings Not Yield a Larger Ring? The Curious Case of BOPHY**  
BÜYÜKTEMİZ M., Kilic M., Che Y., Zhao J., DEDE Y.  
JOURNAL OF ORGANIC CHEMISTRY, vol.86, no.6, pp.4547-4556, 2021 (SCI-Expanded)
- VI. **Excited state structures projected onto two dimensions: correlations with luminescent behavior**  
DEDE Y., Yalcin S., BÜYÜKTEMİZ M.  
JOURNAL OF MATHEMATICAL CHEMISTRY, vol.58, no.10, pp.2254-2272, 2020 (SCI-Expanded)
- VII. **A Robust, Precious-Metal-Free Dye-Sensitized Photoanode for Water Oxidation: A Nanosecond-Long Excited State Lifetime through a Prussian Blue Analogue**  
Ghobadi T. G. U., Ghobadi A., BÜYÜKTEMİZ M., YILDIZ E., Yildiz D. B., YAĞLIOĞLU H. G., DEDE Y., ÖZBAY E., KARADAŞ F.  
ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, vol.59, no.10, pp.4082-4090, 2020 (SCI-Expanded)
- VIII. **Control of triboelectric charges on common polymers by photoexcitation of organic dyes**  
Cezan S. D., Nalbant A. A., BÜYÜKTEMİZ M., DEDE Y., BAYTEKİN H. T., BAYTEKİN B.  
NATURE COMMUNICATIONS, vol.10, 2019 (SCI-Expanded)
- IX. **A Noble-Metal-Free Heterogeneous Photosensitizer-Relay Catalyst Triad That Catalyzes Water Oxidation under Visible Light**  
Ghobadi T. G. U., YILDIZ E., BÜYÜKTEMİZ M., Akbari S. S., Topkaya D., İŞÇİ Ü., DEDE Y., YAĞLIOĞLU H. G., KARADAŞ F.  
ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, vol.57, no.52, pp.17173-17177, 2018 (SCI-Expanded)
- X. **Intracellular Modulation of Excited-State Dynamics in a Chromophore Dyad: Differential Enhancement of Photocytotoxicity Targeting Cancer Cells**  
Kolemen S., Isik M., Kim G. M., Kim D., Geng H., Buyuktemiz M., Karatas T., Zhang X., DEDE Y., Yoon J., et al.  
ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, vol.54, no.18, pp.5340-5344, 2015 (SCI-Expanded)
- XI. **Synthesis and dye sensitized solar cell applications of Bodipy derivatives with bis-dimethylfluorenyl amine donor groups**  
Cakmak Y., Kolemen S., BÜYÜKTEMİZ M., DEDE Y., ERTEN ELA Ş.  
NEW JOURNAL OF CHEMISTRY, vol.39, no.5, pp.4086-4092, 2015 (SCI-Expanded)
- XII. **Design and characterization of Bodipy derivatives for bulk heterojunction solar cells**  
Kolemen S., Cakmak Y., Ozdemir T., ERTEN ELA Ş., BÜYÜKTEMİZ M., DEDE Y., AKKAYA E. U.  
TETRAHEDRON, vol.70, no.36, pp.6229-6234, 2014 (SCI-Expanded)
- XIII. **Luminescence of BODIPY and Dipyrin: An MCSCF Comparison of Excited States**  
BÜYÜKTEMİZ M., Duman S., DEDE Y.  
JOURNAL OF PHYSICAL CHEMISTRY A, vol.117, no.7, pp.1665-1669, 2013 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Electronic Structure of BOPHY – When Does Adding Two Rings Not Make a Larger Ring?**  
Büyüktemiz M., Dede Y.  
CPC - XII, Karabük, Turkey, 12 - 13 October 2018

- II. **Quantum Chemical Analysis of Intersystem Crossing in Organic Fluorophores**  
Yıldız D. B., Büyüktemiz M., Dede Y.  
CPC - XII, Karabük, Turkey, 12 - 13 October 2018
- III. **Mimicking the Secondary Sphere of Homoprotocatechuate Dioxygenase HPCD Enzyme Active Site A Theoretical Study**  
Büyüktemiz M., Dede Y.  
COST ECOSTBio Meeting - Prague, Karabük, Turkey, 13 - 15 April 2016
- IV. **Secondary Sphere Histidine of Homoprotocatechuate Dioxygenase A Modified Model of the Enzymatic Core 21st 23rd 2016**  
Büyüktemiz M., Dede Y.  
COST Action CM1205 -CARISMA , Ljubljana, Karabük, Turkey, 21 - 23 March 2016

## **Metrics**

Publication: 17

Citation (WoS): 342

Citation (Scopus): 339

H-Index (WoS): 8

H-Index (Scopus): 8