

CURRICULUM VITAE

Name and Surname: Zehra DURMUŞ
Date of Birth: 1977
Academic Title: Professor Dr.
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Foreign Languages Known (Score and Year): English, C1 Advanced, 2022
Area of Expertise: Engineering and Technology
Health Sciences
Natural Sciences

Degree	Department/Program	University	Year
Master's Degree	BİLİM, TEKNOLOJİ VE TOPLUM (YL) (TEZLİ)	Istanbul Technical University	Continues
Bachelor's Degree	BATİ DİLLERİ VE EDEBİYATLARI BÖLÜMÜ	İstanbul University	2024
Doctorate	KİMYA (DR)	Fatih University	2013
Master's Degree	KİMYA (YL) (TEZLİ)	Fatih University	2009
Bachelor's Degree	KİMYA MÜHENDİSLİĞİ BÖLÜMÜ	İstanbul University	1999

Master's Thesis Title (abstract attached) and Thesis Supervisor(s):

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Doctoral Thesis/Proficiency Study/Medical Specialization Thesis Title (abstract attached) and Supervisor(s):

Synthesis and characterization of hexaferrite nanoparticles and nanocomposites

Position Title	Workplace	Year
Professor Dr.	Biruni University	2024-Continues
Associate Professor	Biruni University	2024-2024
Assistant Professor	Biruni University	2023-2024
Expert		2021-2023
Assistant Professor	Bezmiâlem Vakıf University	2014-2017
Assistant Professor	Bezmiâlem Vakıf University	2013-2014

Administrative Duties:

Center Director - Biruni University (2024 - Continues)

Faculty Executive Board Member - Biruni University (2024 - Continues)

PUBLICATIONS

A. Articles published in international peer-reviewed journals:

- A1. "Fabrication of strontium hexaferrite/reduced expanded graphene oxide/polyaniline ternary hybrids as supercapacitor electrodes", JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, 2025.
- A2. "Novel and Highly Efficient Antibacterial PLA Composites Prepared with Liquidambar Orientalis Oil and Ag@g-C3N4 Nanocomposite", Journal of Polymers and the Environment, 2025.
- A3. "The electrical and dielectric features of Al/YbFeO₃/p-Si/Al and Al/YbFe_{0.90}Co_{0.10}O₃/p-Si/Al structures with interfacial perovskite-oxide layer depending on bias voltage and frequency", Journal of Materials Science: Materials in Electronics, 2024.
- A4. "A comprehensive investigation of the structural, chemical, and dielectric properties of co-doped YMnO₃ multiferroic component", Applied Physics A: Materials Science and Processing, 2024.
- A5. "Variation in the dielectric and magnetic characteristics of multiferroic LuFeO₃ as a result of cobalt substitution at Fe sites", Journal of Alloys and Compounds, 2023.
- A6. "Preparation and characterization of Ce-MOF/g-C3N4 composites and evaluation of their photocatalytic performance", Ceramics International, 2023.
- A7. "The structural studies and optical characteristics of phase-segregated Ir-doped LuFeO₃- δ films", Applied Physics A: Materials Science and Processing, 2023.
- A8. "High resistivity and low dielectric loss of LuFe_{1-x}O_s xO₃ (x = 0.0–0.10) ferrites", Journal of Materials Science: Materials in Electronics, 2023.
- A9. "A review on graphitic carbon nitride (g-C3N4) – metal organic framework (MOF) heterostructured photocatalyst materials for photo(electro)chemical hydrogen evolution", International Journal of Hydrogen Energy, 2022.
- A10. "The Os substitution into Fe sites in LuFeO₃ multiferroic and its effects on the electrical and dielectric features", Journal of Alloys and Compounds, 2022.
- A11. "Influence of iridium (Ir) doping on the structural, electrical, and dielectric properties of LuFeO₃ perovskite compound", Journal of Alloys and Compounds, 2021.
- A12. "Measurement of the Antipsychotic Clozapine Using Reduced Graphene Oxide Nanocomposites-Au/Pd/Pt Electrodes", Electroanalysis, 2021.
- A13. "Frequency and temperature impact on the electrical properties of LaCr_{0.99}Pd_{0.01}O₃- δ compound", Journal of Materials Science: Materials in Electronics, 2020.
- A14. "Glycopolymer decorated multiwalled carbon nanotubes for dual targeted breast cancer therapy", Journal of Materials Chemistry B, 2020.
- A15. "The influence of cobalt (Co) doping on the electrical and dielectric properties of LaCr_{1-x}CoxO₃ perovskite-oxide compounds", Materials Science in Semiconductor Processing, 2020.
- A16. "Influence of transition element Os substitution on the structural and electrical features of perovskite structure LaCr_{1-x}O_sxO₃", Materials Research Bulletin, 2020.
- A17. "Spectrofluorimetric Determination of Aflatoxin B1 in Winter Herbal Teas via Magnetic Solid Phase Extraction Method by using Metal–Organic Framework (MOF) Hybrid Structures Anchored with Magnetic Nanoparticles", Applied Organometallic Chemistry, 2020.
- A18. "The impact of Ir doping on the electrical properties of YbFe_{1-x}Ir_xO₃ perovskite-oxide compounds", Journal of Materials Science: Materials in Electronics, 2020.
- A19. "The current and capacitance characteristics as a function of sample temperature in YMn_{0.90}Os_{0.10}O₃/p-Si structures", Materials Science in Semiconductor Processing, 2019.
- A20. "In situ reduction of graphene oxide by different plant extracts as a green catalyst for selective hydrogenation of nitroarenes", International Journal of Hydrogen Energy, 2019.
- A21. "Synthesis, characterization and wide range frequency and temperature dependent electrical modulus study of LaCrO₃ and cobalt (Co) doped LaCrO₃ perovskite compounds", Materials Science and Engineering: B, 2019.
- A22. "Co doped YbFeO₃: exploring the electrical properties via tuning the doping level", Ionics, 2019.
- A23. "Co effect on the structural, chemical and frequency depended electrical properties of YbFeO₃ perovskite oxide compound", Journal of Materials Science: Materials in Electronics, 2019.
- A24. "Temperature dependent current transport mechanism in osmium-doped perovskite yttrium manganite-based heterojunctions", Journal of Applied Physics, 2019.
- A25. "Electrical characterization of Ir doped rare-earth orthoferrite YbFeO₃", Journal of Alloys and Compounds, 2019.
- A26. "The current-voltage characteristics of the ferroelectric p-YMnO₃ thin film/bulk p-Si heterojunction over a broad measurement temperature range", Journal of Alloys and Compounds, 2019.

- A27. "Effect of Os doping on electrical properties of YMnO₃ multiferroic perovskite-oxide compounds", *Materials Science in Semiconductor Processing*, 2019.
- A28. "Tailoring the band gap of ferroelectric YMnO₃ through tuning the Os doping level", *Journal of Materials Science: Materials in Electronics*, 2019.
- A29. "Synthesis and Characterization of Graphene Oxide/Zinc Oxide (GO/ZnO) Nanocomposite and Its Utilization for Photocatalytic Degradation of Basic Fuchsin Dye", *ChemistrySelect*, 2019.
- A30. "Polymerization characteristics of colored compomers cured with different LED units", *Journal of Applied Biomaterials and Functional Materials*, 2019.
- A31. "The characterization of electrical properties of Pd-doped LaCrO₃ perovskite structure", *Journal of Materials Science: Materials in Electronics*, 2018.
- A32. "Os doped YMnO₃ multiferroic: A study investigating the electrical properties through tuning the doping level", *Journal of Alloys and Compounds*, 2018.
- A33. "Frequency and temperature dependent electrical and dielectric properties of LaCrO₃ and Ir doped LaCrO₃ perovskite compounds", *Journal of Alloys and Compounds*, 2018.
- A34. "Engineering the band gap of LaCrO₃ doping with transition metals (Co, Pd, and Ir)", *Journal of Materials Science*, 2018.
- A35. "Structural and mechanical properties of a giomer-based bulk fill restorative in different curing conditions", *Journal of Applied Oral Science*, 2018.
- A36. "The electrical modulus and other dielectric properties by the impedance spectroscopy of LaCrO₃ and LaCr_{0.90}Ir_{0.10}O₃ perovskites", *RSC Advances*, 2018.
- A37. "Magnetic and Microwave Absorption Properties of Magnetite (Fe₃O₄)@Conducting Polymer (PANI, PPY, PT) Composites", *IEEE Transactions on Magnetics*, 2017.
- A38. "Magnetic solid phase extraction for a new HPLC method for the determination of gemifloxacin in human plasma and breast milk", *Journal of the Chilean Chemical Society*, 2017.
- A39. "Chitosan and carboxymethyl cellulose based magnetic nanocomposites for application of peroxidase purification", *International Journal of Biological Macromolecules*, 2017.
- A40. "Determination of atorvastatin in human plasma by magnetic solid-phase extraction combined with HPLC and application to a pharmacokinetic study", *Journal of Liquid Chromatography and Related Technologies*, 2016.
- A41. "Quantifying structural and electromagnetic interference (EMI) shielding properties of thermoplastic polyurethane-carbon nanofiber/magnetite nanocomposites", *Journal of Materials Science*, 2016.
- A42. "Preparation and in vitro evaluation of 5-fluorouracil loaded magnetite-zeolite nanocomposite (5-FU-MZNC) for cancer drug delivery applications", *Biomedicine and Pharmacotherapy*, 2016.
- A43. "Electrochemical sensing platforms based on the different carbon derivative incorporated interface", *Materials Science and Engineering C*, 2016.
- A44. "Preparation and characterization of platinum (Pt) and palladium (Pd) nanoparticle decorated graphene sheets and their utilization for the elimination of basic fuchsin and indigo carmine dyes", *Solid State Sciences*, 2016.
- A45. "Electrochemical biosensor based on REGO/Fe₃O₄ bionanocomposite interface for xanthine detection in fish sample", *Food Control*, 2015.
- A46. "Erratum: Structural and magnetic properties of triethylene glycol stabilized Zn_xCo_{1-x}Fe₂O₄ nanoparticles (*Mater. Res. Bull.* (2012) 47 (2442-2448))", *Materials Research Bulletin*, 2015.
- A47. "Synthesis and micro-structural characterization of graphene/strontium hexaferrite (SrFe₁₂O₁₉) nanocomposites", *Materials Chemistry and Physics*, 2015.
- A48. "Synthesis and characterization of structural and magnetic properties of graphene/hard ferrite nanocomposites as microwave-absorbing material", *Journal of Materials Science*, 2015.
- A49. "Synthesis, structural, magnetic and electrical properties of Co_{1-x}Zn_xFe₂O₄ (x = 0.0, 0.2) nanoparticles", *Materials Research Bulletin*, 2013.
- A50. "Effect of conducting polymer layer on microwave absorption properties of BaFe₁₂O₁₉-TiO₂ composite", *Physica Status Solidi (A) Applications and Materials Science*, 2013.
- A51. "Surface spin disorder and spin-glass-like behaviour in manganese- substituted cobalt ferrite nanoparticles", *Journal of Nanoparticle Research*, 2012.
- A52. "Structural and magnetic properties of triethylene glycol stabilized Zn_xCo_{1-x}Fe₂O₄ nanoparticles", *Materials Research Bulletin*, 2012.
- A53. "Effect of fuel on the synthesis and properties of poly(methyl methacrylate) modified SrFe₁₂O₁₉ nanoparticles", *Journal of Superconductivity and Novel Magnetism*, 2012.
- A54. "Hydrothermal synthesis of SrFe₁₂O₁₉ and its characterization", *Journal of Superconductivity and Novel Magnetism*, 2012.
- A55. "Synthesis and characterization of PEG-Sr hexaferrite by sol-gel conversion", *Journal of Superconductivity and Novel Magnetism*, 2012.
- A56. "Triethylene glycol stabilized CoFe₂O₄ nanoparticles", *Journal of Superconductivity and Novel Magnetism*, 2012.

- A57. "Preparation of high quality, single domain BaFe₁₂O₁₉ particles by the citrate sol-gel combustion route with an initial Fe/Ba molar ratio of 4", Materials Science and Engineering: B, 2012.
- A58. "Synthesis and characterization of dendrimer-encapsulated iron and iron-oxide nanoparticles", Journal of Superconductivity and Novel Magnetism, 2012.
- A59. "Poly(vinyl phosphonic acid) (PVPA)-BaFe₁₂O₁₉ nanocomposite", Journal of Superconductivity and Novel Magnetism, 2012.
- A60. "Synthesis, structural and electrical properties of triethylene glycol (TREG) stabilized Mn_{0.2}Co_{0.8}Fe₂O₄ NPs", Materials Research Bulletin, 2012.
- A61. "Synthesis and magnetic properties of a porphine-based photosynthesizer with magnetic nano-carriers", Polyhedron, 2011.
- A62. "Synthesis, dielectric and magnetic characteristics of poly(1-vinyl-1,2,4-triazole) (PVTri)-barium hexaferrite composite", Journal of Alloys and Compounds, 2011.
- A63. "Synthesis and characterization of poly(1-vinyl-1,2,4-triazole) (PVTri)barium hexaferrite nanocomposite", Physica B: Condensed Matter, 2011.
- A64. "Fabrication and characterization of dendrimer-encapsulated monometallic Co nanoparticles", Journal of Alloys and Compounds, 2011.
- A65. "Synthesis and characterization of poly(3-thiophenyl acetic acid) (P3TAA)-BaFe₁₂O₁₉ nanocomposite", Polyhedron, 2011.
- A66. "Synthesis and characterization of poly(3-thiophene acetic acid)/Fe₃O₄ nanocomposite", Polyhedron, 2011.
- A67. "Preparation and characterization of polyaniline (PANI)Mn₃O₄ nanocomposite", Physica B: Condensed Matter, 2011.
- A68. "Synthesis and characterization of l-carnosine coated iron oxide nanoparticles", Journal of Alloys and Compounds, 2011.
- A69. "Magnetic and dielectric characterization of alginic acid-Fe₃O₄ nanocomposite", Polyhedron, 2011.
- A70. "Synthesis and characterization of poly(vinyl phosphonic acid) (PVPA)-Fe₃O₄ nanocomposite", Polyhedron, 2011.
- A71. "A simple approach for the synthesis of Co₃O₄ nanocrystals", Inorganic Materials, 2011.
- A72. "The effect of condensation on the morphology and magnetic properties of modified barium hexaferrite (BaFe₁₂O₁₉)", Nano-Micro Letters, 2011.
- A73. "Synthesis, structural and conductivity characterization of alginic acid-Fe₃O₄ nanocomposite", Journal of Nanoparticle Research, 2010.
- A74. "Synthesis, conductivity and dielectric characterization of salicylic acid-Fe₃O₄ nanocomposite", Materials Chemistry and Physics, 2010.
- A75. "L-Histidine coated iron oxide nanoparticles: Synthesis, structural and conductivity characterization", Journal of Alloys and Compounds, 2010.
- A76. "Polyol synthesis of (polyvinylpyrrolidone) PVP-Mn₃O₄ nanocomposite", Journal of Alloys and Compounds, 2010.
- A77. "Sonochemical synthesis and chracterization of Mn₃O₄ nanoparticles", Central European Journal of Chemistry, 2010.
- A78. "CTAB-Mn₃O₄ nanocomposites: Synthesis, NMR and low temperature EPR studies", Polyhedron, 2010.
- A79. "Synthesis and conductivity evaluation of PVTri-Fe₃O₄ nanocomposite", Journal of Non-Crystalline Solids, 2010.
- A80. "The effect of neutralizing agent on the synthesis and characterization of Mn₃O₄ nanoparticles", Russian Journal of Inorganic Chemistry, 2010.
- A81. "l-lysine coated iron oxide nanoparticles: Synthesis, structural and conductivity characterization", Journal of Alloys and Compounds, 2009.
- A82. "Ovalbumin mediated synthesis of Mn₃O₄", Polyhedron, 2009.
- A83. "Reflux synthesis of Co₃O₄ nanoparticles and its magnetic characterization", Journal of Magnetism and Magnetic Materials, 2009.

C. National/international books written or chapters in books:

C2. Chapters in national/international books written:

- C2.1. "Engineering Applications of Polymer based Nano Blends, Adv Struct Materials", Springer Nature, 2025.

D. Articles published in national peer-reviewed journals:

- D1. "Increasing the biocompatibility of graphene-based hybrid nanostructures with glycopolymer", Turkish Journal of Chemistry, 2022.
- D2. "Magnetic solid phase extraction applications combined with analytical methods for determination of drugs in different matrices review", Journal of the Chilean Chemical Society, 2019.
- D3. "A comparative study on magnetostructural properties of barium hexaferrite powders prepared by polyethylene glycol", Journal of Nanomaterials, 2014.

- D4. "Preparation of PVP (Polyvinyl Pyrrolidone)/Ba-Sr hexaferrites via gel to crystalline method", Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry, 2012.
- D5. "PEG-assisted synthesis of Mn₃O₄ nanoparticles: A structural and magnetic study", Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry, 2011.
- D6. "A green chemical route for the synthesis of Mn₃O₄ nanoparticles", Central European Journal of Chemistry, 2009.
- D7. "CTAB-Assisted Hydrothermal Synthesis and Magnetic Characterization of Ni_xCo_{1-x}Fe₂O₄ Nanoparticles (x = 0.0, 0.6, 1.0)", Turkish Journal of Chemistry, 2009.