

Vida Fathollahzadeh

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• EDUCATIONS

09/2020 – 09/2023 Tehran, Iran

M.Sc. MATERIAL SCIENCE AND ENGINEERING Khajeh Nasir Toosi University of Technology
Final grade GPA: 3.7/4

Thesis “Fabrication of piezoelectric coating with controlled porosity of PVDF-BTO nanocomposite on titanium (cpTi) substrate via 3D printing method and characterization”
Supervisor: Dr. Mehdi Khodaei
• GPA of thesis: 20/20 (4/4)

09/2016 – 09/2020 Tabriz, Iran

B.Sc. MATERIAL SCIENCE AND ENGINEERING Tabriz University of Technology
Final grade GPA: 3.1/4 (last two years: 3.43/4)

Thesis “Optimizing of shape memory alloys composites (Cu-Al-Ni and Cu- Ni)”
Supervisor: Dr. Mazyar Azadbeh
• GPA of thesis: 20/20 (4/4)

• RESEARCH INTRESTS

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|---------------------------|--------------------------|-------------------|
| • Tissue Engineering (TE) | • Biomedical Engineering | • Implant |
| • Bone Scaffolds | • Drug Delivery | • Electrospinning |
| • Bioengineering | • Smart materials | • Bio 3D Printing |

• PUBLICATIONS

2024
Enhanced piezoelectric response of PVDF by incorporating BaTiO₃ nanoparticles and surface treatment. Journal of Materials Science: Materials in Electronics, 35(2), 107.
Fathollahzadeh, V., & Khodaei, M.

2025
Plasma activated PVDF-BaTiO₃ composite nanofiber scaffolds loaded with vancomycin for enhancing biocompatibility and piezoelectric response: Scientific Reports, 15(1), 28515.
Fathollahzadeh, V., & Khodaei, M.

2025
Hot-solvent based extrusion (HSBE) 3D printing of piezoelectric PVDF/ BaTiO₃ scaffold on Ti substrates for biomedical applications (Under revision, Applied Surface Science Advances)
Fathollahzadeh, V., & Khodaei, M.

2025
3D Printing of Piezoelectric PVDF-based Nanocomposites for Biomedical Applications; Review (Submitted, Results in engineering journal)
Fathollahzadeh, V., & Khodaei, M.

2024
PVDF-BaTiO₃ Nanocomposite Scaffolds for Biomaterials Applications; Synthesis and Characterization. 4th International Symposium on Characterization ISC, Turkey, Sakarya
Fathollahzadeh, V., & Khodaei, M.

2023
Effect of BaTiO₃ nanoparticles contents on the piezoelectric response of PVDF-BaTiO₃ nanocomposite. Journal of Ultrafine Grained and Nanostructured Materials, 56(2), 157-164.2024
Fathollahzadeh, V., & Khodaei, M.

2021

Hydrogels for Therapeutic Applications: Recent Advances, Third International Conference on Chemistry and Chemical Engineering

Zahrabi, M., & Fathollahzadeh, V.

- **Patent**

2025

Title: 3D Printed Nanocomposite Piezoelectric Polymer Layers by Thermal Robocasting with the Addition of Nanofiber Intermediate Layer on the Surface of Implants

Inventors: Fathollahzadeh, V., & Khodaei, M.

Patent Application No. 14045014000300636 – Iranian Intellectual Property Office

Filed: 2025 | **Status:** published

Description: A multifunctional 3DP scaffold combining piezoelectricity properties and anodized Titanium implants.

- **WORK EXPERIENCE**

2024 – 2025 Iran

Founder & Instructor Mavadyar institute

- ❖ Biomaterials and implant design and selection
- ❖ Cell Culturing
- ❖ Tissue Engineering

10/2022 – 2024 Iran

TEACHING ASSISTANCE (M.SC.) Khajeh Nasir Toosi University of Technology

- ❖ Title: Ceramics (for several terms)

Instructor: Dr. Mehdi. Khodaei

- ❖ Title: Modern Methods in Materials Analysis (for several terms)

Instructor: Dr. Mehdi. Khodaei

01/2021 – 09/2023 Iran

RESEARCH ASSISTANT (M.SC.) Khajeh Nasir Toosi University of Technology

- ❖ 3D Printing Extrusion
- ❖ CAD/CAM designer

08/2019 – 03/2020 Iran

RESEARCH ASSISTANT (B.SC.) Sahand University of Technology

- ❖ Electrochemical and microstructural evolution of Cu–Al–Ni shape memory alloy.
- ❖ Electrochemical and microstructural evolution of Cu–Ni alloy.
- ❖ Studies on the solution heat treatment, forming, and in-die quenching process in producing lightweight alloy components.

06/2019 – 09/2019 Iran

SUMMER INTERNSHIP Mashin Sazi Factory of Tabriz

- ❖ Designer (CAD) Engineer of production

- **SKILLS**

Software	CATIA (CAD) High Score Plus Mimics and 3-Matic Image J (FIJI) Microsoft Office package: Microsoft Word, PowerPoint, Access
Technical	Cell Biology, Cell Culture In Vitro assay Laboratory equipment
Languages	Azerbaijani (Native) Persian (Native) English (Professional Working Proficiency – IELTS 7.0, currently expiring; new test booked for 19 December 2025)

- **CERFITICATIONS**

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- ❖ “HIGH SCORE PLUS” At Tehran Institute of Technology (MFT)
 - ❖ “WORKSHOP ON CULTIVATION AND EXTRACTION OF CELLS STEAM FROM MOUSE FAT TISSUE” Held by The Steam Cells and Tissue Engineering Associations of Kharazmi University.
 - ❖ “MIMICKS AND 3-MATIC” At Iran Technical and Vocational Training Organization (I.R.T.V.T.O)
 - ❖ “IMAGE J (FIJI)” At Pars Pazhuhan Institute.
 - ❖ “CATIA” At Tehran Institute of Technology (MFT)
 - ❖ “3D PRINTING WORKSHOP” At Abtin Institute and Sharif University.

• HONOURS AND AWARDS

- ❖ Ranked 5th among 50 students of the class of 2022 – Khajeh Nasir Toosi University.
- ❖ Ranked 12th among 100 undergraduate students of the class of 2020 – Sahand University.
- ❖ The Top 5% Of Iranian University Entrance Exam 2020.

• SELECTED COURSE

- ❖ Biomaterial (GPA: 18.25/20 or 4/4), Top marks
- ❖ Powder Of Metallurgy (GPA: 20/20 or 4/4), Top marks
- ❖ Advanced Solidification Process (GPA: 18/5/20 or 4/4), Top marks
- ❖ Advanced Surface engineering (GPA:18.5/20 or 4/4)
- ❖ Materials State Transformation (GPA: 18/20 or 4/4)

• REFERENCES

Dr. Mehdi Khodaei Assistant Professor

Faculty of Material Science and Engineering, K.N. Toosi University of Technology, Tehran, Iran

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Dr. Kamal Hajisharifi Assistant Professor

Faculty of physic Science, , Kharazmi University of Tehran, Iran

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Dr. Mohammad Hossein Siadati Full Professor

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Dr. Erfan Salahinejad Professor

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Dr. Mazyar Azadbeh Full Professor

Faculty of Material Science and Engineering, Sahand University of Technology, Tabriz, Iran

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Dr. Reza Tavangar Assistant Professor

Faculty of Material Science and Engineering, Sahand University of Technology, Tabriz, Iran

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