

CURRICULUM VITÆ

Nooshin Haghighipour

Professor

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Education

- 2009-2010: Post-doctoral Fellowship
Tissue Engineering Laboratory
National Cell Bank of Iran, Pasteur Institute of Iran
- 2008: PhD,
Amirkabir University of Technology (Tehran Polytechnic),
Medical 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),
Medical 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
2021-present	Professor Tissue Engineering Laboratory National Cell Bank of Iran, Pasteur Institute of Iran.
2018-present	Head of the Library of Pasteur Institute of Iran
2018-present	Head of internship at Pasteur Institute of Iran
2017-present	Responsible for liaison between the Ministry and the Institute in attracting research doctorates

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- 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)

No.	Years	Title
1	2021- present	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
2	2021-present	The effect of mechanical loading on the amount of secretion of Transforming Growth Factor β 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
3	2020-present	Tissue engineering of arterial vessel by acellular vessel and 3D printing Pasteur Inst. of Iran National Institute for Medical Research Development (NIMAD)
4	2020-present	HIV-1 antigen candidate delivery into dendritic cells using microfluidic system and its comparison with chemical system Pasteur Inst. of Iran
5	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
6	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
7	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
8	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)
9	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)
10	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
11	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
12	2015-	Effect of mechanical environment on the fate of mesenchymal stem cells

	2017	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
13	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
14	2014-2016	Evaluation of effects of fibronectin on physiochemical and biocompatibility properties of carbon single wall nanotube Stem Cell Laboratory - Pasteur Inst. of Iran
15	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
16	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
17	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)
18	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
19	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
20	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
21	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
22	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

23	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
24	2009-2010	Tissue Engineering of Tendon by Nanofabricated Scaffold Mesenchymal Cells Tissue Engineering Laboratory - Pasteur Inst. of Iran
25	2008-2009	Design and Manufacturing of a Tensile Cyclic Device for Soft Tissues and Cultured Cells Iran National Science Foundation (INSF) Medical Engineering Department -Amirkabir University of Technology
26	2006-2008	Biomechanical Analysis of Arterial Endothelial Cells Reflection to Cyclic Loading Tissue Engineering Laboratory - Pasteur Inst. of Iran Medical Engineering Department -Amirkabir University of Technology

Patents, Honor and Awards

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

No.	Date	Title
1	2021- present	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
1	2017- present	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
2	2017- present	Ph.D. A New Method for Making Scaffold and Cell Culture of Two Layers Skin School of Mechanical Engineering University of Tehran
3	2017- present	Ph.D. Comparative study of protease performance of isolated microorganisms from industrial effluents Karaj Branch Islamic Azad University
4	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
5	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
6	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
7	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
8	2014-2018	Ph.D. Tissue Engineering of Blood Vessel by Polyurethane Nanofibrous Scaffold School of Advanced Technologies in Medicine University of Tehran
9	2021-present	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
10	2021-present	An investigating of cellular mechanics behavior of a biocompatible scaffold used in medical applications School of Metallurgy and Materials Engineering University of Tehran
11	2020- present	M.S. Evaluation of mechanical forces effects on smooth muscle cell seeding of decellularized vascular tissue Faculty of New Sciences & Technologies University of Tehran
12	2020- present	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
13	2019-present	M.S. Experimental Evaluation of Neuronal Neurons by Atomic Force Microscope University of Tehran Alborz Campus
14	2019-present	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
15	2018- 2020	M.S. The effect of compression loading on osteogenic differentiation of mesenchymal stem cells cultured in 3D scaffold on silk/silica/aluminum bone healing in rat Science and Research Branch Islamic Azad University
16	2017-2018	M.S. Isolation and molecular identification of potent actinomycetes in the production of protease from effluent from factories Karaj Branch Islamic Azad University
17	2017-2018	M.S. Isolation and identification of pectinase producing microorganisms for industrial use Karaj Branch Islamic Azad University
18	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
19	2016-2018	M.S. Parametric study of the preparation of a uniform fibroblast – alginate cell paste as bioprinter ink Medical Engineering Department, Tissue Engineering Amirkabir University of Technology
20	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
21	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
22	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
23	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
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	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
32	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
33	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
34	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
35	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
36	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
37	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
38	2012-2013	M.S. Modeling of Fluid Hydrodynamic Effect and Validity of Data in Cell Cultured Bioreactor Chemical Engineering Department University of Tehran
39	2012-2013	M.S. Effect of Electromagnetic Field on Chondrogenic Differentiation of Mesenchymal Stem Cells Kish International Campus University of Tehran
40	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
41	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
42	2012-2013	M.S. The Effect of Shear Stress on Osteogenic Differentiation of Mesenchymal Stem Cell Mechanical Engineering Department Sahand University of Technology
43	2012-2013	M.S. Influence of Mechanical Properties of Substrate on Cell-Surface Adhesion: Experimental Medical Engineering Department, Biomechanics

		Amirkabir University of Technology
44	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
45	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
46	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
47	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
48	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
49	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
50	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
51	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
52	2009-2011	M.S. Effects of Mechanical Loading on Mouse Embryonic and Mesenchymal Stem Cell Differentiation to Myoskeletal Cells Khatam University

53	2009-2011	M.S. Effects of Mechanical Loading and Pulsed Electromagnetic Field on Osteogenic Differentiation of Mesenchymal Stem Cell Khatam University
54	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
55	2009-2011	M.S. Effects of Mechanical Loading on Human Bone Marrow Stem Cells Differentiation to Myoskeletal Cells Khatam University
56	2008-2010	M.S. Effects of Mechanical Loading on Mesenchymal Stem Cell Differentiation to Cardiomyocytes Medical Engineering Department, Biomechanics Amirkabir University of Technology
57	2008-2010	M.S. Effects of Mechanical Loading on Differentiation of Mesenchymal Stem Cell to Chondrocytes Medical Engineering Department, Biomechanics Amirkabir University of Technology
58	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

Publications

1- 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.

2- 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.

3- 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.

4- Vahidi B., Mirakhorli F., **Haghighipour N.**, Esmaeli P., *Computational Simulation of Mechanical stimulation of Mesenchymal Stem Cells under Uniaxial Cyclic Tensile Stress*, Journal of Mechanical Engineering, 50, 4, Serial Number 93, Winter 2020, 219-227.

5-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.

6-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.

7- 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.

8- 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.

9- 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.

10- 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.

11-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.

12-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.

13- 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.

14- Kavand H., Rahaie M., Koohsorkhi J., **Haghighipour N.**, Bonakdar S., *A conductive cell-*

imprinted substrate based on CNT–PDMS composite, Biotechnology and Applied Biochemistry, 2019 May, 66(3):445-453.

15- Safavi A.S., Rouhi G., **Haghighipour N.**, Bagheri F., Eslaminejad M.B., Sayahpour F.A., *Efficacy of mechanical vibration in regulating mesenchymal stem cells gene expression*, In Vitro Cellular and Developmental Biology - Animal, 55(5), 2019, 387-394.

16-Hadi A., Rastgoo A., Bolhassani A., **Haghighipour N.**, *Effects of stretching on molecular transfer from cell membrane by forming pores*, 17(4), 2019, Soft Materials, 391-399.

17- Zadegan S., Nourmohammadi J., Vahidi B., **Haghighipour N.**, *An investigation into osteogenic differentiation effects of silk fibroin-nettle (Urtica dioica L.) nanofibers*, International Journal of Biological Macromolecules, 133, 15 July 2019, 795-803.

18-Khorshidi S., Ansari S., Naghizadeh Z., Akbari N., Karkhaneh A., **Haghighipour N.**, *Concurrent effects of piezoelectricity and hydrostatic pressure on chondrogenic differentiation of stem cells*, Materials Letters, 246, 1 July 2019, 71-75.

19- Bolhassani A., Shahbazi S., Agi E., **Haghighipour N.**, Hadi A., Asgari F., *Modified DCs and MSCs with HPV E7 antigen and small Hsps: Which one is the most potent strategy for eradication of tumors?*, Molecular Immunology, 108, April 2019, 102-110.

20-Shahmoradi S.R., Kabir Salmani M., Soleimanpour H.R., Tavakoli A.H., Hosaini K., **Haghighipour N.**, Bonakdar S., *Induction of Chondrogenic Differentiation in Human Mesenchymal Stem Cells Cultured on Human Demineralized Bone Matrix Scaffold under Hydrostatic Pressure*, Tissue Engineering & Regenerative Medicine, 2019, 16(1), 69-80.

21-Hadi A., Rastgoo A., **Haghighipour N.**, Bolhassani A., Asgari F., Soleymani S., *Enhanced gene delivery in tumor cells using chemical carriers and mechanical loadings*, PLoS ONE 13 (12), December 2018, Article number e0209199.

22-Hadi A., Rastgoo A., **Haghighipour N.**, Bolhassani A., *Numerical modelling of spheroid living cell membrane under hydrostatic pressure*, Journal of Statistical Mechanics: Theory and Experiment, 2018(8),083501.

23-Shojaei S., Tafazzoli-Shahdpour M., Shokrgozar M.A., **Haghighipour N.**, *Stress phase angle regulates differentiation of human adipose derived stem cells toward endothelial phenotype*, Progress in Biomaterials, 2018, 7, 121-131.

24-Rezaee N., Tafazzoli-Shadpour M., **Haghighipour N.**, *Effect of equiaxial cyclic strain on cardiomyogenic induction in mesenchymal stem cells*, Progress in Biomaterials, 2018, 7, 279–288.

- 25-Shojaei S., Shirazian A., Jahanbakhsh A., Kavand H., **Haghighipour N.**, *The evaluation and comparison of the elastic modulus of mechanically motivated and pure rabbit mesenchymal stem cell with mature chondrocytes*, Journal of Applied Tissue Engineering, 2018, 5(1), 11-17.
- 26- Pouladzadeh F., Katbab A.A., **Haghighipour N.**, Kashi E., *Carbon Nanotube Loaded Electrospun Scaffolds Based on Thermoplastic Urethane (TPU) with Enhanced Proliferation and Neural Differentiation of Rat Mesenchymal Stem Cells: The Role of State of Electrical Conductivity*, European Polymer Journal, 2018, 105: 286-296.
- 27-Shahbazi S., **Haghighipour N.**, Soleymani S., Nadji S.A., Bolhassani A., *Delivery of molecular cargoes in normal and cancer cell lines using non-viral delivery systems*, Biotechnology Letters, 2018, 40(6), 923-931.
- 28-Abd Emami B., Mahmoudi E., Shokrgozar M.A., Dehghan M.M., Mohajeri S.F., **N. Haghighipour**, Marjanmehr S.H., Molazem M., Amin S., Gholami H., *Mechanical and Chemical Predifferentiation of Mesenchymal Stem Cells into Cardiomyocytes and Their Effectiveness on Acute Myocardial Infarction*, Artificial Organs, 2018, 42(6), E114-E126.
- 29- Zadeh S., Vahidi B., Normohamadi J., **Haghighipour N.**, *Biocompatibility and bioactivity behavior of coelectrospun silk fibroin-hydroxyapatite (SF- Hap) nanofibers using Formic acid*, Micro & Nano Letters, 2018, 13(5), 709 – 713.
- 30- Rashidi N., Tafazzoli-Shadpour M., **Haghighipour N.**, Khani M.M., *Morphology and contractile gene expression of adipose-derived mesenchymal stem cells in response to short-term cyclic uniaxial strain and TGF- β 1*, Biomedical Engineering / Biomedizinische Technik, 2018 Jun 27; 63(3):317-326.
- 31- Kavand H., Rahaie M., **Haghighipour N.**, Bonakdar S., Koohsorkhi J., *Magneto-mechanical stimulation of bone marrow mesenchymal stromal cells for chondrogenic differentiation studies*, Journal of Computational Applied Mechanics, 2018, 49 (2): 386-394.
- 32-Zamani M., Khafaji M., Naji M., Vossoughi M., Alemzadeh I., **Haghighipour N.**, *A Biomimetic Heparinized Composite Silk-Based Vascular Scaffold with sustained Antithrombogenicity*, Scientific Reports (Nature Publisher Group), Jun 2017, 7(1), 4495.
- 33- Hasanzadeh E., Amoabediny G., **Haghighipour N.**, Gholami N., Mohammadnejad J., Shojaei S., Salehi-Nik N., *The stability evaluation of mesenchymal stem cells differentiation toward endothelial cells by chemical and mechanical stimulation*, In Vitro Cellular & Developmental Biology – Animal, 2017, 53(9):818-826.
- 34- Gholizadeh S., Moztarzadeh F., **Haghighipour N.**, Allahyari Z, *Preparation and characterization of Functionalized Multiwalled Carbon Nanotubes/Chitosan/ β -Glycerophosphate scaffolds for Bone Tissue Engineering*, International Journal of Biological Macromolecules, 2017, 97, 365-372.

- 35- Jazayeri M., Shokrgozar M.A., **Haghighipour N.**, Bolouri B., Mirahmadi F., Farokhi M., *Effects of Electromagnetic Stimulation on Gene Expression of Mesenchymal Stem Cells and Repairing Bone Lesions*, Cell Journal, 2017, 19(1), 34-44.
- 36- Allahyari Z, **Haghighipour N.**, Moztarzadeh F., Ghazizadeh L., Hamrang M., Shokrgozar M.A., Gholizadeh S., *Optimization of electrical stimulation parameters for MG-63 cell proliferation on hitosan/Functionalized Multiwalled Carbon Nanotube films*, RSC Advances, 2016, 6, 109902–109915.
- 37-Kavand H., **Haghighipour N.**, Zeynali B., Seyedjafari E., Abd Emami B., *Extremely Low Frequency Electromagnetic Field in Mesenchymal Stem Cells Gene Regulation: Chondrogenic Markers Evaluation*, Artificial Organs, 2016, 40(10), 929-937.
- 38- Alihemmati Z., Vahidi B., **Haghighipour N.**, *Computational simulation of static/cyclic cell stimulations to investigate mechanical modulation of an individual mesenchymal stem cell using confocal microscopy*, Materials Science and Engineering C, 2017, 70, 494–504.
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