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- **Education and qualifications:**

-Ph.D of biomedical engineering (Biomechanics), Amir-Kabir University of technology (2014)

- Master of biomedical engineering (Biomechanics), Amir-Kabir University of technology (2009)

- **Achievements:**

- Member of Iran's National Elites Foundation (2009)

- Graduate as a Talented student of amir-kabir university of technology (MSC AND ph.D)

- **Research Interests:**

Cell mechanics, Mechanobiology, functional tissue engineering, Stem cell engineering and biomechanics.

- **Publications:**

1. A Parandakh, A Anbarlou, M Tafazzoli-Shadpour..., *Substrate topography interacts with substrate stiffness and culture time to regulate mechanical properties and smooth muscle differentiation of mesenchymal stem cells, Colloids and Surfaces B: Biointerfaces*, 2019
2. A Mohammadkarim, M Mokhtari-Dizaji, A Kazemian, ..., ..., *Substrate topography interacts with substrate stiffness and culture time to regulate mechanical properties and smooth muscle differentiation of mesenchymal stem cells, Cell biochemistry and biophysics*, 2018.
3. FS Hosseini, F Soleimanifar, A Aidun, SE Enderami..., *Poly (3-hydroxybutyrate-co-3-hydroxyvalerate) improved osteogenic differentiation of the human induced pluripotent stem cells while considered as an artificial extracellular matrix, Journal of cellular physiology*, 2018.
4. F Soleimanifar, FS Hosseini, H Atabati, A Behdari..., *Adipose-derived stem cells-conditioned medium improved osteogenic differentiation of induced pluripotent stem cells when grown on polycaprolactone nanofibers, Journal of cellular physiology*, 2018.
5. A Parandakh, M Tafazzoli-Shadpour, A Ardeshirylajimi, A Khojasteh, ... *The effects of short-term uniaxial strain on the mechanical properties of mesenchymal stem cells upon TGF- β_1 stimulation, In Vitro Cellular & Developmental Biology-Animal* 54 (9), 677-686.
6. SL Moradi, A Golchin, Z Hajishafieha, MM Khani, A Ardeshirylajimi, *Bone tissue engineering: Adult stem cells in combination with electrospun nanofibrous scaffolds, Journal of cellular physiology* 233 (10), 6509-6522.
7. A Mohammadkarim, M Tabatabaei, A Parandakh, M Mokhtari-Dizaji, ..., *Radiation therapy affects the mechanical behavior of human umbilical vein endothelial cells, Journal of the mechanical behavior of biomedical materials* 85, 188-193.
8. R Omidvar, M Tafazzoli-Shadpour, F Mahmoodi-Nobar, S Azadi, ..., *Quantifying effects of cyclic stretch on cell-collagen substrate adhesiveness of vascular endothelial cells, Proceedings of the Institution of Mechanical Engineers, Part H: Journal of engineering in medicine* 2018.

9. S Naghizadeh, N Hassanzadeh Nemati, khani MM, *Controlled Release of Fluorouracil (5-FU) From Chitosan-Co-poly (Ethylene Glycol)/Poly (Glycerol Sebacate)-co-Poly (Ethylene Glycol) Coated Iron Oxide, International Journal of Polymeric Materials and Polymeric Biomaterials (2018).*
10. parandakh, a., Khani, M.-M., *Stepwise morphological changes and cytoskeletal reorganization of human mesenchymal stem cells treated by short-time cyclic uniaxial stretch, In Vitro Cellular & Developmental Biology – Animal , accepted (2017).*
11. H Nokhbatolfighahaei, MR Rad, MM Khani, N Nadjmi, A Khojasteh, *Application of Bioreactors to Improve Functionality of Bone Tissue Engineering Constructs: A Systematic Review, Current Stem Cell Research & Therapy 12 (7), 564-599(2017).*
12. jouybar, A. Khani M.-M., *Enhanced Skin Regeneration by Herbal extract coated Poly-L-lactic acid Nanofibrous Scaffold, artificial organs, accepted (2017).*
13. N Rashidi, M Tafazzoli-Shadpour, N Haghhighipour, MM Khani, *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 (2017).*
14. A Salimi, HR Katouzian, P Naraghi-Bagherpour, MM Khani, *COUPLED BOUNDARY ELEMENT-FINITE ELEMENT MODEL TO ESTIMATE HUMAN HEEL-PAD ELASTICITY MODULUS, Biomedical Engineering: Applications, Basis and Communications 29 (03), 1750018(2017)*
15. N Azadikhah, S Shahriari, A Parandakh, A Khojasteh, MM Khani, *the effect of mandible viscoelasticity on dynamic stress distribution in osseous tissue adjacent to dental implant, , Biomedical Engineering: Applications, Basis and Communications 29 (06), 1750040 (2017).*
16. Rahmani, M, Khani M.-M., *Discrimination and quantification of auto fluorescence spectra of human lung cells; Laser Phys. 26 (2016) 105604.*
17. Khani MM, et al., *Mechanical characterization of human mesenchymal stem cells subjected to cyclic uniaxial strain and TGF- β 1, Journal of mechanical behavior of biomedical materials, 43: 18:25. 2015.*
18. Motalleb zadeh, Tafazzoli-Shadpour M, khani MM , *dynamic stress distribution in a model of implanted mandible: numerical analysis of viscoelastic bone, Mechanics in medicine and biology, 15 (4), 2015.*
19. Khani MM, Tafazzoli-Shadpour M, et al., *Evaluation of Mechanical Properties of Human Mesenchymal Stem Cells During Differentiation to Smooth Muscle Cells, Annals of Biomedical Engineering, 42 (7), 1373-1380., 2014.*
20. Khani MM, Katouzian H, et al. *Nonlinear hyper elastic parameter estimation of human heel-pad: A finite element and evolutionary based algorithm, Mechanic in medicine and biology. 12(1):1-6, 2012.*
21. Khani MM, Tafazzoli-Shadpour M, et al., *Mechanical Vulnerability of lower second premolar utilizing viscoelastic dynamic stress analysis ,Journal of Computer Methods in Biomechanics and Biomedical Engineering.12(5):553-561,2009.*
22. J. Saffar, M.R. Razfar, A.H. Salimi , M.M. Khani, *Optimization of Machining Parameters to Minimize Tool Deflection in the End Milling Operation Using Genetic Algorithm, World Applied Sciences Journal 6 (1): 64-69, 2009.*
23. Arab--Ghanbari, Khani MM, et al., *Analysis of Blood Turbulent Flow in Carotid Artery Including the Effect of Mural Thrombosis Using Finite Element Modeling ,American Journal of Applied Sciences.6(2):337-344, 2009.*
24. Khani MM, Tafazzoli-Shadpour M, et al., *Dynamic Stress Analysis of the Arterial Wall Utilizing Physiological Pressure Waveforms. American Journal of Applied Sciences, 5(10):1285-1290, 2008.*
25. Ansari A, Tafazzoli-Shadpour M, et al., *A New System to Analyze Pulsatile Flow Characteristics in Elastic Tubes for Hemodynamic Applications. American Journal of Applied Sciences, 5(12):1730-1736, 2008.*

26. Rashidi N, Tafazzoli M, et al., *Effect of cyclic uniaxial strain on morphology of mesenchymal stem cells during differentiation to smooth muscle cells*, KOOMESH 2016.
27. Khani MM and Tafazzoli M, *Effect of substrate stiffness on mechanical behavior of mesenchymal stem cells during differentiation to smooth muscle cells*, KOOMESH 2015.
28. Alireza Mohammadkarim, et al., *Investigation of morphological behavior of large vessel human endothelial cells during radiation therapy based on cytoskeleton imaging*. *Pathobiology Research*, Vol. 20: 63-77 (2017).

6. Conference paper:

1. Khani MM, Katouzian H, et al. *Nonlinear hyper elastic parameter estimation of human heel-pad: A finite element and evolutionary based algorithm*. 8th international symposium on computer method in biomechanics and biomedical engineering, Porto, Portugal: 2008
2. Khani MM, Tafazoli Shad-pour M, et al. *Dynamic stress analysis of lower premolar tooth: A finite element study* 8th international symposium on computer method in biomechanics and biomedical engineering, Porto, Portugal: 2008
3. Khani MM, Tafazoli Shad-pour M, et al. *A Finite Element Model for Dynamic stress analysis in Maxillary Central teeth: Sensitivity to Visco-Elastic Property*, *Proceeding of World Academy of Science, Engineering and Technology (WASET)*, Vol.30, Paris, France: July, 2008.
4. Naderi P, Khani M, et al., *effect of viscoelasticity on dynamic stress distribution in maxillary central*, 14th ICBME p.p.129 (2008).
5. Khani MM, et al., *Effect of cyclic uniaxial strain on differentiation and morphology of mesenchymal stem cells*. 3th national seminar on the role of medical basic sciences on health promotion p.p.139 (2015).
6. Khani MM and Tafazzoli M, *Effect of substrate stiffness on mechanical behavior of mesenchymal stem cells in response to TGF-Beta*. 3th national seminar on the role of medical basic sciences on health promotion p.p.157 (2015).