CURRICULUM VITAE

Faezeh Esmaeili Ranjbar

PhD in Tissue Engineering| Assistant Professor of Tissue Engineering
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REASEARCH AREAS: Regenerative Medicine| Biomaterials| Bone Tissue Engineering| Bioactive Glasses| Nanobiomaterials |Mechanobiology | Exosome-Based Regeneration| Drug Delivery

1. PROFESSIONAL SUMMARY

Assistant Professor of Tissue Engineering with expertise in biomaterials, regenerative medicine, and bone tissue engineering. Experienced in the design, fabrication, and characterization of bioactive scaffolds, electrospun nanofibers, and 3D-printed biomaterials. Author of 14+ peer-reviewed publications in international journals, with research focused on bioactive glasses, exosome-based therapies, stem cell applications, and translational strategies for bone regeneration. Skilled in in vitro and in vivo studies, biomaterial characterization, and interdisciplinary research collaboration**.**

2. RESEARCH INTEREST

Tissue Engineering | Regenerative Medicine | Biomaterials | Bone Regeneration | Bioactive Glasses | Stem Cell Engineering | Exosome-Based Therapies | 3D Bioprinting | Biofabrication | Nanofibrous Scaffolds | Smart Biomaterials

3. EDUCATION

Ph.D., Tissue Engineering
Tehran University of Medical Sciences (TUMS), Tehran, Iran | 2021
Dissertation: Development and characterization of bioactive glass-based scaffolds for bone tissue regeneration.
M.Sc., Cellular and Molecular Biology
Islamic Azad University, Tehran, Iran | 2011
B.Sc., Genetics
University of Isfahan, Isfahan, Iran | 2005

4. ACADEMIC APPOINTMENTS

2021–Present
Assistant Professor of Tissue Engineering| Molecular Medicine Research Center| Rafsanjan University of Medical Sciences, Iran

5. TECHNICAL SKILLS

Biomaterials & Tissue Engineering

Bioactive Glass and Bioceramic Synthesis| Scaffold Fabrication and Surface Modification| Electrospinning| Hydrogel Fabrication| 3D Printing and Biofabrication| Drug/Exosome-Loaded Biomaterials

Cell and Molecular Biology

Stem Cell Isolation and Culture| 2D and 3D Cell Culture| Cytotoxicity Assays (MTT, LDH) | PCR and RT-PCR| Electrophoresis| Osteogenic Differentiation Assays

Material Characterization

Scanning Electron Microscopy (SEM)| X-ray Diffraction (XRD)| Fourier Transform Infrared Spectroscopy (FTIR)| Differential Scanning Calorimetry (DSC)| UV–Visible Spectroscopy|• Mechanical Testing| Micro-CT Analysis| Rheological analysis

Animal Studies

Small Animal Handling| In Vivo Bone Regeneration Models| Biomaterial Implantation Studies

Data Analysis & Software

GraphPad Prism| OriginPro Statistical Data Analysis| Scientific Writing and Data Presentation| ImageJ-based Quantitative Image Analysis

6. RESEARCH FUNDING & PROJECTS

PI, Gelatin/Hydroxycarbonate Apatite-CGF Scaffolds for Bone Tissue Engineering, Rafsanjan University of Medical Sciences, 2025.

PI, Alginate-Based Hybrid Scaffolds Incorporating Hydroxyapatite, 58S Bioactive Glass, and Hardystonite for Bone Regeneration, Rafsanjan University of Medical Sciences, 2023.

PI, 3D-Printed and Electrospun Composite Scaffolds for Bone Tissue Engineering, Rafsanjan University of Medical Sciences, 2022.

PI, Atmospheric Cold Plasma Surface Modification of PCL/Zein Nanofibers for Tissue Engineering, Rafsanjan University of Medical Sciences, 2021.

Investigator, Chitosan/Alginate Composite Scaffolds Reinforced with Montmorillonite for Bone Tissue Engineering, Rafsanjan University of Medical Sciences, 2022.

Co-Investigator, Zein/58S Bioactive Glass Nanofibrous Scaffolds for Bone Tissue Engineering, Rafsanjan University of Medical Sciences, 2021.

7. SCHOLARLY OUTPUT

14+ Peer-Reviewed Publications
h-index: 13
Citations: 511
Reviewer for International Peer-Reviewed Journals
Google Scholar Profile: scholar.google.com/Faezeh Esmaeili Ranjbar

8. SELECTED PUBLICATIONS

- Faezeh Esmaeili Ranjbar, Farzad Foroutan, Mahdieh Hajian et al. (2020)

Preparation and characterization of 58S bioactive glass-based scaffold with Kaempferol-containing Zein coating for bone tissue engineering
Journal of Biomedical Materials Research Part B: Applied Biomaterials, 109(9), 1259-1270
Role: First Author

Contribution: Scaffold fabrication, molecular and in vivo experiments, cell differentiation, data analysis, and manuscript writing.

- Esmaeili Ranjbar, F., Farzad-Mohajeri, S., Samani, S., Saremi, J., & Khademi, R. (2023).

Kaempferol-Loaded Bioactive Glass-Based Scaffold for Bone Tissue Engineering: In Vitro and In Vivo Evaluation.
Scientific Reports, 13, 13271.
Role: First Author
Contribution: Scaffold fabrication, molecular and in vivo experiments, cell differentiation, data analysis, and manuscript writing.

- Esmaeili Ranjbar, F., Mohandesnezhad, S., Mirzaei-Parsa, M. J., et al. (2024).

Exploring the Zein/58S Bioactive Glass Nanocomposite for Enhanced Bone Tissue Engineering.
Journal of Polymers and the Environment.
Role: First Author
Contribution: Scaffold fabrication, mechanical, chemical and biological characterization, data analysis, manuscript preparation, and project supervision.

- Esmaeili Ranjbar, A., Asadi, F., Mohandesnezhad, S., et al. (2025).

Surface Modification of Electrospun Polycaprolactone and Zein Using Cold Atmospheric Plasma for Tissue Engineering Applications.
Scientific Reports.
Role: Senior Author / Research Supervisor
Contribution: Scaffold fabrication, characterization, data analysis, manuscript preparation, and project supervision.

- Mohandesnezhad, S., Esmaeili Ranjbar, A., et al. (2025).

3D-Printed Alginate-Based Composite Scaffolds Incorporating 58S, Hydroxyapatite and Hardystonite for Bone Regeneration.
International Journal of Biological Macromolecules.
Role: Senior Author / Research Supervisor
Contribution: Scaffold fabrication, mechanical, chemical and biological characterization, data analysis, manuscript preparation, and project supervision.

9. TEACHING & TRAINING EXPERIENCE

Assistant Professor |Rafsanjan University of Medical Sciences, Rafsanjan, Iran| 2021 – Present
Teaching Cell Biology to undergraduate students.
Conducting practical training in Flow Cytometry techniques.
Organizing and delivering workshops on Cell Culture Techniques.
Delivering workshops on Research Proposal Writing.
Providing training on Reference Management and Scientific Writing.
Lecturer| Islamic Azad University, Kerman Branch, Kerman, Iran| 2012 – 2015
Taught undergraduate courses in Microbiology and related biological sciences.
Assisted students in laboratory-based learning and practical training.

10. AWARDS & HONORS

Second Place in the National Ph.D. Entrance Examination in Tissue Engineering, Iran (2015).

11. REFERENCES

- Dr. Mahmoud Azami (Ph.D Supervisor)

Email: m-azami@tums.ac.ir
Affiliation: Department tissue engineering, School of Advanced Technologies in Medicine, Tehran University of Medical Sciences, Tehran, Iran

- Dr. Jafar Ai (Ph.D Supervisor)

Email: jafarai77@gmail.com
Affiliation: Department tissue engineering, School of Advanced Technologies in Medicine, Tehran University of Medical Sciences, Tehran, Iran