

Asieh Heirani-Tabasi

Ph.D. in Applied Cell Sciences

+989333993327 | asieh.heirani@gmail.com, Department of Tissue Engineering and Applied Cell Sciences, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
Date of Birth: 24/5/1987

Professional Experience

Assistant Professor

February 2024 - Current

Department of Tissue Engineering and Applied Cell Sciences, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Research Associate

April 2017 – February 2024

Research Center for Advanced Technologies in Cardiovascular Medicine, Cardiovascular Diseases, Research Institute, Tehran University of Medical Sciences, Tehran, Iran

Research Associate

July 2020 - February 2024

Colorectal Surgery Research Center, Imam Hospital Complex, Tehran University of Medical Sciences, Tehran, Iran

Research Officer (Molecular lab manager)

September 2014 – April 2017

Iranian Academic Center for Education, Culture and Research (ACECR), Mashhad, Iran

Lab technician

May 2010 – August 2011

Dr. Amini clinical Laboratory, Mashhad, Iran

- ELISA, electrophoresis, radioimmune assay and biochemistry.

Education

Ph.D. in Applied Cell Sciences

Sep 2016 – July 2021

Tarbiat Modares University (TMU) – Tehran, Iran **CGPA: 3.82/4**

- Ranked **First** among the TMU Applied Cell Sciences students in years 2016 and 2017

Thesis: Cartilage tissue engineering by co-transplantation of chondrocyte extracellular vesicles and adipose-derived mesenchymal stem cells, entrapped in chitosan-hyaluronic acid hydrogel

Noteworthy Courses: Hydrogel Fabrication Methods, Extracellular Vesicle Isolation, Real-time PCR, Human Primary Cell Culture, Cartilage tissue Pathology, Medical Histology, and Immunohistochemistry

M.Sc. in Cellular and Molecular Biology

Sep 2010 – Dec 2012

Ferdowsi University of Mashhad – Mashhad, Iran. **CGPA: 3.53/4**

Thesis: Investigation the pattern of gene expression for two variants of *CXCR4* in adipose-derived mesenchymal stem cells

Noteworthy Courses: Conventional and Real-time RT-PCR, Human Primary Cell Culture, Scratch and Boyden chamber migration Assay, Transfection and Transduction

B.Sc. in General Biology

Sep 2005 – June 2009

Ferdowsi University of Mashhad – Mashhad, Iran. **CGPA: 3.12/4**

Publications

1. Ashouri Sharafshadeh, Sina, Rouhollah Mehdiavaz Aghdam, Parisa Akhlaghi, and **Asieh Heirani-Tabasi**. "Amniotic membrane/silk fibroin-alginate nanofibrous scaffolds containing Cu-based metal organic framework for wound dressing." International Journal of Polymeric Materials and Polymeric Biomaterials (2024): 1-12.
2. Pak, H., Hadizadeh, A., **Heirani-Tabasi, A.**, Soleimani, M., Asbagh, R. A., Fazeli, M. S., ... & Behboudi, B. (2023). Safety and efficacy of injection of human placenta mesenchymal stem cells derived exosomes for treatment of complex perianal fistula in non-Crohn's cases: clinical trial phase I. Journal of Gastroenterology and Hepatology, 38(4), 539-547.

3. Toosi, Shirin, Hojjat Naderi-Meshkin, Ali Moradi, Mahla Daliri, Vahid Moghimi, Hasan-Mehrad Majd, Amir Hossein Sahebkar, **Asieh Heirani-Tabasi**, and Javad Behravan. "**Scaphoid Bone Nonunions: Clinical and Functional Outcomes of Collagen/PGA Scaffolds and Cell-Based Therapy.**" *ACS Biomaterials Science & Engineering* 9, no. 4 (2023): 1928-1939.
4. Akbari, S., S. M. Hamidi, H. Eftekhari, and **A. Heirani-Tabasi**. "**Fast electro-plasmonic detection of heart signal in Balb/C cells onto one-dimensional plasmonic grating.**" *Plos one* 18, no. 3 (2023): e0282863.
5. Ebrahim Soltani, Zahra, Mohammad Elahi, Hasti Tashak-Golroudbari, Hojjatollah Nazari, Abolfazl Badripour, **Asieh Heirani-Tabasi**, Reza Akbari Asbagh et al. "**Evaluation of colonic anastomosis healing using hybrid nanosheets containing molybdenum disulfide (MOS₂) scaffold of human placental amniotic membrane and polycaprolactone (PCL) in rat animal model.**" *Naunyn-Schmiedeberg's Archives of Pharmacology* (2023): 1-11.
6. Tashak Golroudbari, Hasti, Seyedeh Parnian Banikarimi, Aryan Ayati, Alireza Hadizadeh, Zahra Khorasani Zavareh, Kiana Hajikhani, **Asieh Heirani-Tabasi**, Mohsen Ahmadi Tafti, Saeed Davoodi, and Hossein Ahmadi Tafti. "**Advanced micro-/nanotechnologies for exosome encapsulation and targeting in regenerative medicine.**" *Clinical and Experimental Medicine* (2023): 1-22.
7. Dorkhani, Erfan, Yasmin Noorafkan, Zeinab Salehi, Mohammad Adel Ghiass, Seyyed Hossein Ahmadi Tafti, **Asieh Heirani-Tabasi**, and Maryam Tavafoghi. "**Design and fabrication of polyvinylidene fluoride-graphene oxide/gelatine nanofibrous scaffold for cardiac tissue engineering.**" *Journal of Biomaterials Science, Polymer Edition* (2022): 1-22.
8. Dorkhani, Erfan, Yasmin Noorafkan, Reza Akbari Asbagh, Maryam Okhovat, **Asieh Heirani-Tabasi**, and Seyed Mohsen Ahmadi Tafti. "**Design and fabrication of modified bi-layer poly vinyl alcohol adhesive sealant film for preventing gastrointestinal leakage.**" *Frontiers in Surgery* 9 (2022): 1018590.
9. Nazari, Hojjatollah, Foroogh Alborzi, **Asieh Heirani-Tabasi**, Alireza Hadizadeh, Reza Akbari Asbagh, Behnam Behboudi, Mohammad Sadegh Fazeli et al. "**Evaluating the safety and efficacy of mesenchymal stem cell-derived exosomes for treatment of refractory perianal fistula in IBD patients: clinical trial phase I.**" *Gastroenterology Report* 10 (2022): goac075.
10. Nazari, H., **Heirani-Tabasi, A.**, Esmaeili, E., Kajbafzadeh, A.M., Hassannejad, Z., Boroomand, S., Shahsavari Alavijeh, M.H., Mishan, M.A., Ahmadi Tafti, S.H., Warkiani, M.E. and Dadgar, N., 2022. **Decellularized human amniotic membrane reinforced by MoS₂-Polycaprolactone nanofibers, a novel conductive scaffold for cardiac tissue engineering.** *Journal of Biomaterials Applications*, p.08853282211063289.
11. Nazari, H., **Heirani-Tabasi, A.**, Ghorbani, S., Eyni, H., Razavi Bazaz, S., Khayati, M., Gheidari, F., Moradpour, K., Kehtari, M., Ahmadi Tafti, S.M. and Ahmadi Tafti, S.H., 2022. **Microfluidic-Based Droplets for Advanced Regenerative Medicine: Current Challenges and Future Trends.** *Biosensors*, 12(1), p.20.

12. **Heirani-Tabasi, A.,** Hosseinzadeh, S., Rabbani, Sh., Ahmadi Tafti, H., Jamshidi, Kh., Soufizomorrod, M., and Soleimani, M., (2021). **Cartilage tissue engineering by co-transplantation of chondrocyte extracellular vesicles and mesenchymal stem cells, entrapped in chitosan-hyaluronic acid hydrogel** . *Biomedical Materials*, IOP publishing group, 16 055003, DOI: 10.1088/1748-605X/ac0cbf.
13. Bidkhorji, H.R., Bahrami, A.R., Farshchian, M., **Heirani-Tabasi, A.,** Mirahmadi, M., Hassanzadeh, H., Ahmadiankia, N., Faridhosseini, R., Dastpak, M., Gowhar Shabgah, A., and Matin, M.M. (2021). **Mesenchymal stem/stromal cells overexpressing CXCR4R334X revealed enhanced migration: a lesson learned from the pathogenesis of WHIM syndrome.** *Cell Transplantation*, Sage publishing group.
14. Nazari, H., Yaghoubi Naei, V., **Heirani-Tabasi, A.,** Badripour, A., Akbari Asbagh, R., Keramati, M.R., Sharif, A., Behboudi B., Kazemeini, A., Abbasi, M., Keshvari A., Ahmadi-Tafti, S.M., (2021). **Advanced Regenerative Medicine Strategies for Treatment of Perianal Fistula in Crohn's Disease.** *Inflammatory bowel diseases*, DOI: 10.1093/ibd/izab151.
15. **Heirani-Tabasi, A.,** Mirahmadi, M., Mishan, M.A., Naderi-Meshkin, H., Toosi, S., Matin, M.M., Bidkhorji, H.R. and Bahrami, A.R., (2020). **Comparison the effects of hypoxia-mimicking agents on migration-related signaling pathways in mesenchymal stem cells.** *Cell and Tissue Banking*, pp 643-653.
16. Nazari, H., **Heirani-Tabasi, A.,** Hajiabbas, M., Salimi Bani, M., Nazari, M., Pirhajati Mahabadi, V., Rad, I., Kehtari, M., Ahmadi Tafti, S.H. and Soleimani, M., (2020). **Incorporation of SPION-casein core-shells into silk-fibroin nanofibers for cardiac tissue engineering.** *Journal of Cellular Biochemistry*, 121(4), pp.2981-2993.
17. Nazari, H., **Heirani-Tabasi, A.,** Hajiabbas, M., Khalili, M., Shahsavari Alavijeh, M., Hatamie, S., Mahdavi Gorabi, A., Esmaeili, E. and Ahmadi Tafti, S.H., (2020). **Incorporation of two-dimensional nanomaterials into silk fibroin nanofibers for cardiac tissue engineering.** *Polymers for Advanced Technologies*, 31(2), pp.248-259.
18. Nazari, H., **Heirani-Tabasi, A.,** Alavijeh, M.S., Jeshvaghani, Z.S., Esmaeili, E., Hosseinzadeh, S., Mohabatpour, F., Taheri, B., Tafti, S.H.A. and Soleimani, M., (2019). **Nanofibrous Composites Reinforced by MoS₂ Nanosheets as a Conductive Scaffold for Cardiac Tissue Engineering.** *ChemistrySelect*, 4(39), pp.11557-11563.
19. Toosi, S., Esmaeilzadeh, Z., Naderi-Meshkin, H., **Heirani-Tabasi, A.,** Peivandi, M.T. and Behravan, J., (2019). **Adipocyte lineage differentiation potential of MSCs isolated from reaming material.** *Journal of cellular physiology*, 234(11), pp.20066-20071.

20. Toosi, S., Naderi-Meshkin, H., Kalalinia, F., HosseinKhani, H., **Heirani-Tabasi, A.**, Havakhah, S., Nekooei, S., Jafarian, A.H., Rezaie, F., Peivandi, M.T. and Mesgarani, H., (2019). **Bone defect healing is induced by collagen sponge/polyglycolic acid.** *Journal of Materials Science: Materials in Medicine*, 30(3), p.33.
21. **Heirani-Tabasi A.**, Naderi-Meshkin H., Matin MM., Mirahmadi M., Shahriyari M., Ahmadiankia N., Sanjar Moussavi N., Bidkhorji H.R., Raeesolmohaddesin M. Bahrami AR (2018). **Augmented migration of mesenchymal stem cells correlates with the subsidiary CXCR4 variant.** *Cell Adhesion & Migration journal*. Feb 22:1-9. doi: 10.1080/19336918.2016.1243643.
22. **Heirani-Tabasi A.**, Toosi S., Mirahmadi M., Mishan M.A., Bidkhorji H.R., Bahrami A.R., Behravan J., Naderi-Meshkin H. (2017). **Chemokine Receptors Expression in MSCs: Comparative Analysis in Different Sources and Passages.** *Tissue Engineering and Regenerative Medicine (TERM) journal*. Oct;14(5):605-615. doi: 10.1007/s13770-017-0069-7
23. Toosi, S., Naderi-Meshkin, H., Kalalinia, F., Peivandi, M. T., Hosseinkhani, H., Bahrami, A. R., **Heirani-Tabasi, A.**, Mirahmadi, M. & Behravan, J. (2017). **Long bone mesenchymal stem cells (Lb-MSCs): clinically reliable cells for osteo-diseases.** *Cell and Tissue Banking*. Doi: 10.1007/s1056.
24. Naderi-Meshkin, H., Matin, M.M., **Heirani-Tabasi, A.**, Mirahmadi, M., Irfan-Maqsood, M., Edalatmanesh, M.A., Shahriyari, M., Ahmadiankia, N., Moussavi, N.S., Bidkhorji, H.R. and Bahrami, A.R., (2016). **Injectable hydrogel delivery plus preconditioning of mesenchymal stem cells: exploitation of SDF-1/CXCR4 axis toward enhancing the efficacy of stem cells' homing.** *Cell biology international*, 40(7), pp.730-741.
25. Irfan-Maqsood, M., M. Matin, M., **Heirani-Tabasi, A.**, Bahrami, M., Naderi-Meshkin, H., Mirahmadi, M., Hassanzadeh, H., Sanjar Moussavi, N., Reza-Shah, H., Raeesolmohaddesin, M., Bidkhorji, H. R., Bahrami, A.R. (2016). **Adipose Derived Mesenchymal Stem Cells Express Keratinocyte Lineage Markers in a Co-Culture Model.** *Cellular & Molecular Biology*, 62 (5): 44-54.
26. Mirahmadi, M., Ahmadiankia, N., Naderi-Meshkin, H., **Heirani-Tabasi, A.**, Bidkhorji, H. R., Afsharian, P., and Bahrami, A. R. (2016). **Hypoxia and Laser enhance expression of SDF1 in Muscles Cells.** *Cellular & Molecular Biology*, 62 (5): 30-36.
27. Toosi, S., Naderi-Meshkin, H., Kalalinia, F., Peyvandi, M. T., HosseinKhani, H., Bahrami, A. R., **Heirani-Tabasi, A.**, Mirahmadi, M. and Behravan, J. (2016). **Comparative Characteristics of Mesenchymal Stem Cells Derived From Reamer-Irrigator-Aspirator, Iliac Crest Bone Marrow, and Adipose Tissue.** *Cellular & Molecular Biology*, 62 (10): 68-74.
28. Bidkhorji, H.R., Ahmadiankia, N., Matin, M.M., **Heirani-tabasi, A.**, Farshchian, M., Naderi-meshkin, H., Shahriyari, M., Dastpak, M. and Bahrami, A.R., (2016). **Chemically primed bone-**

marrow derived mesenchymal stem cells show enhanced expression of chemokine receptors contributed to their migration capability. *Iranian journal of basic medical sciences*, 19(1), p.14.

29. Toosi, S., Naderi-Meshkin, H., Kalalinia, F., Peivandi, M.T., HosseinKhani, H., Bahrami, A.R., **Heirani-Tabasi, A.**, Mirahmadi, M. and Behravan, J., (2016). **PGA-incorporated collagen: Toward a biodegradable composite scaffold for bone-tissue engineering.** *Journal of Biomedical Materials Research Part A*, 104(8), pp.2020-2028.
30. Boozarpour, S., Matin, M.M., Momeni-Moghaddam, M., Deghani, H., Mahdavi-Shahri, N., Sisakhtnezhad, S., **Heirani-Tabasi, A.**, Irfan-Maqsood, M. and Bahrami, A.R., (2016). **Glial cell derived neurotrophic factor induces spermatogonial stem cell marker genes in chicken mesenchymal stem cells.** *Tissue and Cell*, 48(3), pp.235-241.
31. Mishan, M. A., **Heirani-Tabasi, A.**, Mokhberian, N., Hassanzade, M., Moghaddam, H. K., Bahrami, A. R. and Ahmadiankia, N. (2015). **Analysis of Chemokine Receptor Gene Expression in Esophageal Cancer Cells Compared with Breast Cancer with Insights into Metastasis.** *Iranian Journal of public health*, 44(10): 1353.
32. Mishan, M. A., Ahmadiankia, N., Matin, M. M., **Heirani-Tabasi, A.**, Shahriyari, M., Bidkhor, H. R., Naderi-Meshkin, H. and Bahrami, A. R. (2015). **Role of Berberine on molecular markers involved in migration of esophageal cancer cells.** *Cellular & Molecular Biology*, 61(8): 37-43.

Abstracts and Conference Attendance

- ASCRS 2024 Annual Scientific Meeting Abstract, June 1-4 2024, Baltimore, USA. (**Oral presentation**).
“Localized administration of mesenchymal stem cell-derived exosomes for treatment of refractory perianal fistula in Crohn’s disease patients: Phase-II Clinical Trial”
Reza Akbari Asbagh, Foroogh Alborzi Avanaki, **Asieh Heirani-Tabasi**, Alireza Hadizadeh, ..., Seyed Mohsen Ahmadi Tafti.
- The First International Iranian Tissue Engineering and Regenerative Medicine Congress, 18 July, 2018, Tehran, Iran (**Oral presentation**).
”Targeted delivery of stem cells to ischemic myocardium using controllable microbubble carriers”.
Asieh Heirani-Tabasi - Mohammad Adel Ghiass - Mina Soufi Zomorrod - Shahram Rabbani.
- The First Iranian Annual Congress on Progress in Tissue Engineering and Regenerative Medicine, 18 May, 2013, Tehran, Iran (**Oral presentation**).
“CXCR4-LO variant governs enhanced homing of mesenchymal stem cells towards SDF1.”
Asieh Heirani, Naderi-Meshkin, Maryam M. Matin, Naghmeh Ahmadiankia, Nasser sanjar Mussavi, Hamid Reza Bidkhor, Maryam Sheikhbahe, Mahmood Raisalmohadesin, Armin Attaran,

Mohammad Mahdi Kooshyar, Sakineh Amooian, Ahmad Reza Bahrami.

- 3rd Iranian Agricultural Biotechnology Congress 3-5 september, 2012, Ferdowsi University of Mashhad. (**Oral presentation**).
” The effect of Valproic acid on the expression of CXCR4 in human adipose tissue derived mesenchymal stem cells.” **Heirany Tabasi.A**, Bahrami.A, MoghaddamMatin.M, NaderiMeshkin.H, Bidkhor H.
- The 28th Great Wall International Congress of Cardiology China Heart Society Beijing Society of Cardiology (Journal of the American College of Cardiology, DOI: 10.1016/j.jacc.2017.07.594) GW28-e0659 ”Regenerative rehabilitation: a hybrid strategy for heart disease. ” Marzieh Saeidi, **Asieh Heirani-Tabasi**, Masoud Soleimani.
- International Society of Stem Cell Research- 11th Annual Meeting – 2013 June 12-15 Boston, MA, USA. ”Hypoxia-mimicking agents promote CXCR4 gene expression and migration of mesenchymal stem cells toward SDF-1. ” Hamid Reza Bidkhor, Ahmad Reza Bahrami, Hojat Naderi-Meshkin, **Asieh Heirani**, Mahdi Mirahamadi, Mina shahriary, Malihe Hasanzadeh, Moein Farshchian, Maryam M. Matin, Naghmeh Ahmadiankia.
- The 17th National and 5th International *Conference of Biology* of Iran, September 4-6, 2012, Kerman, Iran (**Poster presentation**).
” The effect of Deferrioxamine on the expression of CXCR4 in human adipose tissue derived mesenchymal stem cells.” **Heirany Tabasi.A**, Bahrami.A, MoghaddamMatin.M, NaderiMeshkin.H, Bidkhor H.

Teaching experience

- **Teaching cardiac tissue engineering workshop**, December 2023, organized by Research Center for Advanced Technologies in Cardiovascular Medicine, Cardiovascular, Tehran Heart Center Hospital, Tehran University of Medical Sciences, Tehran, Iran.
- **Teaching Real-time PCR workshop**, linked to the international Congress on stem Cells and Regenerative Medicine, dated May 20-22, 2015, organized by the department of Stem Cells and Regenerative Medicine, ACECR, Mashhad Branch.
- **Scientific Secretary of RT-PCR and Electrophoresis workshop**, linked to the international Congress on Stem Cells Regenerative Medicine, dated May 20-22, 2015, organized by the department of Stem Cells and Regenerative Medicine, ACECR, Mashhad Branch.
- **Teaching Flow Cytometry workshop**, linked to the International Congress on Stem Cells and Regenerative Medicine, dated May 20-22, 2015, organized by the department of Stem Cells and Regenerative Medicine, ACECR, Mashhad Branch

- **Teaching and organization of isolation of MSCs from adipose and bone marrow tissues and their differentiation toward adipocytes and osteocytes and osteoblasts workshop**, linked to the 2nd annual congress on Stem Cell Research and Application, dated Jan 28-30, 2014 and May 22-23, 2014, organized by the department of Stem Cells and Regenerative Medicine, ACECR, Mashhad Branch.
- **Teaching basics of stem cells and their applications, in workshop**, dated Jan 10, 2013, organized by the research the department of Stem Cells and Regenerative Medicine, ACECR, Mashhad Branch.