

## CURRICULUM VITAE

### Lütfi ARDA

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#### Degrees:

- Ph. D. in Physics-2004 Marmara University, Istanbul/Turkey and Florida State University (FSU-NHMFL), Florida-USA
- M. Sci. in Physics-1997 Gazi University, Ankara/ Turkey
- B. Sci. in Physics Engineering-1992 Hacettepe University, Ankara/ Turkey

#### Masters and Ph.D. Theses

##### Masters Theses:

[1] **Münevver Beyazitli**, “Characterization and investigation of electromagnetic properties of ferromagnetic-semiconductor films”, Marmara University/ Turkey, 2008

[2] **Kübra Yıldız**, “Ferromagnetic / antiferromagnetic nano layered structures exchange bias interaction to interface surfaces”, Gebze Technical University/Turkey, 2019

[3] **Bünyamin Özkul**, “Electron paramagnetic resonance studies on oxygen related defects in memristive systems”, Gebze Technical University/Turkey, 2019

##### Ph. D. Theses:

[1] **Cihat Boyraz**, “Fabrication and characterization of multiferroic single crystal film based devices”, Marmara University/ Turkey, 2012

[2] **Dogan Akcan**, “Effects of defects on structural, optical and gas sensing properties in zno thin films produced by sol – gel method”, Bahcesehir University/Turkey, 2017

## Publications:

### Published articles in international refereed journals

- [1] Yalcin, B., Akcan, D., Yalcin, I.E., Alphan, M.C., Senturk, K., Ozyigit, I.I., Arda, L. "Effect of Mg doping on morphology, photocatalytic activity and related biological properties of  $Zn_{1-x}Mg_xO$  nanoparticles", Turkish Journal of Chemistry, <https://doi.org/10.3906/kim-2004-9>, 2020
- [2] Tosun, M., Senol, S.D., Arda, L. "Effect of Mn/Cu co-doping on the structural, optical and photocatalytic properties of ZnO nanorods", Journal of Molecular Structure, 1212,128071, 2020
- [3] Kaya, S., Ozturk, O., Arda, L. "Roughness and bearing analysis of ZnO nanorods", Ceramics International, 46(10), pp. 15183-15196, 2020
- [4] Ozyigit, I.I., Arda, L., Yalcin, B., Yalcin, I.E., Ucar, B., Hocaoglu-Ozyigit, A. "*Lemna minor*, a hyperaccumulator shows elevated level of Cd accumulation and genomic template stability in binary application of Cd and Ni: A physiological and genetic approach", Journal of Hazardous Materials, 2020
- [5] Duru, I.P., Ozugurlu, E., Arda, L. "A first-principles study of Mg/Ni induced magnetic properties of  $Zn_{0.95-x}Mg_xNi_{0.05}O$ ", Journal of Magnetism and Magnetic Materials, 504,166653, 2020
- [6] Senol, S.D., Ozugurlu, E., Arda, L. "Synthesis, structure and optical properties of (Mn/Cu) co-doped ZnO nanoparticles", Journal of Alloys and Compounds, 822,153514, 2020
- [7] Senol, S.D., Ozugurlu, E., Arda, L. "The effect of cobalt and boron on the structural, microstructural, and optoelectronic properties of ZnO nanoparticles", Ceramics International, 46(6), pp. 7033-7044, 2020
- [8] Senol, S.D., Yalcin, B., Ozugurlu, E., Arda, L. "Structure, microstructure, optical and photocatalytic properties of Mn-doped ZnO nanoparticles", Materials Research Express, 7(1),015079, 2020
- [9] Duru, I.P., Ozugurlu, E., Arda, L. "A first-principles study of magnetic properties of  $Zn_{0.94}Mg_{0.01}Mn_{0.05}O$ ", Materials Research Express, Volume 6, Issue 12, 2019
- [10] Akcan, D., Ozharar, S., Ozugurlu, E., Arda, L. "The effects of Co/Cu Co-doped ZnO thin films: An optical study", Journal of Alloys and Compounds, 2019
- [11] Arda, L." The effects of Tb doped ZnO nanorod: An EPR study", Journal of Magnetism and Magnetic Materials, 2019
- [12] Tosun, M., Arda, L." Effect of temperature and film thickness on structural and mechanical properties of c-axis oriented  $Zn_{0.95}Mg_{0.05}O$  thin films", Ceramics International, 2019

- [13] Guler, A., Arda, L., Dogan, N., Boyraz, C., Ozugurlu, E." The annealing effect on microstructure and ESR properties of (Cu/Ni) co-doped ZnO nanoparticles", *Ceramics International*, 2019
- [14] Dimitrov, R., Arda, L., Dimitrova, O.V." The ground states of nanomagnetic dipoles placed on an infinite square lattice", *Journal of Magnetism and Magnetic Materials*, 2019
- [15] Senol, S.D., Guler, A., Boyraz, C., Arda, L." Preparation Structure and Magnetic Properties of Mn-Doped ZnO Nanoparticles Prepared by Hydrothermal Method", *Journal of Superconductivity and Novel Magnetism*, 2019
- [16] Guler, A., Tosun, M., Gungor, A., Boyraz, C., Arda, L." Effect of Annealing Temperature on Structure and Magnetic Properties of Zn<sub>0.94</sub>Mg<sub>0.01</sub>Mn<sub>0.05</sub>O Nanoparticles", *Journal of Superconductivity and Novel Magnetism*, 2019
- [17] Duru, I.P., Ozugurlu, E., Arda, L." Size effect on magnetic properties of Zn<sub>0.95-x</sub>Mg<sub>x</sub>Ni<sub>0.05</sub>O nanoparticles by Monte Carlo simulation", *Ceramics International*, 2019
- [18] Senol, S.D., Boyraz, C., Ozugurlu, E., Gungor, A., Arda, L." Band Gap Engineering of Mg Doped ZnO Nanorods Prepared by a Hydrothermal Method", *Crystal Research and Technology*, 2019
- [19] Guler, A., Boyraz, C., Avci, S., (...), Özdemir, M., Oner, Y." Electronic, transport, and magnetic properties of (Ca, Ba) 0.9 La 0.1 Fe 1.9 Pt 0.1 As 2 compounds", *International Journal of Modern Physics B*, 2019
- [20] Asikuzun, E., Ozturk, O., Arda, L., Terzioglu, C. "Preparation, growth and characterization of nonvacuum Cu-doped ZnO thin films", *Journal of Molecular Structure* 1165, pp. 1-7 (2018)
- [21] Kaya, S., Akcan, D., Ozturk, O., Arda, L. Enhanced mechanical properties of yttrium doped ZnO nanoparticles as determined by instrumented indentation technique, *Ceramics International* 44(9), pp. 10306-10314, (2018)
- [22] Akcan, D., Gungor, A., Arda, L. Structural and optical properties of Na-doped ZnO films, *Journal of Molecular Structure* 1161, pp. 299-305, (2018)
- [23] Arda, L., Dogan, N., Boyraz, C. Effects of Annealing Temperature on Microstructure and Magnetic Properties of Ni<sub>0.05</sub> Zn<sub>0.95</sub> Fe<sub>2</sub> O<sub>4</sub> Nanoparticles, *Journal of Superconductivity and Novel Magnetism* 31(2), pp. 365-371, 2018
- [24] L. Arda, N. Dogan, C. Boyraz, Effects of Annealing Temperature on Microstructure and Magnetic Properties of Ni<sub>0.05</sub>Zn<sub>0.95</sub>Fe<sub>2</sub>O<sub>4</sub> Nanoparticles, *J Supercond Nov Magn* DOI 10.1007/s10948-017-4203-5., 2017
- [25] E. Asikuzun, O. Ozturk, L. Arda, C. Terzioglu, Microstructural and electrical characterizations of transparent Er-doped ZnO nano thin flms prepared by sol-gel process, *J Mater Sci: Mater Electron* DOI 10.1007/s10854-017-7291-x., 2017

- [26] N. Dogan, A. Bingolbali, L. Arda, D. Akcan, Synthesis, Structure, and Magnetic Properties of  $\text{Ni}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$  Nanoparticles, *J. Supercond Nov. Magn*, DOI 10.1007/s10948-016-3899-y (2017)
- [27] N. Üzar, G. Algün, N. Akçay, D. Akcan, L. Arda, Structural, optical, electrical and humidity sensing properties of (Y/Al) co-doped ZnO thin films, *J Mater Sci: Mater Electron* (2017) 28:11861–11870.
- [28] C. Boyraz, B. Yesilbas, L. Arda, The Temperature Effect on Structural and Magnetic Properties of  $\text{Zn}_{0.95}\text{Fe}_{0.05}\text{O}$  Nanoparticles, *J Supercond Nov Magn* (2017) 30:1691–1698.
- [29] S. Ozharar, D. Akcan, L. Arda, Determination of the refractive index and the thickness of double side coated thin films”, *Journal of Optoelectronics and Advanced materials*, Vol. 18, Iss. 1-2, (2016), page 65- 69.
- [30] E. Asikuzun, O. Ozturk, L. Arda, A. T. Tasci, F. Kartal , C. Terzioglu, “High-Quality c-Axis Oriented Non-Vacuum Er Doped ZnO Thin Films” *Ceramic International*, (2016), <http://dx.doi.org/10.1016/j.ceramint.2016.02.008>.
- [31] E. Asikuzun, O. Ozturk, L. Arda, D. Akcan, S. D. Senol, C. Terzioglu, “Preparation, structural and micromechanical properties of (Al/Mg) co-doped ZnO nanoparticles by sol-gel process”, *Journal of Materials Science-Materials in Electronics*, 26 (2015) Pages: 8147-8159
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- [34] Z. K. Heiba, L. Arda, M. B. Muhammed, A. M. Wehba, “Magnetic and Structural Properties of Nanocrystalline Cobalt-Substituted Magnesium-Manganese Ferrite”, *J. Supercond Nov. Magn* Volume: 28 Issue: 8 (2015) Pages: 2517-2524
- [35] Z. K. Heiba, L. Arda, M. B. Mohamed, “Structural and magnetic properties of  $\text{Zn}_{0.95}\text{Cr}_{0.05}\text{O}$  annealed at different temperatures”, *Journal of Magnetism and Magnetic Materials*, 389 (2015) Pages 153–156.
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- [38] N. Doğan, A. Bingölbali, L. Arda “Preparation, structure and magnetic characterization of Ni doped ZnO nano-particles” *Journal of Magnetism and Magnetic Materials*, 373, (2015) Pages 226-230.
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- [44] L. Arda, M. Acikgoz, Z. K. Heiba, N. Dogan, D. Akcan, O. Cakiroglu “Synthesis, characterization and ESR studies of powder Zn<sub>0.95-x</sub>Mg<sub>0.05</sub>Al<sub>x</sub>O (x=0, 0.01, 0.02, 0.05, and 0.1) nanocrystals”, *SOLID STATE COMMUNICATIONS* Volume: 170 (2013) Pages: 14-18
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### **Projects:**

- [1] “HTS thin films and Magnets” National Science Foundation (NSF, USA) and Oxford Superconductivity Technology, Inc. (OST, New Jersey-USA) (2001-2002) (Researcher)
- [2] “Insulation of Nb<sub>3</sub>Sn (NS600) wires”, NASA and National High Magnetic Field Laboratory NHMFL, Tallahassee-Florida (2003-2004) (Researcher)
- [3] “Insulation of MgB<sub>2</sub> wires” NAVY STTR (USA) and National High Magnetic Field Laboratory (NHMFL), Tallahassee-Florida USA (2003-2004) (Researcher)
- [4] “Insulation and High Voltage Break Down studies of Rutherford cables”, National High Magnetic Field Laboratory NHMFL, Tallahassee-Florida (2003-2004) (Researcher)
- [5] “AgMg/Bi2212 Layer-Wound Coil for 5 T Inert Magnet”, National Science Foundation (NSF, USA) and Oxford Superconductivity Technology, Inc. (OST, New Jersey-USA) (2002-2003 ) (Researcher)



- [6] “Characterization of MgB<sub>2</sub> wires and development of superconducting coil”, Hyper Tech Research Inc. (USA) and National High Magnetic Field Laboratory NHMFL, Tallahassee-Florida (2003-2004) (Researcher)
- [7] “Fabrication of buffer layer for YBCO coated conductor”, Marmara University / TURKEY Research project (2005-2006) (Project director)
- [8] “Fabrication of BZN pyrochlore ceramics with substitution of various elements and their dielectric, electrical properties and hall effects”, TUBITAK project, TURKEY (2007- 2010) (Researcher)
- [9] “Fabrication of diluted magnetic semiconductor (DMS) nanoparticles and thin films and investigation of electrical properties, Bahcesehir University Research Project (2009-2011) (Project director)
- [10] “Determination of Micro-Structural, Electrical, Optical and Mechanical Properties of Rare Earth Element and Transition Metal Dopped Diluted Magnetic Semiconductor Nanoparticles and Films Produced by Sol-Gel Method”, TUBITAK project, TURKEY (2017-19) (Researcher)
- [11] “Forming, Characterization, and Optimization of Pinning Centers in YBCO Superconducting Coatings and Films”. TUBITAK project, TURKEY (2016-18) (Researcher)
- [12] “Investigation of the effect of the electric field to the dynamic behavior of point defects in metal-oxide crystals having potential to be the main element of memristors”, TUBITAK project, TURKEY (2017- ) (Project director)
- [13] “Creation and Optimization of Artificial Pinning Centers Using Uv Laser in Superconducting Thin Film”, TUBITAK project, TURKEY (2018- ) (Researcher)
- [14] “Unmanned Robot Cuttlefish Development and Design for Underwater Manipulation”, TUBITAK project, TURKEY (2018- ) (Researcher)