

# Peiman Brouki Milan, PhD

---

## Personal Data

---

Email: brouki.p@iums.ac.ir

Iran Cell Phone: +989129210104

## Education and Training

---

Tehran University of medical sciences-Tehran, Iran

Doctor of Philosophy (PhD) in Tissue Engineering

Mentor; Prof.M.T Joghataei, PhD

Dissertation Defense: July 2013

Degree Conferred: October 2016

Tabriz University of medical sciences-Tabriz, Iran

Master of Science in Anatomical Science

Mentor; Prof.A.M Roshandeh, PhD

Dissertation Defense: May 2010

Degree Conferred: February 2012

## Current Appointment

---

Assistant Professor, Department Head

Department of Tissue engineering &Regenerative Medicine

Faculty of Advanced Technologies in Medicine

Iran University of Medical Sciences (IUMS)

## Professional Experiences and History

---

Dr Peiman B. Milan is currently working as an Assistant Professor at the Iran University of Medical Sciences since April 2017. He completed his Master's degree in Anatomical Sciences at Tabriz University of Medical Sciences (2011) and PhD in Tissue engineering (2016) from the Department of Tissue Engineering and Regenerative Medicine of Tehran University of Medical Sciences. During his PhD studies, under the supervision of Prof. Joghataei and Prof. Samadikuchaksaraei, he has been specifically trained to process and fabricate skin and bone substitutes with naturally based materials.

### Research :

Dr Milan is working on an integrated multidisciplinary tissue engineering approach and advanced methodologies to create complex biomaterials-stem cells constructs. His research interests focus on skin, bone and, more recently, cartilage tissue engineering strategies, namely the development of scaffold materials based on natural biodegradable polymers and stem cells sourcing (umbilical cord, bone marrow and adipose tissue). Also, he is interested in translational aspects of tissue engineering, focusing on developing bioadhesive materials, injectable hydrogels and cryopreservation of tissue substitutes. He is actively collaborating with biologists and theoreticians. He has presented in many national and international conferences in the field of tissue engineering and had been acting as a referee of high-profile peer-reviewed journals

## Publications

---

### Peer Reviewed Articles (Published Only)

- **Milan PB**, Amini N, Mehrabi A, Mousazadeh S, Ababzadeh S, Rezapour A. Cell Sources in Cardiac Tissue Engineering: Current Choices. *Current Stem Cell Research & Therapy*. 2021 Jan 19. (Impact Factor= 2.614)
- Peyravian N, Malekzadeh Kebria M, Kiani J, **Brouki Milan P\***, Mozafari M. CRISPR-Associated (CAS) Effectors Delivery via Microfluidic Cell-Deformation Chip. *Materials*. 2021 Jan;14(12):3164. (Impact Factor= 3.057)
- Sharahi M, Hivechi A, Bahrami SH, Hemmatinejad N, **Milan PB**. Co-electrospinning of lignocellulosic nanoparticles synthesized from walnut shells with poly (caprolactone) and gelatin for tissue engineering applications. *Cellulose*. 2021 May;28(8):4943-57. (Impact Factor= 4.80)
- Bahmanpour A, Ghaffari M, **Milan PB**, Moztarzadeh F, Mozafari M. Synthesis and characterization of thermosensitive hydrogel based on quaternized chitosan for intranasal delivery of insulin. *Biotechnology and applied biochemistry*. 2021 Apr;68(2):247-56. (Impact Factor= 1.638)
- Ahmadi S, Hivechi A, Bahrami SH, **Milan PB**, Ashraf SS. Cinnamon extract loaded electrospun chitosan/gelatin membrane with antibacterial activity. *International Journal of Biological Macromolecules*. 2021 Mar 15;173:580-90. (Impact Factor= 5.162)

- Ganjali M, Mousavi S, Nikzamir S, **Milan PB**, Mozafari M. Effect of laser cladded co-doped strontium fluorapatite nanopowder coating on the antibacterial and cell attachment of Ti-6Al-4V implants for bone applications. *Materials Technology*. 2021 Mar 12;1-3. (Impact Factor= 1.738)
- Mohamadi PS, Hivechi A, Bahrami H, Hemmatinegad N, **Milan PB**. Antibacterial and biological properties of coconut oil loaded poly (ε-caprolactone)/gelatin electrospun membranes. *Journal of Industrial Textiles*. 2021 Feb 4;1528083721991595. (Impact Factor= 1.884)
- Hivechi A, Bahrami SH, Siegel RA, Siehr A, Sahoo A, **Milan PB**, Joghataei MT, Amoupour M, Simorgh S. Cellulose nanocrystal effect on crystallization kinetics and biological properties of electrospun polycaprolactone. *Materials Science and Engineering: C*. 2021 Feb 1;121:111855. (Impact Factor= 5.88)
- Hivechi A, **Milan PB**, Modabberi K, Amoupour M, Ebrahimzadeh K, Gholipour AR, Sedighi F, Amini N, Bahrami SH, Rezapour A. Synthesis and Characterization of Exopolysaccharide Encapsulated PCL/Gelatin Skin Substitute for Full-Thickness Wound Regeneration. *Polymers* 2021, 13, 854. (Impact Factor= 3.426)
- Navaei T, **Milan PB**, Samadikuchaksaraei A, Davari HR, Hardy JG, Mozafari M. Design and fabrication of polycaprolactone/gelatin composite scaffolds for diaphragmatic muscle reconstruction. *Journal of Tissue Engineering and Regenerative Medicine*. 2021 Jan;15(1):78-87. (Impact Factor= 3.078)
- Khorasani MT, Joorabloo A, Adeli H, **Milan PB**, Amoupour M. Enhanced antimicrobial and full-thickness wound healing efficiency of hydrogels loaded with heparinized ZnO nanoparticles: In vitro and in vivo evaluation. *International Journal of Biological Macromolecules*. 2021 Jan 1;166:200-12. (Impact Factor= 5.162)
- Ahovan ZA, Khosravimelal S, Eftekhari BS, Mehrabi S, Hashemi A, Eftekhari S, **Milan PB**, Mobaraki M, Seifalian AM, Gholipourmalekabadi M. Thermo-responsive chitosan hydrogel for healing of full-thickness wounds infected with XDR bacteria isolated from burn patients: In vitro and in vivo animal model. *International Journal of Biological Macromolecules*. 2020 Dec 1;164:4475-86. (Impact Factor= 5.162)
- Kargozar S, Hoseini SJ, **Milan PB**, Hooshmand S, Kim HW, Mozafari M. Quantum Dots: A Review from Concept to Clinic. *Biotechnology Journal*. 2020 Dec;15(12):2000117. (Impact Factor= 3.543)
- Rezapour-Lactoe A, Yeganeh H, Gharibi R, **Milan PB**. Enhanced healing of a full-thickness wound by a thermoresponsive dressing utilized for simultaneous transfer and protection of adipose-derived mesenchymal stem cells sheet. *Journal of Materials Science: Materials in Medicine*. 2020 Nov;31(11):1-3. (Impact Factor= 2.467)
- Sabouri L, Farzin A, Kabiri A, **Milan PB**, Farahbakhsh M, Mehdizadehkashi A, Kajbafzadeh A, Samadikuchaksaraei A, Yousefbeyk F, Azami M, Moghtadaei M. Mineralized Human Amniotic Membrane as a Biomimetic Scaffold for Hard Tissue Engineering Applications. *ACS Biomaterials Science & Engineering*. 2020 Oct 19;6(11):6285-98. (Impact Factor= 4.152)

- Sharifi M, Bahrami SH, Nejad NH, **Milan PB**. Electrospun PCL and PLA hybrid nanofibrous scaffolds containing Nigella sativa herbal extract for effective wound healing. *Journal of Applied Polymer Science*. 2020 Dec 10;137(46):49528. (Impact Factor= 2.81)
- Hivechi A, Bahrami SH, Siegel RA, **Milan PB**, Amoupour M. In vitro and in vivo studies of biaxially electrospun poly (caprolactone)/gelatin nanofibers, reinforced with cellulose nanocrystals, for wound healing applications. *Cellulose*. 2020 Jun;27(9):5179-96. (Impact Factor= 4.80)
- Kabirian F, **Brouki Milan P**, Zamanian A, Heying R, Mozafari M. Additively manufactured small- diameter vascular grafts with improved tissue healing using a novel SNAP impregnation method. *Journal of Biomedical Materials Research Part B: Applied Biomaterials*. 2020 May;108(4):1322-31. (Impact Factor= 2.831)
- Haramshahi SM, Bonakdar S, Moghtadaei M, Kamguyan K, Thormann E, Tanbakooei S, Simorgh S, **Brouki-Milan P**, Amini N, Latifi N, Joghataei MT. Tenocyte-imprinted substrate: A topography-based inducer for tenogenic differentiation in adipose tissue-derived mesenchymal stem cells. *Biomedical Materials*. 2020 Apr 16;15(3):035014. (Impact Factor= 3.174)
- **Milan PB**, Khamseh S, Zarrintaj P, Ramezanzadeh B, Badawi M, Morisset S, Vahabi H, Saeb MR, Mozafari M. Copper-enriched diamond-like carbon coatings promote regeneration at the bone-implant interface. *Heliyon*. 2020 Apr 1;6(4):e03798. (Impact Factor= 2.85)
- Rashtchian M, Hivechi A, Bahrami SH, **Milan PB**, Simorgh S. Fabricating alginate/poly (caprolactone) nanofibers with enhanced bio-mechanical properties via cellulose nanocrystal incorporation. *Carbohydrate polymers*. 2020 Apr 1;233:115873. (Impact Factor= 7.182)
- Touri M, Moztarzadeh F, Abu Osman NA, Dehghan MM, **Brouki Milan P**, Farzad-Mohajeri S, Mozafari M. Oxygen-releasing scaffolds for accelerated bone regeneration. *ACS Biomaterials Science & Engineering*. 2020 Mar 19;6(5):2985-94. (Impact Factor= 4.152)
- **Milan PB**, Amini N, Joghataei MT, Ebrahimi L, Amoupour M, Sarveazad A, Kargozar S, Mozafari M. Decellularized human amniotic membrane: From animal models to clinical trials. *Methods*. 2020 Jan 15;171:11-9. (Impact Factor= 3.812)
- **Milan PB**, Pazouki A, Joghataei MT, Mozafari M, Amini N, Kargozar S, Amoupour M, Latifi N, Samadikuchaksaraei A. Decellularization and preservation of human skin: A platform for tissue engineering and reconstructive surgery. *Methods*. 2020 Jan 15;171:62-7. (Impact Factor= 3.812)
- Simorgh S, Alizadeh R, Eftekhazadeh M, Haramshahi SM, **Milan PB**, Doshmanziari M, Ramezanzadeh F, Gholipourmalekabadi M, Seifi M, Moradi F. Olfactory mucosa stem cells: An available candidate for the treatment of the Parkinson's disease. *Journal of cellular physiology*. 2019 Dec;234(12):23763-73. (Impact Factor= 5.546)
- Heidari M, Bahrami SH, Ranjbar-Mohammadi M, **Milan PB**. Smart electrospun nanofibers containing PCL/gelatin/graphene oxide for application in nerve tissue engineering. *Materials science and engineering: C*. 2019 Oct 1;103:109768. (Impact Factor= 5.88)

- Tariverdian T, Behnamghader A, **Milan PB**, Barzegar-Bafrooei H, Mozafari M. 3D-printed barium strontium titanate-based piezoelectric scaffolds for bone tissue engineering. *Ceramics International*. 2019 Aug 1;45(11):14029-38. (Impact Factor= 3.83)
- Kabirian F, **Milan PB**, Zamanian A, Heying R, Mozafari M. Nitric oxide-releasing vascular grafts: A therapeutic strategy to promote angiogenic activity and endothelium regeneration. *Acta biomaterialia*. 2019 Jul 1;92:82-91. (Impact Factor= 7.242)
- Mehrabi S, Nasirinezhad F, Barati M, Abutaleb N, Barati S, Dereshky BT, Amini N, **Milan PB**, Jahanmahin A, Sarveazad A, Samadikuchaksaraei A. The Effect of Alpha-Tocopherol on Morphine Tolerance-induced Expression of c-fos Proto-oncogene from a Biotechnological Perspective. *Recent patents on biotechnology*. 2019 Jun 1;13(2):137-48. (Impact Factor= 1.46)
- Zarrintaj P, Mostafapoor F, **Milan PB**, Saeb MR. Theranostic platforms proposed for cancerous stem cells: a review. *Current stem cell research & therapy*. 2019 Feb 1;14(2):137-45. (Impact Factor= 2.614)
- Mohammadi A, Maleki-Jamshid A, **Milan PB**, Ebrahimzadeh K, Faghihi F, Joghataei MT. Intrahippocampal transplantation of undifferentiated human chorionic-derived mesenchymal stem cells does not improve learning and memory in the rat model of sporadic Alzheimer disease. *Current stem cell research & therapy*. 2019 Feb 1;14(2):184-90. (Impact Factor= 2.614)
- Amini N, Vousooghi N, Alizade A, Ramezani S, Joghataei MT, **Milan PB**, Mehrabi S, Ababzadeh S, Sefat F, Mozafari M. Transplantation of adipose tissue-derived stem cells into brain through cerebrospinal fluid in rat models: Protocol development and initial outcome data. *Current stem cell research & therapy*. 2019 Feb 1;14(2):191-5. (Impact Factor= 2.614)
- Ramezani S, Amiini N, Khodaei F, Safakheil H, Sarveazad A, Mohebbi SL, **Milan PB**. A novel intervention technology for cerebral palsy: Brain stimulation. *Iranian journal of child neurology*. 2019;13(2):17. (Impact Factor= ...)
- Kargozar S, Mozafari M, Hamzehlou S, **Brouki Milan P**, Kim HW, Baino F. Bone tissue engineering using human cells: a comprehensive review on recent trends, current prospects, and recommendations. *Applied Sciences*. 2019 Jan;9(1):174. (Impact Factor= 1.689)
- Baghersad S, Bahrami SH, Mohammadi MR, Mojtahedi MR, **Milan PB**. Development of biodegradable electrospun gelatin/aloe-vera/poly (ε caprolactone) hybrid nanofibrous scaffold for application as skin substitutes. *Materials Science and Engineering: C*. 2018 Dec 1;93:367-79. (Impact Factor= 5.88)
- Mozafari M, Kargozar S, De Santiago GT, Mohammadi MR, **Milan PB**, Foroutan Koudehi M, Aghabarari B, Nourani MR. Synthesis and characterization of highly interconnected porous poly (ε-caprolactone)-collagen scaffolds: a therapeutic design to facilitate tendon regeneration. *Materials technology*. 2018 Jan 2;33(1):29-37. (Impact Factor= 1.738)
- Kargozar S, Mozafari M, Hill RG, **Milan PB**, Joghataei MT, Hamzehlou S, Baino F. Synergistic combination of bioactive glasses and polymers for enhanced bone tissue regeneration. *Materials Today: Proceedings*. 2018 Jan 1;5(7):15532-9. (Impact Factor= 1.24)

- Kargozar S, Baino F, Lotfibakhshaiesh N, Hill RG, **Milan PB**, Hamzehlou S, Joghataei MT, Mozafari M. When size matters: Biological response to strontium-and cobalt-substituted bioactive glass particles. *Materials Today: Proceedings*. 2018 Jan 1;5(7):15768-75. (Impact Factor= 1.24)
- Gholipourmalekabadi M, Seifalian AM, Urbanska AM, Omrani MD, Hardy JG, Madjd Z, Hashemi SM, Ghanbarian H, **Brouki Milan P**, Mozafari M, Reis RL. 3D protein-based bilayer artificial skin for the guided scarless healing of third-degree burn wounds in vivo. *Biomacromolecules*. 2018 Mar 12;19(7):2409-22. (Impact Factor= 6.092)
- Mohammadi A, Maleki-Jamshid A, Sanooghi D, **Milan PB**, Rahmani A, Sefat F, Shahpasand K, Soleimani M, Bakhtiari M, Belali R, Faghihi F. Transplantation of human chorion-derived cholinergic progenitor cells: a novel treatment for neurological disorders. *Molecular neurobiology*. 2019 Jan 1;56(1):307-18. (Impact Factor= 4.586)
- Amini N, Vousooghi N, Soleimani M, Samadikuchaksaraei A, Akbari M, Safakheil H, Atafimanesh P, Shahbazi A, **Milan PB**, Ramezani S, Mozafari M. Corrigendum to " A New Rat Model of Neonatal Bilirubin Encephalopathy (Kernicterus)" [*J. Pharmacol. Toxicol. Methods* 84 (2017) 44-50]. *Journal of pharmacological and toxicological methods*. 2018;92:95. (Impact Factor= 2.252)
- Kargozar S, Mozafari M, Hashemian SJ, **Brouki Milan P**, Hamzehlou S, Soleimani M, Joghataei MT, Gholipourmalekabadi M, Korourian A, Mousavizadeh K, Seifalian AM. Osteogenic potential of stem cells- seeded bioactive nanocomposite scaffolds: A comparative study between human mesenchymal stem cells derived from bone, umbilical cord Wharton's jelly, and adipose tissue. *Journal of Biomedical Materials Research Part B: Applied Biomaterials*. 2018 Jan;106(1):61-72. (Impact Factor= 2.831)
- Rahmati M, **Milan PB**, Samadikuchaksaraei A, Goodarzi V, Saeb MR, Kargozar S, Kaplan DL, Mozafari M. Ionically crosslinked thermoresponsive chitosan hydrogels formed in situ: a conceptual basis for deeper understanding. *Macromolecular Materials and Engineering*. 2017 Nov;302(11):1700227. (Impact Factor= 3.89)
- Kargozar S, Lotfibakhshaiesh N, Ai J, Mozafari M, **Milan PB**, Hamzehlou S, Barati M, Baino F, Hill RG, Joghataei MT. Strontium-and cobalt-substituted bioactive glasses seeded with human umbilical cord perivascular cells to promote bone regeneration via enhanced osteogenic and angiogenic activities. *Acta biomaterialia*. 2017 Aug 1;58:502-14. (Impact Factor= 7.242)
- Kargozar S, Hashemian SJ, Soleimani M, **Milan PB**, Askari M, Khalaj V, Samadikuchaksaraei A, Hamzehlou S, Katebi AR, Latifi N, Mozafari M. Acceleration of bone regeneration in bioactive glass/gelatin composite scaffolds seeded with bone marrow-derived mesenchymal stem cells over-expressing bone morphogenetic protein-7. *Materials Science and Engineering: C*. 2017 Jun 1;75:688-98. (Impact Factor= 5.88)
- Zarekhalili Z, Bahrami SH, Ranjbar-Mohammadi M, **Milan PB**. Fabrication and characterization of PVA/Gum tragacanth/PCL hybrid nanofibrous scaffolds for skin substitutes. *International journal of biological macromolecules*. 2017 Jan 1;94:679-90. (Impact Factor= 5.162)

- **Milan PB**, Lotfibakhshaiesh N, Joghataie MT, Ai J, Pazouki A, Kaplan DL, Kargozar S, Amini N, Hamblin MR, Mozafari M, Samadikuchaksaraei A. Accelerated wound healing in a diabetic rat model using decellularized dermal matrix and human umbilical cord perivascular cells. *Acta biomaterialia*. 2016 Nov 1;45:234-46. (Impact Factor= 7.242)
- Kargozar S, Lotfibakhshaiesh N, Ai J, Samadikuchaksaraie A, Hill RG, Shah PA, **Milan PB**, Mozafari M, Fathi M, Joghataei MT. Synthesis, physico-chemical and biological characterization of strontium and cobalt substituted bioactive glasses for bone tissue engineering. *Journal of Non-Crystalline Solids*. 2016 Oct 1;449:133-40. (Impact Factor= 3.43)
- Ansari S, **Milan PB**, Mohammadnejad D, Delazar A, Mortazavi M, Roushandeh AM. Effects of Polygonum avicular extract on histological changes of mouse seminiferous tubules after electromagnetic field exposure. *Pharmaceutical Sciences*. 2014;19(4):139-44. (Impact Factor= 0.238)
- Ebrahimi-Kalan A, Roudkenar MH, Halabian R, **Milan PB**, Zarrintan A, Roush AM. Down-regulation of metallothionein 1 and 2 after exposure to electromagnetic field in mouse testis. *Iranian biomedical journal*. 2011 Oct;15(4):151. (Impact Factor= 1.97)
- **Milan PB**, Nejad DM, Ghanbari AA, Rad JS, Nasrabadi HT, Roudkenar MH, Roushandeh AM, Goldust M. Effects of Polygonum aviculare herbal extract on sperm parameters after EMF exposure in mouse. *Pakistan Journal of Biological Sciences*. 2011 Jul 1;14(13):720. (Impact Factor= 1.04)

## Book Chapters

---

- Sefat, F., Raja, T. I., Moghadam, Z. S., **Milan, P. B.**, Samadikuchaksaraei, A., & Mozafari, M. (2019). Nanoengineered biomaterials for bladder regeneration. *Nanoengineered Biomaterials for Regenerative Medicine*. 459–474. doi:10.1016/b978-0-12-813355-2.00020-x. Elsevier.
- Urbanska, A. M., Sefat, F., Yousaf, S., Kargozar, S., **Milan, P. B.**, & Mozafari, M. (2019). Nanoengineered biomaterials for intestine regeneration. *Nanoengineered Biomaterials for Regenerative Medicine*. 363–378. doi:10.1016/b978-0-12-813355-2.00016-8. Elsevier.
- Raja, T. I., Mozafari, M., **Milan, P. B.**, Samadikuchaksaraei, A., & Sefat, F. (2019). Nanoengineered biomaterials for tracheal replacement. *Nanoengineered Biomaterials for Regenerative Medicine*. 285–303. doi:10.1016/b978-0-12-813355-2.00012-0. Elsevier.
- Ramedani A, Yazdanpanah A, Abrishamkar A, Nasrollahi M, **Milan PB**, Moghadam ZS, Chauhan NP, Sefat F, Mozafari M. Advanced characterization tools for PANI and PANI-clay nanocomposites. *In Fundamentals and emerging applications of polyaniline* 2019 Jan 1 (pp. 203-226). Elsevier.

- Yazdanpanah A, Ramedani A, Abrishamkar A, **Milan PB**, Moghadan ZS, Chauhan NP, Sefat F, Mozafari M. Synthetic route of PANI (V): Electrochemical polymerization. *In Fundamentals and Emerging Applications of Polyaniline* 2019 Jan 1 (pp. 105-119). Elsevier.
- Chauhan NP, **Milan PB**, Kargozar S, Mozafari M. Synthetic route of PANI (III): Ultrasound-assisted polymerization. *In Fundamentals and Emerging Applications of Polyaniline* 2019 Jan 1 (pp. 67-89). Elsevier.
- Kargozar S, **Milan PB**, Baino F. Scaffolds for the repair of orbital wall defects. *In Handbook of Tissue Engineering Scaffolds: Volume One* 2019 Jan 1 (pp. 401-419). Woodhead Publishing.
- Afjeh-Dana E, Ashtari K, **Milan PB**. Scaffolds for auditory nerve regeneration. *In Handbook of Tissue Engineering Scaffolds: Volume Two* 2019 Jan 1 (pp. 123-143). Woodhead Publishing.
- **Milan PB**, Amini N, Amoupour M, Amadikuchaksaraei A, Rezapour A, Sefat F, Kargozar S, Ashtari K, Mozafari M. Scaffolds for regeneration of dermo-epidermal skin tissue. *In Handbook of tissue engineering scaffolds: Volume Two* 2019 Jan 1 (pp. 193-209). Woodhead Publishing.
- Alasvand N, Kargozar S, **Milan PB**, Chauhan NP, Mozafari M. Functionalized polymers for drug/gene-delivery applications. *In Advanced Functional Polymers for Biomedical Applications* 2019 Jan 1 (pp. 275-299). Elsevier.
- Pandey A, Salvi N, Punjabi PB, Gholipourmalekabadi M, **Milan PB**, Mozafari M, Chauhan NP. Grafted biopolymers II: synthesis and characterization. *In Advanced Functional Polymers for Biomedical Applications* 2019 Jan 1 (pp. 43-63). Elsevier.
- Tariverdian T, Navaei T, **Milan PB**, Samadikuchaksaraei A, Mozafari M. Functionalized polymers for tissue engineering and regenerative medicines. *In Advanced Functional Polymers for Biomedical Applications* 2019 Jan 1 (pp. 323-357). Elsevier.
- **Milan PB**, Kargozar S, Joghataie MT, Samadikuchaksaraei A. Nanoengineered biomaterials for skin regeneration. *In Nanoengineered Biomaterials for Regenerative Medicine* 2019 Jan 1 (pp. 265-283). Elsevier.
- Urbanska AM, Sefat F, Yousaf S, Kargozar S, **Milan PB**, Mozafari M. Nanoengineered biomaterials for intestine regeneration. *In Nanoengineered biomaterials for regenerative medicine* 2019 Jan 1 (pp. 363-378). Elsevier.
- Raja TI, Mozafari M, **Milan PB**, Samadikuchaksaraei A, Sefat F. Nanoengineered biomaterials for tracheal replacement. *In Nanoengineered biomaterials for regenerative medicine* 2019 Jan 1 (pp. 285-303). Elsevier.
- Tariverdian T, Zarintaj P, **Milan PB**, Saeb MR, Kargozar S, Sefat F, Samadikuchaksaraei A, Mozafari M. Nanoengineered biomaterials for kidney regeneration. *In Nanoengineered Biomaterials for Regenerative Medicine* 2019 Jan 1 (pp. 325-344). Elsevier.
- Sefat F, Raja TI, Moghadam ZS, **Milan PB**, Samadikuchaksaraei A, Mozafari M. Nanoengineered biomaterials for bladder regeneration. *In Nanoengineered Biomaterials for Regenerative Medicine* 2019 Jan 1 (pp. 459-474). Elsevier.



- Kargozar S, **Milan PB**, Bairo F, Mozafari M. Nanoengineered biomaterials for bone/dental regeneration. *In Nanoengineered Biomaterials for Regenerative Medicine* 2019 Jan 1 (pp. 13-38). Elsevier.
- Navaei T, **Milan PB**, Davari HR, Samadikuchaksaraei A, Mozafari M. Nanoengineered biomaterials for diaphragm regeneration. *In Nanoengineered Biomaterials for Regenerative Medicine* 2019 Jan 1 (pp. 345-362). Elsevier.

## Books

---

- 2015 Skin tissue engineering (Published)
- 2015 Principle of Two-dimensional cell culture methods (Published)
- 2016 Principle of Tissue Engineering (Published)

## Professional Presentations with Published Abstracts

---

- Tissue and organ regeneration using decellularized matrix scaffolds. In the 3st Iranian progress on in Tissue engineering and Regenerative Medicine in the field of urology, Kermanshah, Iran, 21 February 2018.
- Sustained release of the stromal cell–derived factor 1- alpha from novel biomimetic hybrid scaffold for regeneration of full-thickness diabetic skin wound in rat model. In the 3st Iranian Congress on progress in Tissue engineering and Regenerative Medicine, 19-21 October 2016, Tehran, Iran.
- A multimodal bottom-up approach for the synthesis of a novel biomimetic hybrid scaffold to promote skin regeneration. In the 3st Iranian Congress on progress in Tissue engineering and Regenerative Medicine, 19-21 October 2016, Tehran, Iran.
- Wound healing in diabetic rat models using decellularized dermal matrix and human umbilical cord perivascular cells. In the 1st Iranian Wound and Burn Congress, Shiraz, Iran. 2016
- Enhancement of angiogenic ability for isolated human umbilical cord perivascular stem cells using decellularized scaffolds in full-thickness diabetic skin wound in rat model. In the 2st Iranian Congress on progress in Tissue engineering and Regenerative Medicine, 19-21 October 2015, Tehran, Iran.

## Poster

---

- The first International National Cancer Congress, Mashhad University of Medical Sciences, Mashhad, Iran. CAR T-cell to treat cancer; how it works? Published in the Razavi International journal (2016)
- The first national festival & international congress of stem cell and regenerative medicine, Razian international conferences centre, Tehran, Iran. Synthesis, Physico-chemical and

biological characterisation of strontium- and cobalt substituted bioactive glasses for bone tissue engineering. (19-21 May 2016)

- The first national festival & international congress of stem cell and regenerative medicine, Razian international conferences centre, Tehran, Iran. Enhancing bone regeneration using bioactive glass/gelatin scaffolds as a carrier for BMP-2/7 gene-modified bone marrow mesenchymal stem cells. (19-21 May 2016)
- Royan international Twin congress, 2016, Tehran, Iran. Osteogenic potential of stem cells – seeded bioactive glass/gelatin nanocomposite scaffolds: A comparative study between human mesenchymal stem cells derived from bone, umbilical cord Wharton's Jelly and adipose tissue. 2016

## Research Grant Support

---

**Funding agency:** Iran University of Medical Sciences (#97-01-87-32574)

**Role:** Principal Investigator

**Title:** Fabrication of 3D scaffolds of bioactive glasses containing magnesium and evaluation of its implantation together with bone marrow stromal cells in the management of an experimental model of critical bone defect in rats

**Funding dates:** 1/1/2018 - 2019

**Description:** In the present study, we aim to develop a bone substitute based on the bioactive glass to be a suitable alternative to natural bone. In order to accelerate the vascular formation process and osteogenesis, magnesium ions are doped in the sample structure. As it turns out, one of the essential topics in tissue engineering is the vascularity of structures.

**Funding agency:** Iran University of Medical Sciences (#1397-01-117-33032)

**Role:** Principal Investigator

**Title:** Preparation and evaluation of the collagen-based skin substitute

**Funding dates:** 15/10/2019 - 2020

**Description:** Collagen is the most prevalent animal protein, with a broad distribution in soft and hard connective tissues. Natural collagen may be produced into highly structured, three-dimensional scaffolds in vitro, which are innately biocompatible, biodegradable, nontoxic when applied exogenously, and have high tensile strength. These attributes make collagen the material of choice for wound healing and tissue engineering applications. Due to the perfect effect of collagen-based skin structures, an attempt is made to make a collagen skin substitute in this study.

**Funding agency:** Iran University of Medical Sciences (#99-2-14-18720 )

**Role:** Principal Investigator

**Title:** Designing and synthesis of injectable hydrogel based on dialdehyde carboxymethyl cellulose-chitosan containing borate bioactive glass for wound healing in mice model

**Funding dates:** 18/04/2021 - ongoing

**Description:** To provide a smart bioadhesive with extended, stimuli-driven, and slow-release function, chitosan/CMC-based biocompatible, tunable, and injectable hydrogels embedded with bioactive borate-glass were created.

**Funding agency:** Iran University of Medical Sciences (#98-2-14-15190)

**Role:** Principal Investigator

**Title:** Production characterization and evaluation of berberis integerrima extract encapsulated nanofibers for diabetic wound dressing

**Funding dates:** 24/09/2019 - ongoing

**Description:** We are attempting to make hybrid calcium alginate/polycaprolactone nanofibers. The purpose of using polycaprolactone is to improve the strength of scaffolds while maintaining the biological characteristics of calcium alginate. Two-axis electrospinning will be employed in this research. Hybrid nanofibers are created in this manner. Finally, experimental and biological (in vitro) investigations will be performed to investigate and assess the feasibility of this structure for cell growth and proliferation.

**Funding agency:** Iran University of Medical Sciences (#98-4-14-16643)

**Role:** Principal Investigator

**Title:** Evaluation of the osteogenic and angiogenic potential of the olfactory mucosa stem cells in a bone-on-a-chip system and animal model

**Funding dates:** 24/03/2020 - ongoing

**Description:** This study investigates the olfactory mucosa stem cells for differentiation into bone line cells by creating a bone microenvironment on a three-dimensional substrate. We will examine the osteogenic and angiogenic potential of the Olfactory derived cells in vitro and then examine the repair potential of these stem cells in vivo in the rat bone defect model.

**Funding agency:** Iran University of Medical Sciences (#97-02-87-33265)

**Role:** Principal Investigator

**Title:** Evaluation of therapeutic effects of the activated macrophages associated with decellularized amniotic membrane on an experimental wound model healing in mice

**Funding dates:** 28/10/2018 – 22/06/2021

**Description:** The main goal of this study was to assess the effects of mesenchymal stem cell supernatant on differentiation of the isolated monocyte into M2 type macrophages, as well as the healing impact of these cells were evaluated in a full-thickness animal incisional wound model.

## Teaching Experience

---

- Tissue and Organ Regeneration
- Cell Culture
- Cell and Tissue banking
- Principal of the standardization of biological products
- Histotechnique
- Cell Signaling

## Instructor of Workshops

---

- Tissue engineering in urology. Workshop, Kermanshah University of Medical Sciences, (invited speaker)2017
- Tissue and organ decellularization, Tehran University of Medical Sciences, (invited speaker)2017
- Tissue and organ decellularization, Iran University of Medical Sciences, (invited speaker)2015, 2016

## Research Trainees

---

- Loghman Ebrahimi (Applied cell science, PhD Student in IUMS)
- Sara Simorgh (Applied cell science, PhD Student in IUMS)
- Melina Ghasemian (Tissue Engineering PhD Student in IUMS)
- Arezou Mehrabi (Tissue Engineering PhD Student in IUMS)

## Peer-review Activities

---

- Journal of Biointerface Research in Applied Chemistry since 2015
- Material Sciences and Engineering C since 2016
- Current stem cell research & therapy since 2017
- Materials Today: Proceeding since 2017
- Journal of biomacromolecule since 2019

## Professional Memberships

---

### **Mohammad -Taghi Joghataei, PhD**

Professor of Neuroanatomy and Neuroscience

Department of Anatomy and Neuroscience, Iran University of Medical Sciences, Tehran, Iran

**Tel/Fax:** 0098-21- 88622578

**Cell Phone:** 0098-912-111-4191

**Home Phone:** 0098-21-88034414

**E-mail:** joghataei.mt@iums.ac.ir , Mt.joghataei@yahoo.com

### **Ali Samadikuchaksaraei, MD, PhD, DIC, FRSPH,**

Associate Professor, Department of Medical Biotechnology, Iran University of Medical Sciences  
Tehran, Iran

**Tel:** (+98 21) 8805 2984

**Mobile:** (+98 912) 55-77-66-9

**Fax:** (+98 21) 8805 4355

+1 530 380 7337 (Web-based, California)

+44 870 913 4099 (Web-based, UK)

**Email:** a-samadi@tums.ac.ir (alternative: ali.samadi01@imperial.ac.uk)