

CURRICULUM VITAE

Professor Nooshin Haghighipour

Tissue Engineering Laboratory
National Cell Bank of Iran, Pasteur Institute of Iran,
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Education

- 2008: PhD,
Amirkabir University of Technology (Tehran Polytechnic),
Biomedical Engineering, Biomechanics
Title of thesis: Biomechanical Analysis of Dynamic Loading on the Behavior of Vascular Endothelial Cells
- 2001: MS,
Amirkabir University of Technology (Tehran Polytechnic),
Biomedical Engineering, Biomechanics
Title of thesis: Effects of Circumferential Residual Stress on the Non-Linear Tensile Stress Profile across the Arterial Wall with Finite Element Method
- 1999: BS,
Iran University of Science and Technology
Mechanical Engineering, Solid Mechanics

Scientific Employment and Academic Responsibilities

Years	Title
2025-present	Head of the National Cell Bank of Iran
2021-present	Professor Tissue Engineering Laboratory National Cell Bank of Iran, Pasteur Institute of Iran.
2018-2025	Head of the Central Library of Pasteur Institute of Iran
2018-2024	Head of Internship at Pasteur Institute of Iran
2017-2024	Responsible for the Communication Between the Ministry and the Pasteur Institute of Iran in Recruiting PhD Research Students
2016- 2021	Associate Professor Tissue Engineering Laboratory and Routine Cell Culture Laboratory National Cell Bank of Iran, Pasteur Institute of Iran.

2011- 2016	Assistant Professor Tissue Engineering Laboratory and Routine Cell Culture Laboratory National Cell Bank of Iran, Pasteur Institute of Iran.
2009-2010:	Post-doctoral Fellowship
2009-present	Teaching: Cell Banking, Stem Cell Engineering, Biomechanics Pasteur Institute of Iran: Cell Culture Systems. Amirkabir University of Technology (Tehran Polytechnic): Cell Culture Systems. Sharif University of Technology Iran University of Science and Technology University of Tehran Iran University of Medical Sciences Islamic Azad University
2005-present	Collaborator of projects, Tissue Engineering Laboratory, National Cell Bank of Iran, Pasteur Institute of Iran.
2004-2005	Consultant of Medical Engineering Projects Industrial Development and Renovation Organization of Iran
2001-2005	Teaching Assistant Amirkabir University of Technology (Tehran Polytechnic), Department of Biomedical Engineering, Division of Biomechanics Courses: Dynamics, Principles of Rehabilitation, Solid Mechanics, English for Biomedical Engineers
1998-1999	Manager of Quality Control Unit Shayan-Sanat Company

Research Interests and Experiences

- Biomedical Engineering
 - Stem Cell Engineering
 - Cell Mechanics
 - Tissue Engineering
 - Regenerative medicine
- Cell Culture (Cell bank of Pasteur Inst. of Iran)

Current and Completed Research Projects (director and collaborator)

	Years	Title
1.	2025-present	Fabrication and characterization of PLA-TPU-nHA-based bone scaffold to increase strength and adaptability to irregular bone defects (shape memory property) using 3D printing and under mechanical stimulation Tissue Engineering Laboratory - Pasteur Inst. of Iran School of Mechanical Engineering-University of Tehran
2.	2023-	Evaluation of the effect of electromagnetic field on the osteogenic

	present	behavior of mesenchymal stem cells on nanocomposite 3-D printed scaffold Chitosan-polyhydroxybutyrate /magnetic mesoporous bioactive glass for use in bone tissue engineering Tissue Engineering Laboratory - Pasteur Inst. of Iran School of Advanced Technologies in Medicine-Isfahan University of Medical Science
3.	2022-2024	Preparation and characterization of PAN/PANI/CNT as electrically conductive scaffolds and evaluation of the electrical stimulation effect on neuronal differentiation of rat mesenchymal stem cells cultured on scaffold Tissue Engineering Laboratory - Pasteur Inst. of Iran
4.	2021-2023	Osteochondral tissue engineering by design and fabrication of gradient scaffold and dedicated dynamic cell culture bioreactor Tissue Engineering Laboratory - Pasteur Inst. of Iran Cellular and Molecular Research Center - Yasuj University of Medical Science
5.	2021-2023	The effect of mechanical loading on the amount of secretion of Transforming Growth Factor $\beta 1$ from HCT-116 cells using microfluidic system Tissue Engineering Laboratory - Pasteur Inst. of Iran Cellular and Molecular Research Center - Yasuj University of Medical Science
6.	2020-2023	Tissue engineering of arterial vessel by acellular vessel and 3D printing Tissue Engineering Laboratory - Pasteur Inst. of Iran National Institute for Medical Research Development (NIMAD)
7.	2020-2022	HIV-1 antigen candidate delivery into dendritic cells using microfluidic system and its comparison with chemical system Department of Hepatitis and HIV and Tissue Engineering Laboratory Pasteur Inst. of Iran
8.	2018-2019	The effect of hemodynamic forces on differentiation of mesenchymal stem cells into endothelial cells in blood pressure wave bioreactor Tissue Engineering Laboratory - Pasteur Inst. of Iran
9.	2017-2019	Efficiency of a cell penetrating peptide derived from histone demethylase for delivery of the therapeutic HPV16 E7 protein into A549 cancer cell line Department of Hepatitis and HIV and Tissue Engineering Laboratory - Shahid Beheshti University of Medical Science
10.	2017-2019	Evaluation of the therapeutic HPV16 E7 protein delivery by TurboFect transfection reagent into the mouse and human lung cancer cells in vitro Department of Hepatitis and HIV and Tissue Engineering Laboratory - Shahid Beheshti University of Medical Science
11.	2017-2019	Preparation of mesenchymal and dendritic stem cells expressing the MPER-V3 protein of HIV-1 virus in order to evaluate and compare their immunogenicity in the mouse model Pasteur Inst. of Iran National Institute for Medical Research Development (NIMAD)

12.	2016-2017	Effect of PCL/collagen nanofiber with graphene layers scaffold on adipose stem cell differentiation into neural cell under magnetic field Tissue Engineering Laboratory - Pasteur Inst. of Iran Iran National Science Foundation (INSF)
13.	2016-2018	Comparison of mechanical and chemical HIV-1 Nef gene transfection in mesenchymal stem cells and evaluation of the transfected cells' immunity in BALB/c mice model Department of Hepatitis and HIV and Tissue Engineering Laboratory - Pasteur Inst. of Iran
14.	2016-2017	The effect of compression loading on osteogenic differentiation of mesenchymal stem cells cultured in 3D scaffold on silk/alumina and bone healing in rat Tissue Engineering Laboratory - Pasteur Inst. of Iran Council for Stem Cell Sciences and Technologies
15.	2015-2017	Effect of mechanical environment on the fate of mesenchymal stem cells for osteochondral tissue in silk fibroin- fibroin nano fibers multilayered nano-composite scaffolds Tissue Engineering Laboratory - Pasteur Inst. of Iran Faculty of New Sciences & Technologies - Tehran University
16.	2014-2016	Evaluation of differentiation of mesenchymal stem cells into chondrocytes and tenocytes by engineering of cell morphology Stem Cell Laboratory - Pasteur Inst. of Iran
17.	2014-2016	Evaluation of effects of fibronectin on physiochemical and biocompatibility properties of carbon single wall nanotube Stem Cell Laboratory - Pasteur Inst. of Iran
18.	2013-2015	Evaluation of proliferation and differentiation of stem cells cultured in 3 dimensional modified alginate and a specialized cartilage tissue engineering bioreactor Tissue Engineering Laboratory - Pasteur Inst. of Iran
19.	2012-2014	Design and manufacture of bioreactor of human blood pressure wave in order to differentiate mesenchymal stem cells into arterial endothelial cells Tissue Engineering Laboratory - Pasteur Inst. of Iran Council for Stem Cell Sciences and Technologies
20.	2012-2013	Differentiation of mesenchymal stem cells into osteoblast by means of mechanical loadings, growth factors and electromagnetic fields and repair of bone damage in Rat Tissue Engineering Laboratory - Pasteur Inst. of Iran Iran National Science Foundation (INSF)
21.	2011-2013	Effect of cyclic hydrostatic pressure on proliferation and chondrogenic differentiation of mesenchymal stem cells, and regeneration of cartilage tissue in rabbit Tissue Engineering Laboratory, Cell bank of Pasteur Inst. of Iran Council for Stem Cell Sciences and Technologies
22.	2011-2012	Effect of mechanical stimulation on markers expression in dental pulp stem cells

		Tissue Engineering Laboratory, Cell bank of Pasteur Inst. of Iran Shahid Beheshti Medical University, School of dentistry
23.	2011-2012	Effect of mechanical stimulation on markers expression in human mesenchymal stem cells Tissue Engineering Laboratory, Cell bank of Pasteur Inst. of Iran Shahid Beheshti Medical University, School of dentistry
24.	2010-2012	Comparison of chemical induction and applying cyclic hydrostatic pressure on proliferation and differentiation of human mesenchymal stem cells into chondrocytes Tissue Engineering Laboratory - Pasteur Inst. of Iran
25.	2009-2012	Evaluation of Rabbit Myocardial Repair With Transplantation Cardiomyocytes Differentiated From Mesenchymal And Animal Adipose-Derived Stem Cells By Mechanical Loading Tissue Engineering Laboratory - Pasteur Inst. of Iran Council for Stem Cell Sciences and Technologies
26.	2009-2011	The Generation of Living Skin Containing Biocompatible Scaffold and Stem Cells and It Evaluation in Regeneration of Experimental Animal Burn Tissue Engineering Laboratory - Pasteur Inst. of Iran
27.	2009-2010	Tissue Engineering of Tendon by Nanofabricated Scaffold Mesenchymal Cells Tissue Engineering Laboratory - Pasteur Inst. of Iran
28.	2008-2009	Design and Manufacturing of a Tensile Cyclic Device for Soft Tissues and Cultured Cells Iran National Science Foundation (INSF) Biomedical Engineering Department -Amirkabir University of Technology
29.	2006-2008	Biomechanical Analysis of Arterial Endothelial Cells Reflection to Cyclic Loading Tissue Engineering Laboratory - Pasteur Inst. of Iran Biomedical Engineering Department -Amirkabir University of Technology

Patents, Honor and Awards

2021	Top researcher rank for publishing articles with IF=13 (Pasteur Institute of Iran)
2015	Bioreactor of Blood Pressure Wave (Patented in Iran)
2015	Bioreactor of Compressive Pressure and Fluid Flow in Cell Box (Patented in Iran)
2015	Member of Health Biotechnology Convention
2013	Vertical Vibration Device of Cultured Cells (Patented in Iran)
2012	Shear Stress-Cyclic Stretch Device of Cultured Cells (Patented in Iran)
2011	Cyclic Hydrostatic Pressure Device of Cultured Cells (Patented in Iran)
2011	Cyclic Multiaxial Stretch Device of Cultured Cells (Patented in Iran)

2011	Member of Iranian Biomedical Engineering Society
2007	Fatigue Tensile Device of Soft Tissues and Cultured Cells (Patented in Iran)
2001	First rank among MS students in Medical Engineering Medical Engineering Department -Amirkabir University of Technology

Thesis supervisor/advisor

	Date	Title
1.	2025-present	Ph.D. Fabrication and Characterization of a Bone Scaffold Based on PLA-TPU nHA Using Four-Dimensional Printing Under Mechanical stimulation School of Mechanical Engineering University of Tehran
2.	2023-present	Ph.D. Evaluation of the effect of electromagnetic field on the osteogenic behavior of mesenchymal stem cells on nanocomposite 3-D printed scaffold Chitosan-polyhydroxybutyrate /magnetic mesoporous bioactive glass for use in bone tissue engineering School of Advanced Technologies in Medicine Isfahan University of Medical Science
3.	2022-present	Ph.D. Design and manufacture of a patterned substrate containing piezoelectric behavior with the ability to differentiate stem cells into osteoblast cells based on PVDF/BaTio3/PDMS Polymer & Color Engineering Department Amirkabir University of Technology
4.	2022-present	Ph.D. Preparation and evaluation of 3D scaffolding properties used in adipose tissue engineering based on polyglycero-azelaic acid/polylactic acid and poly 1,8 octane DL citrate/ polylactic acid Islamic Azad University
5.	2021- 2023	Ph.D. Producing and Examining Properties of the Biological and PCL Scaffolds with Application in Vessel Tissue Engineering Faculty of New Sciences & Technologies University of Tehran
6.	2017- 2022	Ph.D. The effect of human term placenta extracellular matrix on breast cancer cell lines (MDA-MB231,MCF-7) phenotype Faculty of Advanced Technologies in Medicine IRAN University of Medical Sciences
7.	2017- 2022	Ph.D. A New Method for Making Scaffold and Cell Culture of Two

		Layers Skin School of Mechanical Engineering University of Tehran
8.	2017- 2022	Ph.D. Comparative study of protease performance of isolated microorganisms from industrial effluents Karaj Branch Islamic Azad University
9.	2017- 2020	Ph.D. Evaluation of proliferation and differentiation of stem cells cultured in 3 dimensional modified alginate and a specialized cartilage tissue engineering bioreactor Faculty of New Sciences & Technologies Semnan University
10.	2017- 2019	Ph.D. Effect of Mechanical Loading on HIV-1 Nef Gene Transfection in Dendritic Cells and Evaluation of the Transfected Cells' Immunity in BALB/c Mice Model School of Mechanical Engineering University of Tehran
11.	2016- 2019	Ph.D. Role of Imprinted Substrate Modification in the Nano Scale and Electromagnetic Stimulation on the Chondrogenic Differentiation of Mesenchymal Stem Cells Faculty of New Sciences & Technologies University of Tehran
12.	2015- 2019	Ph.D. Effect of mechanical environment on the fate of mesenchymal stem cells for osteochondral tissue in silk fibroin- fibroin nano fibers multilayered nano-composite scaffolds to repair the damages caused by the infection of the bone and cartilage Faculty of New Sciences & Technologies University of Tehran
13.	2014-2018	Ph.D. Tissue Engineering of Blood Vessel by Polyurethane Nanofibrous Scaffold School of Advanced Technologies in Medicine University of Tehran
14.	2011-2013	Ph.D. Functional Differentiation of Mesenchymal Stem Cell to Endothelial Cell by Concurrent Tensile and Shear Loadings Medical Engineering Department, Biomechanics Amirkabir University of Technology
15.	2009-2011	Ph.D. The Role of Biomechanical Stimuli in Myogenic Induction of Marrow Stromal Cells, Adipose-Driven Stem Cells and Satellite

		Cells of Adult Rat Shahid Beheshti Medical University
16.	2024- 2025	M.S. Investigating the biological behavior of PCL composite scaffolds containing a nano-ceramic and Fe_3O_4 magnetic nanoparticles under the influence of an alternating magnetic field Mechanical Engineering Department Tarbiat Modares University
17.	2021-2022	M.S. Fabrication of nanostructured scaffold with piezoelectric behavior comprising of PCL/PVDF:beta nanofibers with core-shell structure using electrospinning method: study of stem cells differentiation to osteoblast cells Polymer & Color Engineering Department Amirkabir University of Technology
18.	2021-2022	An investigating of cellular mechanics behavior of a biocompatible scaffold used in medical applications School of Metallurgy and Materials Engineering University of Tehran
19.	2020- 2022	M.S. Evaluation of mechanical forces effects on smooth muscle cell seeding of decellularized vascular tissue Faculty of New Sciences & Technologies University of Tehran
20.	2020- 2022	M.S. Evaluation of the effect of electric current on reducing the growth process of vascular smooth muscle cells on decellular scaffolds Faculty of New Sciences & Technologies University of Tehran
21.	2019-2021	M.S. Experimental Evaluation of Neuronal Neurons by Atomic Force Microscope University of Tehran Alborz Campus
22.	2019-2022	M.S. Preparation of electroactive scaffold with potential for bone tissue engineering, based on polyamide 6 / TPU / BaTiO ₃ / Nano Cellulose Polymer & Color Engineering Department Amirkabir University of Technology
23.	2018- 2020	M.S. The effect of compression loading on osteogenic differentiation of mesenchymal stem cells cultured in 3D scaffold on silk/silica/alumin bone healing in rat Science and Research Branch

		Islamic Azad University
24.	2017-2018	M.S. Isolation and molecular identification of potent actinomists in the production of protease from effluent from factories Karaj Branch Islamic Azad University
25.	2017-2018	M.S. Isolation and identification of pectinase producing microorganisms for industrial use Karaj Branch Islamic Azad University
26.	2016-2017	M.S. Investigation of Toxicity Effect of Synthesized Chromen Derivative on K562 Cell Line (Chronic Myeloid Leukaemia) Biochemistry-Faculty of Chemistry Kashan University
27.	2016-2018	M.S. Parametric study of the preperation of a uniform fibroblast – alginate cell paste as bioprinter ink Medical Engineering Department, Tissue Engineering Amirkabir University of Technology
28.	2016-2017	M.S. Determination of the role of mechanical stimulus of hydrostatic pressure on mechanical properties of stem cells Central Tehran Branch, Biomechanic Islamic Azad University
29.	2016-2017	M.S. The Study of Chondrocyte Behaviors on the Drug Loaded Scaffold Under Hydrostatic Pressure Medical Engineering Department, Tissue Engineering Amirkabir University of Technology
30.	2015- 2016	M.S. Effect of Equiaxial Cyclic Strain on Cardiomyogenic Differentiation of Rabbit adipose derived Mesenchymal Stem cells Medical Engineering Department, Biomechanics Amirkabir University of Technology
31.	2015- 2017	M.S. Transfecting BMP2 Gene into Human Adipose-Derived Stem Cell and Monitoring its Differentiation and Osteogenic Behavior on 3D Silk/Alumina Scaffold School of Advanced Technologies in Medicine University of Tehran
32.	2015- 2016	M.S. Investigation of Morphological Changes of Mesenchymal Stem Cells During Myogenic Differentiation Under Uniaxial Cyclic Tensile Stress Using Computational Methods.

		Faculty of New Sciences & Technologies University of Tehran
33.	2015- 2016	M.S. The Role of Electrical Conductivity upon Neural Cells Behavior and Differentiation in Nanocomposites Based on TPU/CNT Polymer & Color Engineering Department Amirkabir University of Technology
34.	2014-2015	M.S. Experimental Study of Proliferation of Stem Cells on a Scaffold in the Perfusion Bioreactor Chemical & Petroleum Engineering Department Sharif University of Technology
35.	2014-2015	M.S. Effect of Cyclic Uniaxial Stress and Morphology of Membrane on Differentiation of Stem Cells into Tenocytes Medical Engineering Department, Biomaterials Iran University of Science and Technology
36.	2014-2015	M.S. Fabrication of Composite Nanoscaffold of Collagen/Polycaprolactone Nanofiber with Graphene Sheet in Order to Investigate the Differentiation of Adipose Stem Cell into Neural Cells on the Electromagnetic Field Medical Engineering Department, Tissue Engineering Amirkabir University of Technology
37.	2014-2015	M.S. Evaluation of the Effects of Mechanical Parameters on Morphology and Cytoskeleton Structure of Mesenchymal Stem Cells in Differentiation Process with Experimental Method Medical Engineering Department, Biomechanics Amirkabir University of Technology
38.	2013-2014	M.S. Design and Fabrication of a Microbioreactor to Study the Effects of Mechanical Simulations on the Cell Fate Medical Engineering Department, Tissue Engineering Amirkabir University of Technology
39.	2013-2014	M.S. Evaluation of Continuous Differentiation of Mesenchymal Stem Cells into Endothelial Cells Under the Chemical Stimulation and Flow Stress in Perfusion Bioreactor Faculty of New Sciences & Technologies University of Tehran
40.	2013-2014	M.S. Study of the Effect of Purification in Mesenchymal Stem Cells Derived From Human Adipose Tissue Over Their Differentiation into Endothelial Cells Under the Chemical Factors and Shear Stress in Perfusion Bioreactor

		Faculty of New Sciences & Technologies University of Tehran
41.	2012-2014	M.S. Experimental and Finite Element Analysis of Specific Cells Under Mechanical Load Using Confocal Microscopy Imaging Faculty of New Sciences & Technologies University of Tehran
42.	2013-2014	M.S. Experimental and CFD study of specific cells in fluid flow: study of the effect of fluid flow parameters on cell response Faculty of New Sciences & Technologies University of Tehran
43.	2012-2013	M.S. The Role of Modulus and Viscoelastic Behavior of PP/EPDM/Nano Hydroxyapatite Nanocomposites Thermoplastic Elastomer in Cell Compatibility and Osteoblast Differentiation Polymer & Color Engineering Department Amirkabir University of Technology
44.	2012-2013	M.S. Modeling and Optimizing of Flow Shear Stress on the Cultured Cells in a Hollow Fiber Bioreactor Chemical Engineering Department University of Tehran
45.	2012-2013	M.S. Modeling of Fluid Hydrodynamic Effect and Validity of Data in Cell Cultured Bioreactor Chemical Engineering Department University of Tehran
46.	2012-2013	M.S. Effect of Electromagnetic Field on Chondrogenic Differentiation of Mesenchymal Stem Cells Kish International Campus University of Tehran
47.	2012-2013	M.S. Studying the Effect of Fluid Stress on Adhesiveness of Vascular Endothelial Cells Cultured on the Scaffold Using Produced Metabolites in a Bioreactor Faculty of New Sciences & Technologies University of Tehran
48.	2012-2013	M.S. Investigating Adipose-derived Stem Cells Differentiation into Endothelial Cells on Biocompatible Scaffold under Flow Stress in Perfusion Bioreactor Faculty of New Sciences & Technologies University of Tehran
49.	2012-2013	M.S.

		The Effect of Shear Stress on Osteogenic Differentiation of Mesenchymal Stem Cell Mechanical Engineering Department Sahand University of Technology
50.	2012-2013	M.S. Influence of Mechanical Properties of Substrate on Cell-Surface Adhesion: Experimental Medical Engineering Department, Biomechanics Amirkabir University of Technology
51.	2012-2013	M.S. The Effect of Vibration Loading on chondrogenic differentiation of mesenchymal stem cells Medical Engineering Department, Tissue Engineering Amirkabir University of Technology
52.	2011-2012	M.S. Modeling of Energy Distribution Rate of Animal Cells in Cell Culture Bioreactor and Its Validation Chemical Engineering Department University of Tehran
53.	2010-2012	M.S. Effects of Cyclic Shear Stress and Stretch on Differentiation of Mesenchymal Stem Cells into Endothelial cells Medical Engineering Department, Biomechanics Amirkabir University of Technology
54.	2010-2012	M.S. Study of Chondrogenic Differentiation of Mesenchymal Stem Cells Exposed to Combined Shear with Hydrostatic Pressure Loadings Medical Engineering Department, Biomechanics Amirkabir University of Technology
55.	2010-2012	M.S. Effect of Amplitude and Duration of Cyclic Hydrostatic Pressure on Differentiation of Mesenchymal Stem Cells Medical Engineering Department, Biomechanics Amirkabir University of Technology
56.	2009-2011	M.S. Effects of Mechanical Loading on Mouse Embryonic and Mesenchymal Stem Cell Differentiation to Myoskeletal Cells Khatam University
57.	2009-2011	M.S. Effects of Mechanical Loading and Pulsed Electromagnetic Field on Osteogenic Differentiation of Mesenchymal Stem Cell Khatam University
58.	2009-2011	M.S. The generation of living skin containing biocompatible scaffold

		and stem cells and its evaluation in regeneration of experimental animal burn Khatam University
59.	2009-2011	M.S. Effects of Mechanical Loading on Human Bone Marrow Stem Cells Differentiation to Myoskeletal Cells Khatam University
60.	2008-2010	M.S. Effects of Mechanical Loading on Mesenchymal Stem Cell Differentiation to Cardiomyocytes Medical Engineering Department, Biomechanics Amirkabir University of Technology
61.	2008-2010	M.S. Effects of Mechanical Loading on Differentiation of Mesenchymal Stem Cell to Chondrocytes Medical Engineering Department, Biomechanics Amirkabir University of Technology
62.	2007-2008	M.S. Experimental Study and FSI Analysis of Blood Flow in Models of Stenosed Arteries Medical Engineering Department, Biomechanics Amirkabir University of Technology
63.	2013-2014	B.S. Effect of Electromagnetic Field on Differentiation of Human Follicle Dermal Papilla Stem Cells into neuron Medical Engineering Department, Biomaterials Amirkabir University of Technology
64.	2011-2012	B.S. Investigate the Possibility of Transferring of Cells into the Hydrogel Structure by Electromagnetic Field Medical Engineering Department, Biomechanics Amirkabir University of Technology

Publications

Book Chapters:

- 1- Chitosan: Tissue Engineering and Wound Dressing Applications, in: Encyclopedia of Polymer Applications, CRC Press ., 2019, Shamekhi M.A., Mahdavi H., Mahdavi H., Rabiee A., Mohebbi-Kalhari D., Haghighipour N., Baghaban Eslaminejad M.
- 2- 3D Cell Culture Principles and Methods, Royan Pazhouh Publication, 2017, Sadroddini E., Baheiraei N., Imani R., Alizadeh A., Haghighipour N., Moradi L., Niknamasl A.

Papers:

1. Fathi Arateh F., Zamanlui Benisi S., Bakhtiar H., Shojaei S., **Haghighipour N.**, *Synthesis and Characterization of Poly (Lactic acid)-Poly (Glycerol Azelaic acid) Scaffolds for Application in Adipose Tissue Engineering*, Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2025, 725(2), 137634.
2. Golbabaie M.H., Pishbin F., Seyyed Ebrahimi S.A., **Haghighipour N.**, *Development and characterization of bifunctional conductive and magnetic scaffold based on polyvinyl alcohol/polypyrrole/magnetite composite for neural tissue engineering*, Biomedical Materials, 2025, 20(3), 035027.
3. Kordbacheh H., Katbab A.A., Aghvami-Panah M., **Haghighipour N.**, *Piezoelectric scaffold based on polycaprolactone/thermoplastic polyurethane/barium titanate/cellulose nanocrystal for bone tissue engineering*, International Journal of Biological Macromolecules, 2025, 288, 138681.
4. Pouladzadeh F., Bonakdar Sh., **Haghighipour N.**, Katbab A.A., Bagheri-Khoulenjani S., *Bioinspired osteoblast-imprinted piezoelectric PDMS/BaTiO₃ nanocomposites accelerate the osteogenic differentiation of adipose-derived stem cells under mechanical stimulation*, Journal of Materials Chemistry B, 2025, 13 (28), 8542-8557.
5. Abbasi M., Zarei-Hanzaki A., Baghaei K., Abedi H.R., **Haghighipour N.**, *Compression-induced apoptosis of fibroblasts and myofibroblasts in an in vitro model of pulmonary fibrosis by alginate/gelatin scaffold*, International Journal of Biological Macromolecules, 2024, 280, 135875.
6. Fakhraei Z., Nekounam H., Asgari F., **Haghighipour N.**, *Electrospun PAN/PANI/CNT Scaffolds and Electrical Pulses: A Pathway to Stem Cell-Derived Nerve Regeneration*, Biomedical Physics & Engineering Express, 2024, 10 (5), 055010.
7. Zadegan S., Vahidi B., Nourmohammadi J., Shojaee A., **Haghighipour N.**, *Evaluation of rabbit adipose derived stem cells fate in perfused multilayered silk fibroin composite scaffold for Osteochondral repair*, Journal of Biomedical Materials Research Part B: Applied Biomaterials, 2024, 112(3), e35396.
8. Sharifi N., Ahmad Akhoundi M.S., Hodjat M., **Haghighipour N.**, Kazemi Veysari S., *The effect of light compressive and tensile mechanical forces on SOST and POSTN expressions in human periodontal ligament cells: an in vitro study*, Odontology, 2024, 112 (1), 91-99.
9. Omid H., Abdollahi S., Bonakdar S., **Haghighipour N.**, Shokrgozar MA, J. Mohammadi, *Biomimetic vascular tissue engineering by decellularized scaffold and concurrent cyclic tensile and shear stresses*, Journal of Materials Science: Materials in Medicine, 2023, 34 (3), 12.

10. Zadegan S., Vahidi B., **Haghighipour N.**, *Analysis of the Effect of Shear Stress on the Differentiation Response of Mesenchymal Stem Cells in Multi-Layered Nanocomposite Scaffold for Bone-Cartilage Tissue Engineering Using Computational Methods*, Iranian Journal of Biomedical Engineering, 2022, 16 (3), 241-250.
11. Safavi A.S., Sendera A., **Haghighipour N.**, Banas-Zabczyk A., *The Role of Low-Frequency Electromagnetic Fields on Mesenchymal Stem Cells Differentiation: A Systematic Review*, Tissue Engineering and Regenerative Medicine, August 2022, 30, doi:10.1007/s13770-022-00473-1.
12. Matinfar A., Dezfulian M., **Haghighipour N.**, Kurdtabar M., Pourbabaei A.A., *Replacement of Trypsin by Proteases for Medical Applications*, Iranian Journal of Pharmaceutical Research, 2022 December; 21(1):e126328.
13. Kabirian F., **Haghighipour N.**, Mela P., Heying R., *Editorial: Additive Manufacturing Applications in Cardiovascular Research*, Frontiers in Bioengineering and Biotechnology, July 2022, 10, 970932.
14. Noroozi R, Shamekhi M.A., Mahmoudi R., Zolfagharian A., Asgari F., Mousavizadeh A., Bodaghi M., Hadi A., **Haghighipour N.**, *In vitro static and dynamic cell culture study of novel bone scaffolds based on 3D-printed PLA and cell-laden alginate hydrogel*, Biomedical Materials, 2022 Jun 22;17(4)., 045024.
15. Sajed R., Zarnani A.H., Madjd Z., Arefi S., Bolouri M.R., Vafaei S., Samadikuchaksaraei A., Gholipourmalekabadi M., **Haghighipour N.**, Ghods R., *Introduction of an efficient method for placenta decellularization with high potential to preserve ultrastructure and support cell attachment* , Artificial Organs, 2022 March; 46(3), 375-386.
16. Najafi Sani H., Abrinia K., **Haghighipour N.**, George D., Remond Y., Baniassadi M., *A Microfabrication Method of PCL Scaffolds for Tissue Engineering by Simultaneous Two PDMS Molds Replication*, ASC Biomaterials Science & Engineering, 2021, 7, 4763-4778.
17. Moraveji M., keshvari H., Karkhaneh A., Bonakdar S., Hadi A. and **Haghighipour N.**, *The effect of collagen/ polycaprolactone fibrous scaffold decorated with graphene nanoplatelet and low-frequency electromagnetic field on neuronal gene expression by stem cells*, Advances in Nano Research, An International Journal, 2021, 10(6), 535-543.
18. Amin Hadi, Abbas Rastgoo, Azam Bolhassani, Maryam Eskandarian, **Nooshin Haghighipour** , *Development of delivery systems enhances the potency of cell-based HIV-1 therapeutic vaccine candidates*, Journal of Immunology Research, Volume 2021, Article ID 5538348, 12 pages.
19. Vahidi B., Mirakhorli F., **Haghighipour N.**, Esmaeli P., *Computational Simulation of Mechanical stimulation of Mesenchymal Stem Cells under Uniaxial Cyclic Tensile Stress*,

20. Jahanbakhsh A., Nourbakhsh M.S., Bonakdar S., **Haghighipour N.**, *Evaluation of alginate modification effect on cell-matrix interaction, mechanotransduction and chondrogenesis of encapsulated MSCs*. Cell and Tissue Research, 2020, 381, 255-272.
21. Moradian E., Rabiee S.M., **Haghighipour N.**, Salimi-Kenari H., *Fabrication and physicochemical characterization of a novel magnetic nanocomposite scaffold: Electromagnetic field effect on biological properties*, Materials Science and Engineering: C, 116, November 2020, 111222.
22. Iravani M., Mahinpour R., Zahraei Z., Toluei Z., Asgari F., **Haghighipour N.**, *Comparison of cytotoxic and antioxidant activities and phenol content of four Salvia L. species from Iran*, Journal of Medicinal Plants, 2020; 19(76): 59-68.
23. Asgari F., Mahinpour R., Moradi L., **Haghighipour N.**, *The chromene derivative 4-Clpgc inhibits cell proliferation and induces apoptosis in the K562 cell*, Journal of Cell Communication and Signaling, 2020 Mar, 14(1), 77–91.
24. Eskandari V., Hadi A., **Haghighipour N.**, Coating of a thin layer of gold nanoparticles on an FTO conductive glass substrate by Electrodeposition method, as the active substrate of SERS, to study the molecular vibrations of the amino acid tyrosine, Lasers in Medicine, 17(3), 2020, 28 – 39.
25. Soleymani S., Hadi A., Asgari F., **Haghighipour N.**, Bolhassani A., *Combination of Mechanical and Chemical Methods Improves Gene Delivery in Cell-based HIV Vaccines*, Current Drug Delivery, 2019, 16(9), 818-828.
26. Ansari S., Karkhaneh A., Bonakdar S., **Haghighipour N.**, *Simultaneous effects of hydrostatic pressure and dexamethasone release from electrospun fibers on inflammation-induced chondrocytes*, European Polymer Journal, 118, September 2019, 244-253.
27. Aidun A., Safaei Firoozabady A., Moharrami M., Ahmadi A., **Haghighipour N.**, Bonakdar S., Faghihi S., *Graphene Oxide Incorporated Polycaprolactone/Chitosan/Collagen Electrospun Scaffold: Enhanced Osteogenic Properties for Bone Tissue Engineering*, Artificial Organs, 2019 , 43(10), E264-281.
28. Asgari F., Mahinpour R., **Haghighipour N.**, Moradi L., *Investigation of toxicity effect of 4-MePgC and 4-No2pgC two derivatives dihydropyrano [2,3-g] chromene on the K562 cell line (chronic myeloid leukaemia)*, Modares Journal of Biotechnology. 2019; 10(2):193-200.
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