



Curriculum Vitae

Education

Doctor of Philosophy in Materials Science and Engineering 2010 - 2015

Materials and Energy Research Center (MERC), Tehran, Iran

Thesis Title: "Photocatalytic Activity of Titanium-Substituted Hydroxyapatite Nanostructures"

Master of Science in Materials Science and Engineering 2007 - 2009

Sharif University of Technology, Tehran, Iran

Thesis Title: "Hydrothermal Synthesis and Characterization of Vanadium Oxide Nanoparticles"

Bachelor of Science in Materials Science and Engineering 2002 - 2007

Sharif University of Technology, Tehran, Iran

Research Interests

- Wastewater Treatment
- Superhydrophobic Surfaces
- Nanomaterials
- Photocatalysis

Publications

Journal Articles:

1. D. Moradkhani, **F. Asjadi**, G. Barati Darband, H. Mousavi, S. Panahi, Z. Hashemlou, "Electrodeposition of Ni-Zn-S Films from Zinc Plant Filter Cakes: A Waste-Derived Electrocatalyst for Alkaline Hydrogen Evolution", *Journal of the Indian Chemical Society*, 2026 ([Link](#))
2. A. Molayi, **F. Asjadi**, M. Yaghoobi, M. Zareei, "Preparation of hydrochar from hazelnut shell optimized by Box-Behnken design for efficient dye adsorption.", *Biofuels, Bioproducts and biorefining*, 2025 ([Link](#))
3. M. Yaghoobi, **F. Asjadi**, "Selective Synthesis of Mesoporous Magnetic Iron Oxide Nanoparticles via Green Approach- Highly Efficient Adsorption of Malachite Green", *Transactions of the Indian Institute of Metals*, 2025. ([Link](#))
4. **F. Asjadi**, M. Yaghoobi, "Facile and scalable preparation of superhydrophobic brass mesh for efficient and rapid separation of oil and water", *Scientific Reports*, 2024 ([Link](#))
5. S.H. Mousavi, M. Yaghoobi, **F. Asjadi**, "Highly efficient adsorption of congo red and methyl orange dyes using mesoporous α -Mn₂O₃ nanoparticles synthesized with *Pyracantha angustifolia* fruit extract", *Scientific Reports*, 2024 ([Link](#))
6. P. Mohammadi, M. Yaghoobi, E. Keshavarz Bahaghighat, **F. Asjadi**, "Hydrothermally synthesized biofunctional ceria nanoparticles using orange peel extract: optimization, characterization, and antibacterial and antioxidant properties" *RSC Advances*, 2024 ([Link](#))
7. F. Heydari, **F. Asjadi**, F. Esmaeilian, "Combined Laser Patterning and Polypropylene Coating Procedure for Producing Superhydrophobic Magnesium Surfaces: Insights from Wetting Models", *Optics & Laser Technology*, 2024 ([Link](#))
8. S. Nasrollahikateb Elizee, **F. Asjadi**, S. A. Lajevardi, "Superhydrophobic modified electrodeposited copper surface for fog harvesting", *Surface Engineering*, 2023([Link](#))
9. M. Yaghoobi, **F. Asjadi**, M. Sanikhani, "A facile one-step green hydrothermal synthesis of paramagnetic Fe₃O₄ nanoparticles with highly efficient dye removal", *Journal of the Taiwan Institute of Chemical Engineers*, 2023 ([Link](#))
10. **F. Asjadi**, F. Esmaeilian, M. Mehri, A. Ghadimyari, "Static and Dynamic Wetting Behaviour of Copper Surfaces with a Nanostructured Roughness Fabricated by a Two-Stage Chemical Approach", *Journal of Nanomaterials*, 2023 ([Link](#))

11. A. Najafi, **F. Asjadi**, A.A. Safari, "Effect of sulfide and hydroxide on the removal of heavy metal ions from hydrometallurgical zinc effluent", *International Journal of Environmental Analytical Chemistry*, 2022 ([Link](#))
12. **F. Asjadi**, M. Yaghoobi, "Characterization and dye removal capacity of green hydrothermal synthesized ZnO nanoparticles", *Ceramics International*, 2022 ([Link](#))
13. **F. Asjadi**, A.H. Rahmani, F. Hadi, "Mechanism of strontium adsorption on nanostructured hydroxyapatite in an aqueous solution", *Journal of Advanced Materials and Technologies*, 2022 ([Link](#))
14. **F. Asjadi**, F. Esmaeilian, E. Salahi, "Triple-Phase Contact Line in Partial Wetting: Theories, Experimental Measurements, and Nanoscopic Approach", *Journal of Advanced Materials and Technologies*, 2022 ([Link](#))
15. M. Yaghoobi, **F. Asjadi**, "Review Article: Application of Hydroxyapatite in the Drug delivery", *Journal of Iranian Ceramic*, 2019 ([Link](#))
16. **F. Asjadi**, T. Geisler, I. Salahi, H. Euler, I. Mobasherpour, "Ti-Substituted Hydroxyapatite Precipitated in the Presence of Titanium Sulphate: A Novel Photocatalyst", *American Journal of Chemistry and Applications*, 2019
17. **F. Asjadi**, M. Yaghoobi, "Strontium-modified Hydroxyapatite: A review on Structure, Synthesize Method and Medical Applications", *Journal of Iranian Ceramic*, 2018 ([Link](#))
18. **F. Asjadi**, E. Salahi, I. Mobasherpour, "Removal of reactive red 141 dye from aqueous solution by titanium hydroxyapatite pellets", *Journal of Dispersion Science and Technology*, 2016 ([Link](#))
19. **F. Asjadi**, E. Salahi, I. Mobasherpour, "Titanium and fluoride co-substitution in hydroxyl apatite", *Advanced Ceramics Progress*, 2015 ([Link](#))
20. R. Nayerhoda, **F. Asjadi**, P. Seifi, M. Salimi, "Analysis of Structural and Magnetic Characteristics of Nickel Ferrite Nanoparticles Prepared by Hydrothermal Method", *Journal of Advanced Materials in Engineering (Esteghlal)*, 2015 ([Link](#))
21. E. Salahi, I. Mobasherpour, **F. Asjadi**, "Investigation of Kinetics and Thermodynamics of Fluoride Ions Removal from Aqueous Solutions by Nanostructured Hydroxyapatite", *Iranian Journal of Ceramic Science and Engineering*, 2014 ([Link](#))
22. S.K. Sadrnezhaad, **F. Asjadi**, "Production and Identification of VO₂ Nanorods Using Hydrothermal Synthesis Method", *Journal of Advanced Materials in Engineering (Esteghlal)*, 2012 ([Link](#))
23. S.K. Sadrnezhaad, **F. Asjadi**, "Kinetics of roasting of Vanadium pentoxide with Sodium Carbonate", *Journal of Faculty of Engineering (University of Tehran)*, 2009

Conference Presentations:

1. **F. Asjadi**, E. Bigdelivatan, "Layered double hydroxides: review on structures, synthesis methods, and applications", 5th National Conference on Novel Achievements in Materials Engineering, Chemical Engineering and Industrial Safety, Esfaryen, Iran, 2023
2. **F. Asjadi**, A. Jafari Kandovani, "One step preparation of superhydrophobic Magnesium surface", 11th International Conference on Materials and Metallurgical Engineering, Tehran, Iran, 2022
3. **F. Asjadi**, F. Kazemkhanlu, "Superhydrophobic Ceramic Membrane for Oil and Water Separation: Fundamentals, Surface Modification Methods and Applications", 4th National Conference on Applied Mechanical Engineering, Shahrekord, Iran, 2021
4. **F. Asjadi**, M. Shahavi, "Investigation of the Effect of Silver on Morphology and Composition of SnWO₄ Nanostructure Synthesized via Hydrothermal Method", 3rd National Conference of Materials Engineering, Malayer, Iran, 2019
5. **F. Asjadi**, "Investigation of Isotherms of the Adsorption of Strontium Ions in Aqueous Solution by Nanostructured Hydroxyapatite", 3rd National Conference of Materials Engineering, Malayer, Iran, 2019
6. E. Salahi, **F. Asjadi**, I. Mobasherpour, "Mechanism of adsorption of reactive red 141 on hydroxyapatite in the semi-continuous system", National Conference on Dyes, Environment and Sustainable Development, Tehran, Iran, 2018

7. S. Shojaei, **F. Asjadi**, V. Amiri, "Investigation of the Effect of Silver on Morphology and Composition of WO₃ Nanostructure Synthesize via Hydrothermal method", 2nd Iranian Catalyst Conference (ICC), Zanjan, Iran, 2018
8. **F. Asjadi**, E. Salahi, I. Mobasherpour, "Synthesize and characterization of Ti-substituted hydroxyapatite", 10th Biennial Congress of Iranian Ceramic Society, Karaj, Iran, 2015
9. R. Nayerhoda, **F. Asjadi**, P. Seifi Shirvande, M. Salimi, "Synthesize of magnetic NiFe₂O₄ nanospheres by PEG-assisted hydrothermal approach", International Conference on New and Advanced Materials (NAMIC), Isfahan, Iran, 2013
10. **F. Asjadi**, S.K. Sadrnezhad, "One Step Hydrothermal Synthesize of VO₂ Nanostructures", International Conference on Nanostructures, Kish, Iran, 2012

Professional and Academic Experience

- **Associate Professor**

University of Zanjan, Zanjan, Iran

 - Teaching Mechanical Metallurgy, Composite Materials, Kinetics of Reactions, and Physical Metallurgy Courses
 - Supervision of M.Sc. Students

July 2025 - Present
- **Assistant Professor**

University of Zanjan, Zanjan, Iran

 - Setting up the "Nanomaterials, Surface and Interfacial Science" Laboratory

Feb 2017 - July 2025
- **Visiting Ph.D. Researcher**

University of Bonn, Bonn, Germany

 - Research on hydroxyapatite-based photocatalytic materials as part of my Ph.D. project
 - Scientific collaboration with Prof. Thorsten Geisler

Jan 2014 - Sep 2014
- **Lecturer**

Azad Islamic University, Zanjan Branch, Zanjan, Iran

 - Teaching Physical Chemistry and Physical Metallurgy Courses

Feb 2010 - Aug 2013

Languages

Persian (*Native*), Turkish (*Native*), English (*Fluent*)

Awards and Honors

- **Research Mobility Fellowship**, Ministry of Science, Research and Technology (Iran), supporting a Ph.D. research stay at the University of Bonn, Germany.
- **5th Place**, 3rd National Nanotechnology Competition, Iran.
- **Certified Nanotechnology Instructor (Level A)**, Iran National Nanotechnology Initiative.
- **2nd Rank**, M.Sc. Program in Extractive Metallurgy, Sharif University of Technology.
- **National Rank 9** in the Iranian M.Sc. Entrance Examination (Nanotechnology).
- **National Rank 24** in the Iranian M.Sc. Entrance Examination (Materials Engineering).

Graduate Student Supervision

Completed supervision of 7 M.Sc. theses:

1. E. Moradkhani, "Preparation of superhydrophobic ceramic surface by combining physical method and deposition of silica nanoparticles" Unpublished M.Sc. thesis, University of Zanjan (2026), 102 pp.
2. E. Bigdeluyvatan, "Preparation of aluminum–zinc layered double hydroxides and evaluation of their efficiency for dye removal". Unpublished M.Sc. thesis, University of Zanjan (2025), 94 pp.
3. E. Dabir, "Investigation of the structure of anodized magnesium surface after hydrothermal treatment". Unpublished M.Sc. thesis, University of Zanjan (2025), 83 pp.
4. E. Fattahi, "Assessment of the mass attenuation coefficient of metal-substituted nanohydroxyapatite using gamma rays". Unpublished M.Sc. thesis, University of Isfahan, Co-supervisor (2020), 94 pp.
5. F. Heidari, "Fabrication of Super Hydrophobic Magnesium Surfaces via Laser Structuring and Modification of the Surface". Unpublished M.Sc. thesis, University of Zanjan (2023), 103 pp.
6. A. Najafi, "Removal of heavy metals from industrial wastewater of zinc ingot factories". Unpublished M.Sc. thesis, University of Zanjan (2023), 122 pp.
7. S. Nasrollahi, "Preparation of superhydrophobic copper surfaces by electrodeposition and surface modification". Unpublished M.Sc. thesis, University of Zanjan (2023), 94 pp.