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## Eğitim Bilgileri

Doktora, Gebze Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Türkiye 2005 - 2010

Yüksek Lisans, Gebze Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Türkiye 2002 - 2005

Lisans, Kocaeli Üniversitesi, Türkiye 1997 - 2002

## Yaptığı Tezler

Doktora, Novel n-bridged diiron phthalocyanine complexes: Synthesis, characterization and application in oxidation, Gebze Teknik Üniversitesi, Fen Bilimleri Enstitüsü, 2010

## Araştırma Alanları

Malzeme Bilimi ve Mühendisliği, Kimya, Koordinasyon Kimyası, Organometalik Bileşikler, Kataliz, Mühendislik ve Teknoloji

## Akademik Unvanlar / Görevler

Prof. Dr., Marmara Üniversitesi, Teknoloji Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2023 - Devam Ediyor

## Yönetilen Tezler

İşçi Ü., FONKSİYONEL GRUP İÇEREN Mü- NİTRİDO PORFİRİNLER, Doktora, O.EREN(Öğrenci), 2023

İşçi Ü., Monomerik ve dimerik suda çözünen demir ftalosiyeninler, Yüksek Lisans, D.AYDIN(Öğrenci), 2022

İşçi Ü., Mü- nitrido porfirinoidler: Sentezi, karakterizasyonu ve uygulamaları, Doktora, Ç.YÜCEEL(Öğrenci), 2022

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

1. Amphiphilic Single-Chain Polymer Nanoparticles as Imaging and Far-Red Photokilling Agents for Photodynamic Therapy in Zebrafish Embryo Xenografts

Arena D., Nguyen C., Ali L. M. A., Verde-Sesto E., Iturrospe A., Arbe A., İŞÇİ Ü., ŞAHİN Z., DUMOULIN F., Gary-Bobo M., et al.

Advanced Healthcare Materials, cilt.13, sa.28, 2024 (SCI-Expanded)

- II. **Synthesis, Photo-Characterizations, and Pre-Clinical Studies on Advanced Cellular and Animal Models of Zinc(II) and Platinum(II) Sulfonyl-Substituted Phthalocyanines for Enhanced Vascular-Targeted Photodynamic Therapy**  
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- III. **Nanoencapsulation of a Far-Red Absorbing Phthalocyanine into Poly(benzylmalate) Biopolymers and Modulation of Their Photodynamic Efficiency**  
ŞAHİN Z., Önal E., Ali L. M. A., Durand D., EMAMI A., Touré M., İŞÇİ Ü., Gary-Bobo M., Cammas-Marion S., DUMOULIN F.  
Biomacromolecules, cilt.25, sa.6, ss.3261-3270, 2024 (SCI-Expanded)
- IV. **Phthalocyanine vs porphyrin: Experimental and theoretical comparison of the catalytic activity of N-bridged diiron tetrapyrrolic complexes for alcohols oxidation**  
ŞAHİN Z., Yüceel Ç., Yildiz D. B., DEDE Y., DUMOULIN F., İŞÇİ Ü.  
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- V. **Near infrared-absorbing self-encapsulated phthalocyanine-cored polycaprolactone star polymeric nanoparticles**  
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- VI. **Multifunctional Photovoltaic Window Layers for Solar-Driven Catalytic Conversion of CO<sub>2</sub>: The Case of CIGS Solar Cells**  
Guerrero J., Bajard E., Schneider N., DUMOULIN F., Lincot D., İŞÇİ Ü., Robert M., Naghavi N.  
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- VII. **Comparing PVP and Polymeric Micellar Formulations of a PEGylated Photosensitizing Phthalocyanine by NMR and Optical Techniques**  
Gergely L. P., Yüceel Ç., İsci Ü., Spadin F. S., Schneider L., Spingler B., Frenz M., DUMOULIN F., Vermathen M.  
Molecular pharmaceutics, cilt.20, sa.8, ss.4165-4183, 2023 (SCI-Expanded)
- VIII. **Transparent Porous ZnO|Metal Complex Nanostructured Materials: Application to Electrocatalytic CO<sub>2</sub>Reduction**  
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ACS Applied Nano Materials, cilt.6, sa.12, ss.10626-10635, 2023 (SCI-Expanded)
- IX. **Phthalocyanines prepared from 4,5-dihexylthiophthalonitrile, a popular building block**  
TOPKAYA TAŞKIRAN D., ŞAHİN Z., İŞÇİ Ü., DUMOULIN F.  
Turkish Journal of Chemistry, cilt.47, sa.5, ss.814-836, 2023 (SCI-Expanded)
- X. **Tetra vs. octa-How it affects the photophysical, photochemical, physicochemical and biological properties of mercaptophenol-substituted Zn phthalocyanines**  
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- XI. **Far-red triplet sensitized Z-to-E photoswitching of azobenzene in bioplastics**  
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CHEMICAL SCIENCE, cilt.13, sa.40, ss.11904-11911, 2022 (SCI-Expanded)
- XII. **Nanoscaled PAMAM Dendrimer Spacer Improved the Photothermal-Photodynamic Treatment Efficiency of Photosensitizer-Decorated Confeito-Like Gold Nanoparticles for Cancer Therapy**  
Saw W. S., Anasamy T., Thu Thi Anh Do T. T. A. D., Lee H. B., Chee C. F., İsci Ü., Misran M., DUMOULIN F., Chong W. Y., Kiew L. V., et al.  
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- XIII. **Substituent effect on iron phthalocyanines as cyclohexene oxidation catalysts**  
Yüceel Ç., Şahin Z., Işci Ü.  
JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, cilt.26, sa.06N07, ss.452-457, 2022 (SCI-Expanded)
- XIV. **Tuning of organic heterojunction conductivity by the substituents' electronic effects in phthalocyanines for ambipolar gas sensors**  
Sahin Z., Meunier-Prest R., DUMOULIN F., Kumar A., Işci Ü., Bouvet M.  
SENSORS AND ACTUATORS B-CHEMICAL, cilt.332, 2021 (SCI-Expanded)
- XV. **Alkylthio-tetrasubstituted mu-Nitrido Diiron Phthalocyanines: Spectroelectrochemistry, Electrical Properties, and Heterojunctions for Ammonia Sensing**  
Sahin Z., Meunier-Prest R., DUMOULIN F., Işci Ü., Bouvet M.  
INORGANIC CHEMISTRY, cilt.59, sa.2, ss.1057-1067, 2020 (SCI-Expanded)
- XVI. **Phthalocyanine-based mesoporous organosilica nanoparticles: NIR photodynamic efficiency and siRNA photochemical internalization**  
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CHEMICAL COMMUNICATIONS, cilt.55, sa.77, ss.11619-11622, 2019 (SCI-Expanded)
- XVII. **CO<sub>2</sub> electrochemical catalytic reduction with a highly active cobalt phthalocyanine**  
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- XVIII. **Cobalt phthalocyanine-TiO<sub>2</sub> nanocomposites for photocatalytic remediation of textile dyes under visible light irradiation**  
Dindas G. B., Sahin Z., Yatmaz H. C., Işci Ü.  
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- XIX. **A Noble-Metal-Free Heterogeneous Photosensitizer-Relay Catalyst Triad That Catalyzes Water Oxidation under Visible Light**  
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- XX. **Triphenylphosphonium-substituted phthalocyanine: Design, synthetic strategy, photoproperties and photodynamic activity**  
Tarhouni M., Durand D., Onal E., Aggad D., Işci Ü., Ekineker G., Bregier F., Jamoussi B., Sol V., Gary-Bobo M., et al.  
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- XXI. **Photophysical properties of palladium/platinum tetrasulfonyl phthalocyanines and their application in triplet-triplet annihilation upconversion**  
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- XXII. **Sulfanyl vs sulfonyl, 4,5-vs 3,6-position. How structural variations in phthalonitrile substitution affect their infra-red, crystallographic and Hirshfeld surface analyses**  
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- XXIII. **Cyclotriphosphazene, a scaffold for F-19 MRI contrast agents**  
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TETRAHEDRON LETTERS, cilt.59, sa.6, ss.521-523, 2018 (SCI-Expanded)
- XXIV. **Synthesis and characterization of a new meso-tetra-dihydro benzocyclobutenaphthylene free-base porphyrin**  
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- XXV. **Subtle variations of the behavior of a silylated tetraethylene glycol-substituted Zn phthalocyanine towards acids**  
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- JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, cilt.20, sa.8-11, ss.1182-1189, 2016 (SCI-Expanded)
- XXVI. **Covalent or supramolecular combinations of resorcinarenes and porphyrinoids**  
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- XXVII. **Methylsulfonyl Zn phthalocyanine: A polyvalent and powerful hydrophobic photosensitizer with a wide spectrum of photodynamic applications**  
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- XXVIII. **A library of dimeric and trimeric phthalonitriles linked by a single aromatic ring: comparative structural and DFT investigations**  
Koc M., Zorlu Y., Isci Ü., Berber S., Ahsen V., DUMOULIN F.  
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- XXIX. **Synthesis, characterization, and Pb<sup>2+</sup> ion sensing application of hexa-armed dansyl end-capped poly(epsilon-caprolactone) star polymer with phosphazene core**  
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- XXX. **Fluorescent mono- and tetra-dansylated cavitands: synthesis and acid sensitivity**  
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- XXXI. **Site-selective formation of an iron(IV)-oxo species at the more electron-rich iron atom of heteroleptic mu-nitrido diiron phthalocyanines**  
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- XXXII. **1,4,8,11,15,18,22,25-Alkylsulfanyl phthalocyanines: effect of macrocycle distortion on spectroscopic and packing properties**  
Zorlu Y., Kumru U., Isci Ü., Divrik B., Jeanneau E., Albrieux F., DEDE Y., Ahsen V., DUMOULIN F.  
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- XXXIII. **Resorcinarene-mono-benzimidazolium salts as NHC ligands for Suzuki-Miyaura cross-couplings catalysts**  
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- XXXV. **Axial binding and host-guest interactions of a phthalocyanine resorcinarene cavitand hybrid**  
TOPKAYA TAŞKIRAN D., DUMOULIN F., Ahsen V., Isci Ü.  
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- XXXVI. **Expeditious selective access to functionalized platforms of A(7)B-type heteroleptic lanthanide double-decker complexes of phthalocyanine**  
Alpugan S., Isci Ü., Albrieux F., Hirel C., Gurek A. G., Bretonniere Y., Ahsen V., DUMOULIN F.  
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- XXXVII. **Modulation of the electronic and spectroscopic properties of Zn(II) phthalocyanines by their substitution pattern**  
Topal S. Z., Isci Ü., Kumru U., Atilla D., Gurek A. G., Hirel C., Durmus M., Tommasino J., Luneau D., Berber S., et al.  
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- XXXVIII. **Sulfonamide-substituted iron phthalocyanine: design, solubility range, stability and oxidation of olefins**  
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- XXXIX. **N-bridged dimers of tetrapyrroles complexed by transition metals: syntheses, characterization methods, and uses as oxidation catalysts**

- Isci Ü., DUMOULIN F., Sorokin A. B., Ahseen V.  
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- XL. **Comparative structural analysis of 4,5- and 3,6-dialkylsulfanylphthalonitriles of different bulkiness**  
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- XLI. **Preparation of N-bridged diiron phthalocyanines bearing bulky or small electron-withdrawing substituents**  
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- XLII. **Preparation of iron phthalocyanine complex bearing four tetraazamacrocycles as a precursor for oxidation catalyst with two catalytic sites**  
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- XLIII. **Preparation and characterization of mu-nitrido diiron phthalocyanines with electron-withdrawing substituents: application for catalytic aromatic oxidation**  
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- XLIV. **A first ABAC phthalocyanine**  
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## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **Topology effects in photodynamic therapy with phthalocyanine nanocarriers**  
Arena D., İŞÇİ Ü., Onofre M., Nguyen C., ŞAHİN Z., Verde-Sesto E., Iturrospe A., Arbe A., Gary-Bobo M., Pomposo J. A., et al.  
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## **Kitap & Kitap Bölümleri**

- I. **Phthalocyanines and Porphyrines**  
İŞÇİ Ü., DUMOULIN İSÇİ F. A. C.  
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## **Desteklenen Projeler**

- İşçi Ü., Gürek A. G., Dumoulin İsci F. A. C., TÜBİTAK Uluslararası İkili İşbirliği Projesi, PDT, PTT ya da Işıklı Tetiklenen İlaç Salınımı İçin Tasarlanmış ve Kendiliğinden Düzenlenerek Ortogonal Fonksiyonlanabilen Karışık ya da Saf Ftalozenleri Oluşturabilen Amfifilik Ftalosiyanimler, 2020 - 2023
- İşçi Ü., TÜBİTAK Projesi, CO<sub>2</sub>'nin İndirgenmesi İçin Pacman Ftalosiyanim Dimerler, 2021 - 2022
- İşçi Ü., TÜBİTAK Projesi, Mü-Nitrido Nonhem/Ftalosiyanim Demir Kompleks Katalizli C-H Bağ Aktivasyonu, 2018 - 2021
- İşçi Ü., TÜBİTAK Uluslararası İkili İşbirliği Projesi, Düzenlenebilir Elektronik Özelliklere Sahip Çözünür Ftalosiyanimler Kullanılarak Ayarlanabilir Arayüzler Ve Modifiye Elektrotlar İle Heteroeklemlerin Optimizasyonu, 2018 - 2020
- İşçi Ü., Ahseen V., TÜBİTAK Uluslararası İkili İşbirliği Projesi, Ftalosiyanim Bazlı Periyodik Mezoporöz Organosilikon Nanopartiküller, 2016 - 2018
- İşçi Ü., Topkaya Taşkıran D., İnce Ocakoğlu M., TÜBİTAK - AB COST Projesi , Süpramoleküler Konuk konak Etkileşimleri ile Fulleren Zn Tetrapirel Arasındaki Enerji ve Elektron Transferinin Optimizasyonu, 2014 - 2018

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