

# Sharareh Mirzaee

## Curriculum Vitae

**Current Position:** Department of Advanced Technologies  
University of Mohaghegh Ardabili  
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Marital Status: Married  
Date of Birth: 14.4.1982

### Summary

Sharareh Mirzaee got her PhD from University of Gilan in Iran. Her research focuses on Nanotechnology with an emphasis on systems consist of nanoparticles and their applications. She is currently conducting research on the plasmonic biosensors for gastric cancer diagnosis.

### Education

- 2010-2014 **PhD** in Solid State Physics, University of Gilan, Rasht, Iran  
- Synthesis and characterization of cobalt ferrite base nanocomposites.
- 2006-2009 **MS** in Solid State Physics, University of Gilan, Rasht, Iran.  
- Application of balance Equations for carriers transport in bulk semiconductors and nanostructures
- 2001-2005 **BS** in Solid State Physics, Urmia University, Urmia, Iran.

### Technical Skills

Nano particles synthesis and characterization  
Semiconductor simulation  
Magnetic properties calculation (Monte Carlo method)

### Programming Languages and Software Skills

MATLAB, Familiar with Fortran.

### Skills

Expert in analysis with characterization equipment:  
X-Ray Diffraction  
Fourier Transform Infrared Spectroscopy  
Scanning Electron Microscopy  
Transmittance Electron Microscopy  
UV-Vis Spectroscopy  
Vibrating Sample Magnetometer

### Publications

- **S Mirzaee** and H. Rahimpour Soleimani, Spin Current Amplification in Presence of Nonuniform Doping, *Modern Physics Letters B*, 26, (2012).
- **S Mirzaee**, Saber Farjami Shayesteh, Saeed Mahdavifar, Synthesis and Characterization of Cubic Omega-3-coated Cobalt Ferrite Nanoparticles, *J Supercond Nov Magn*, 27, (2014).
- **S Mirzaee**, S. Farjami Shayesteh, S. Mahdavifar, Anisotropy investigation of cobalt ferrite nanoparticles embedded in polyvinyl alcohol matrix: a Monte Carlo study, *Polymer* 55, (2014).

- H Hekmatara, M Seifi, K Forooghi and **S Mirzaee**, Synthesis and microwave absorption characterization of SiO<sub>2</sub> coated Fe<sub>3</sub>O<sub>4</sub>-MWCNT composites, , *Phys. Chem. Chem. Phys*, 16, (2014).
- A. Aliakbari, M. Seifi, **S Mirzaee**, H, Hekmatara, Influence of different synthesis conditions on properties of oleic acid – coated – Fe<sub>3</sub>O<sub>4</sub> nanoparticles, , *Material Science*, 31, (2015).
- **S Mirzaee**, S Farjami Shayesteh, S mahdavifar, H Hekmatara, Synthesis, characterization and Monte Carlo simulation of CoFe<sub>2</sub>O<sub>4</sub>/Polyvinylpyrrolidone nanocomposites: the coercivity investigation, , *J. Magn Magn Mater*, 393, (2015).
- **S Mirzaee**, S Mahdavifar, S Farjami Shayesteh, Experimental and Theoretical Investigations of Magnetic Properties of Co Ferrite/Polyvinyl Alcohol Nanocomposites, *J Supercond Nov Magn*, (2017).
- **S Mirzaee**, S Farjami Shayesteh, Ultrasound induced strain in ultrasmall CoFe<sub>2</sub>O<sub>4</sub>@polyvinyl alcohol nanocomposites, *Ultrasonics – Sonochemistry* 40 (2018).
- **S Mirzaee**, Y Azizian-Kalandaragh P Rahimzadeh, Modified co-precipitation process effects on the structural and magnetic properties of Mn- doped nickel ferrite nanoparticles, *Solid state Science*, 99 (2020).
- **S Mirzaee**, A Bayrami, Z Mirzaei, Experimental and theoretical investigation of sugar-coated cobalt ferrite nanoparticles, *Journal of the Australian Ceramic Society*, 56, (2020).
- **S Mirzaee**, M Azad-Kalandaragh, Y Azizian-Kalandaragh, Nonzero coercivity of Fe<sub>3</sub>O<sub>4</sub>/polyvinyl alcohol nanocomposites synthesized by different polymer-assisted co-precipitation processes, *Polymer Bulletin*, 78, (2021).
- F Ershadi, S Mirershadi, F Sattari, **S Mirzaee**, Study of structural, optical and magnetic properties of 3D and quasi-2D iron-based lead-free perovskites, *Applied Physics A*, 127, (2021).
- M Tamjid, A Abdolmaleki, F Mahmoudi, **S Mirzaee**, Neuroprotective Effects of Fe<sub>3</sub>O<sub>4</sub> Nanoparticles Coated with Omega-3 as a Novel Drug for Recovery of Sciatic Nerve Injury in Rats, *Gene, Cell and Tissue* (2022).

## Experience

### - Thesis Advisor:

- Evaluation of neuroprotective effects of cobalt ferrite nanoparticles coated with sumac on sciatic nerve damage in male rats
- Evaluation of neuroprotective effects of omega-coated iron oxide nanoparticles on functional recovery of damaged motor and sensory neurons caused by sciatic nerve compression in rats
- Study on effects of ferrite nanoparticles on cancer cells
- Synthesis and characterization of optical and magnetic properties of magnetic organic inorganic perovskite

### - Manager of science and Engineering Department

### - Advisor of the Science Association of BS students

### - Teaching:

- **Basic Physics**
- **Electromagnetism**
- **Modern Physics**
- **Thermodynamics**
- **Elementary Quantum Mechanics**

**Current Project:**

-Plasmonic nanoparticles based biosensors for gastric cancer recognition

**Google Scholar page:**

[https://scholar.google.com/citations?hl=en&user=b2aRsCMAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=b2aRsCMAAAAJ&view_op=list_works&sortby=pubdate)