

Personal Information:

Surname: **Farokhi** First name: **Mehdi**
Nationality: **Iranian** Date of birth: **Jan 15, 1983**
Place of Birth: **Tehran, Iran**



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Position: Assosiat Professor of Tissue engineering

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Biography:

Dr. Mehdi Farokhi is a researcher and associate professor of Tissue Engineering at the Pasteur Institute of Iran. He completed his education at the Medical University of Tehran. With a deep passion for advancing the field of biomedical sciences, Dr. Farokhi's research focuses on the development and application of multifunctional hydrogels made from both natural and synthetic polymers, as well as nanoparticles for drug delivery applications.

Throughout his career, Dr. Farokhi has made significant contributions to the field of tissue engineering by investigating novel materials and technologies that hold great promise in regenerative medicine. His expertise lies in designing and engineering hydrogels that mimic the natural extracellular matrix, providing an ideal environment for cellular growth and tissue regeneration. By utilizing advanced techniques and innovative approaches, Dr. Farokhi aims to overcome existing challenges in drug delivery and enhance therapeutic outcomes.

Dr. Farokhi's research has garnered recognition and praise within the scientific community, leading to numerous publications in esteemed journals.

As an associate professor, Dr. Farokhi is actively involved in mentoring and guiding the next generation of researchers. His dedication to education and fostering a collaborative environment has inspired many aspiring scientists to pursue careers in tissue engineering and biomaterials.

Educational background:

Degree	Major	Location	Date
Ph.D.	Tissue Engineering	Department of Tissue Engineering, University of Thran, Tehran, Iran.	2009-2012
M.Sc	Anatomy	Department of Anatomy and Histology, Qazvin University, Qazvin, Iran.	2005-2008
B.Sc	Radiology	Shahid Beheshti University, Tehran, Iran.	2003-2005

Dissertation title of M.Sc

Isolation, characterization of human osteoblast cells and biocompatibility evaluation of them next to bone nano-composite.

Dissertation title of Ph.D.

Evaluation the effect of endothelial, endometrial stem cell, and angiogenic factors on osteoblast cell function seeded on nano-structured Silk/PLGA construct.

Languages:

English

Persian: Native

Thesis:

Ph.D Supervisor

1. Design, fabrication, and evaluation of alginate scaffold based on fixation of nerve growth factors (NGF) and peptide sequence, in order to repair diabetic foot ulcer.
2. Fabrication and evaluation of polymeric nanoadjuvant based on silk containing hepatitis B antigen
3. Cartilage tissue engineering using endometrial stem cells seeded on silk fibroin/Wharton's jelly
4. Cytotoxic evaluation of fibroin coated with sericin using osteoblast and lymphocyte cells
5. Design and evaluation of silk nanoparticle with the ability of dual release of vancomycin and phenamil.
6. Design and fabrication of *Acinetobacter baumannii* vaccine candidate based on polydopamine nanoadjuvant carrying rOmp22 protein against respiratory infection (pneumonia) in mouse model
7. Design and fabrication of a vaccine candidate based on rOmpA from *Klebsiella pneumoniae* encapsulated in silk/alginate nanoadjuvant against pneumonia infection
8. Design and construction of multi peptide antigen derived from virulence factors of *Pseudomonas aeruginosa* encapsulated in silk based carrier applicable fabrication against urinary tract infection
9. Evaluation of the protectivity of gelatin-based nanoparticles carrying chimeric protein derived from proteins S and OprI of *Pseudomonas aeruginosa* in mice model
10. Design and fabrication of nanocomposite conductive pectin-based scaffold for nerve tissue engineering
11. Design, preparation and evaluating of immobilized nerve growth factors (NGF) in Alginate-based scaffold decorated with peptide for the treatment of induced diabetic ulcer in rat model
12. Fabrication of nanocomposites based on carbon quantum dots for controlled release of BMP-2
13. Photothermal-chemotherapy of breast cancer with targeted application of RGD peptide attached to manganese dioxide-melanin nanoparticles containing paclitaxel
14. Synthesis and characterization of temperature-sensitive hydrogel carrier with application in bone tissue engineering

Ph.D Advisor

1. Fabrication and characterization of silk fibroin collagen nanofibrous scaffold containing epidermal growth factor and aloin for the growth of corneal epithelial stem cells
2. Fabrication and determination of properties of silk nanoparticles and investigation of its use as an adjuvant in a new polypeptide vaccine candidate including immunogenic epitopes IutA.FimH against urinary tract infection caused by uropathogenic Escherichia coli bacterial strain
3. Design and Fabrication of Hydrogel Nanocomposite Containing Carbon Nanodot fabricated by a Microfluidic System for Investigation of Release of VEGF
4. Evaluation the effect of Silk/Cap based scaffold containing cobalt ions on osteogenesis and angiogenesis.
- 5 Electrospinning of silk containing rosuvastatin for bone tissue engineering application.

MSc Supervisor

1. Transfecting BMP2 gene into human Adipose-derived stem cell and monitoring its differentiation and osteogenic behavior on 3D silk/alumina scaffold.
2. Evaluation the release of VEGF and PDGF from chitosan nanoparticles embedded in silk fibroin based scaffold on endothelial cells function.
3. Angiogenesis evaluation of silk nanoparticles incorporated with VEGF and PDGF.
4. Calcium phosphate preparation on silk/carrageenan scaffold in order to enhance bone regeneration.
5. Evaluation the release of copper from chitosan/silk scaffold on endothelial cells function.
6. Surface modification of MMT nano-clay using fibronectin for bone tissue engineering.
7. Surface modification of silk fibroin nanoparticle by fibronectin in order to control released of VEGF.
8. Fabrication of conductive hydrogel based on gelatin/pluronic containing hydroxyapatite for bone tissue engineering
9. Fabrication wound dressing based on sodium carboxymethyl cellulose (SCMC) containing silk fibroin nanoparticles for antibiotic delivery
10. Evaluation of effective parameters on the fabrication of silk fibroin hydrogel containing polydopamine nanoparticles applicable for regenerating soft tissue

11. design of a targetive pH-sensitive drug delivery system based on anti-cancer loaded silk-chitosan nanoparticles.

12. Preparation of bisphosphonate-targeted silk fibroin nanoparticles for osteosarcoma treatment

MSc Advisor

1. Preparation an electrospun scaffold based on Silk/Aloe vera incorporated with nanoparticles containing E vitamin for skin tissue engineering.

2. Preparation and evaluation of scaffold based on Carboxymethylcellulose/Silk incorporated with chitosan nanoparticles containing C vitamin for bone tissue engineering.

3. The effect of compressive force on the osteogenic differentiation of mesenchymal stem cells cultured in a 3D scaffold based on silk/calcium titanate

4. Synthesis and investigation of the properties of hydrogel wound dressing based on silk fibroin/oxygen nanoparticles

Projects Leader

1. Design and manufacture of conductive hydrogel based on silk fibroin/ agarose/ carboxymethyl cellulose containing graphene oxide powder for skin burn repair

2. Design, fabrication and efficacy evaluation of oxygen generating injectable smart electroactive hydrogel based on silk fibroin containing thermosensitive chitosan/PNIPAM nanoparticles loaded with simvastatin applicable for bone tissue engineering

3. Design and manufacture of anti-scar hydrogel based on polydopamine/carboxymethyl chitosan grafted with pirfenidone and graphene oxide loaded with vancomycin for skin burn repair

4. Design and manufacture of Acinetobacter baumannii vaccine candidate based on polydopamine nano adjuvant carrying rOmp22 protein against respiratory infection (pneumonia) in mouse model

5. Preparation and evaluation of extracorporeal and intracorporeal restorative bioadhesive containing curcumin and nanoparticles loaded with vitamin C for burn repair

6. Design and fabrication of silk fibroin/tragacanth-based scaffold containing vancomycin applicable for bone tissue engineering

7. Fabrication of silk nanocomposite containing halloysite nanotubes loaded with vancomycin for use in bone tissue engineering

8. Designing, manufacturing and evaluating the efficacy of gelatin wound dressing containing pH-sensitive smart nanoparticles of alginate/silk fibroin with dual release of vancomycin antibiotic and EGF growth factor for the treatment of 3rd degree burns.
9. Fabrication of silk wound dressing loaded with epidermal growth factor and smart silk/alginate nanoparticles containing ceftazidime antibiotic to treat 3rd degree burns
10. Design and manufacture of 3D scaffold based on silk fibroin/alumina for use in bone tissue engineering
11. Application of mesoporous silicate nanoparticles sensitive to pH and glutathione in controlled palbociclib in the treatment of osteosarcoma
12. Design and manufacture of conductive hydrogel based on silk fibroin/ agarose/ carboxymethyl cellulose containing graphene oxide powder for skin burn repair
13. Design and manufacture of biohybrid scaffold based on Silk/PLGA nanocomposite conjugated with PDGF and VEGF for repairing bone lesions
14. Design, manufacture and evaluation of the in vitro efficiency of a bone scaffold containing silk nanoparticles with the dual release capability of the antibiotic Vancomycin and the small bone-forming molecule Phenamil to control Staphylococcus aureus
15. Fabrication of bone scaffold containing nanoparticles loaded with vancomycin antibiotic to treat osteomyelitis
16. Investigating the effect of fibronectin on the physicochemical properties and biocompatibility of single-walled carbon nanotubes
17. Fabrication of silk fibroin nanoparticles to deliver angiogenic factor
18. Evaluation the efficacy of drug delivery system based on silk fibroin nanoparticle loaded vancomycin in order to treatment of staphylococcus aureus bacteria

Projects Collaboration

1. Evaluation of the toxicity of the double carrier system based on silk nanoparticles loaded with doxorubicin and survivin siRNA on the growth rate of MCF-7 cells.
2. Synthesis a polymer pre-coating and fixing a protein halo on magnetic nanoparticles incubated in human plasma as two strategies to prevent the halo phenomenon of targeted magnetic nanoparticles.

3. Design, manufacture and evaluation of in vitro efficiency of bone scaffold containing silk nanoparticles with the ability to release the small bone-forming molecule simvastatin for the treatment of bone defects
4. Formulation of hepatitis B vaccine adjuvant based on AIPO₄/MPL
5. The effect of applying compressive force on the osteogenic differentiation of mesenchymal stem cells cultured in a 3D scaffold based on silk/alumina and bone tissue repair in rats
6. Comparison of molecular imprinting and cellular imprinting for osteogenic differentiation of stem cells
7. Evaluation of silk nanoparticles as nano adjuvants
8. Loading nanoparticles containing angiogenic endothelial growth factor on silk/vancomycin scaffold and investigating the effect of its release on the growth and proliferation of MRSA bacteria
9. Comparison of different methods of preparation and evaluation of solid lipid nanoparticles with fluorescent marker containing recombinant hepatitis B surface antigen (rHBsAg), as a new system of vaccine delivery and adjuvant
10. Evaluation of the role of physical conditions (topography and elasticity) of cell culture surfaces on the response to the toxic effects of nanoparticles and drugs
11. Evaluation of the differentiation of adipose mesenchymal stem cells into chondrocytes and tenocytes using cell shape engineering

Honors

1. World Top 2% scientists in 2023
2. World Top 2% scientists in 2022
3. The best associate professor at the Pasteur Institute of Iran in 2024
4. The best assistant professor at the Pasteur Institute of Iran in 2018
5. The best young researcher at the Pasteur Institute of Iran in 2016

ISI Papers

1. Mottaghitlab, Fatemeh, and **Mehdi Farokhi***. "Stimulus-responsive biomacromolecule wound dressings for enhanced drug delivery in chronic wound healing: A review." *International Journal of Biological Macromolecules* (2024): 136496.
2. Daneshvar, Anahita, **Mehdi Farokhi***, Shahin Bonakdar, and Manouchehr Vossoughi. "Synthesis and characterization of injectable thermosensitive hydrogel based on Pluronic-grafted silk fibroin copolymer containing hydroxyapatite nanoparticles as potential for bone tissue engineering." *International Journal of Biological Macromolecules* 277 (2024): 134412.
3. Parvaei, Maryam, Mehri Habibi, Shahla Shahbazi, Mercedeh Babaluei, **Mehdi Farokhi***, and Mohammad Reza Asadi Karam. "Immunostimulatory chimeric protein encapsulated in gelatin nanoparticles elicits protective immunity against *Pseudomonas aeruginosa* respiratory tract infection." *International Journal of Biological Macromolecules* 277 (2024): 133964.
4. Mottaghitlab, Fatemeh, Mohsen Khodadadi Yazdi, Mohammad Reza Saeb, Tomasz Bączek, and **Mehdi Farokhi***. "Green and sustainable hydrogels based on Quaternized chitosan to enhance wound healing." *Chemical Engineering Journal* (2024): 152288.
5. Makurat- Kasprolewicz, Balbina, Hossein Ipakchi, Pouya Rajaei, Agnieszka Ossowska, Aleksander Hejna, **Mehdi Farokhi**, Fatemeh Mottaghitlab et al. "Green engineered biomaterials for bone repair and regeneration: Printing technologies and fracture analysis." *Chemical Engineering Journal* 494 (2024): 152703.
6. Sabzi, Samira, Mehri Habibi, Farzad Badmasti, Shahla Shahbazi, Mohammad Reza Asadi Karam, and **Mehdi Farokhi***. "Polydopamine-based nano adjuvant as a promising vaccine carrier induces significant immune responses against *Acinetobacter baumannii*-associated pneumonia." *International Journal of Pharmaceutics* 654 (2024): 123961.
7. Vafapour, Fatemeh, Fatemeh Bagheri, and **Mehdi Farokhi***. "Development of pH-Sensitive Alendronate-Decorated Silk Fibroin/Alginate Nanoparticles for Active Targeting of Doxorubicin to Bone Cancers." *Journal of Cluster Science* 35, no. 5 (2024): 1317-1328.
8. Babaluei M, Mojarab Y, Mottaghitlab F, Saeb MR, **Farokhi M***. Conductive hydrogels based on tragacanth and silk fibroin containing dopamine functionalized carboxyl-capped aniline pentamer: Merging hemostasis, antibacterial, and anti-oxidant properties into a

multifunctional hydrogel for burn wound healing. *International Journal of Biological Macromolecules*. 2024 Feb 2;129932.

9. Mottaghitalab F, Yazdi MK, Saeb MR, Bączek T, **Farokhi M***. Green and sustainable hydrogels based on Quaternized chitosan to enhance wound healing. *Chemical Engineering Journal*. 2024 May 20;152288.
10. Makurat- Kasprolewicz B, Ipakchi H, Rajaei P, Ossowska A, Hejna A, **Farokhi M**, Mottaghitalab F, Pawlak M, Rabiee N, Belka M, Bączek T. Green engineered biomaterials for bone repair and regeneration: Printing technologies and fracture analysis. *Chemical Engineering Journal*. 2024 Aug 15;494:152703.
11. Mostofi M, Mostofi F, Hosseini S, Alipour A, Nourany M, Hamidian R, Vahidi S, **Farokhi M**, Shokrgozar MA, Homaeigohar S, Wang PY. Efficient three-dimensional (3D) human bone differentiation on quercetin-functionalized isotropic nano-architecture chitinous patterns of cockroach wings. *International Journal of Biological Macromolecules*. 2024 Feb 1;258:129155.
12. Moradi A, Shirangi A, Asadi M, **Farokhi M**, Gholami M, Aminianfar H, Atyabi F, Mottaghitalab F, Dinarvand R. Targeted delivery of doxorubicin by SP5-52 peptide conjugated exosome nanoparticles into lung tumor: An in vitro and in vivo study. *Journal of Drug Delivery Science and Technology*. 2024 Feb 1;92:105313.
13. Shahbazi S, Habibi M, Badmasti F, Sabzi S, **Farokhi M***, Karam MR. Design and fabrication of a vaccine candidate based on rOmpA from *Klebsiella pneumoniae* encapsulated in silk fibroin-sodium alginate nanoparticles against pneumonia infection. *International Immunopharmacology*. 2023 Dec 1;125:111171.
14. Keykhaee M, Rahimifard M, Najafi A, Baeeri M, Abdollahi M, Mottaghitalab F, **Farokhi M***, Khoobi M. Alginate/gum arabic-based biomimetic hydrogel enriched with immobilized nerve growth factor and carnosine improves diabetic wound regeneration. *Carbohydrate Polymers*. 2023 Dec 1;321:121179.
15. Babaluei M, Mojarab Y, Mottaghitalab F, **Farokhi M***. Injectable hydrogel based on silk fibroin/carboxymethyl cellulose/agarose containing polydopamine functionalized graphene oxide with conductivity, hemostasis, antibacterial, and anti-oxidant properties for full-thickness burn healing. *International Journal of Biological Macromolecules*. 2023 Sep 30;249:126051.

16. Rezvanirad A, Habibi M, **Farokhi M***, Asadi Karam MR. Immunogenic Potential and Therapeutic Efficacy of Multi- Epitope Encapsulated Silk Fibroin Nanoparticles against *Pseudomonas aeruginosa*- Mediated Urinary Tract Infections. *Macromolecular Bioscience*. 2023 Sep;23(9):2300074.
17. Babaluei M, Mottaghitalab F, Seifalian A, **Farokhi M***. Injectable multifunctional hydrogel based on carboxymethylcellulose/polyacrylamide/polydopamine containing vitamin C and curcumin promoted full-thickness burn regeneration. *International Journal of Biological Macromolecules*. 2023 May 1;236:124005.
18. Heydari SR, Samadi M, Shirangi A, **Farokhi M**, Moradi A, Bafkary R, Atyabi F, Mottaghitalab F, Dinarvand R. Dual responsive hydroxyapatite capped mesoporous silica nanoparticles for controlled delivery of Palbociclib to treat osteosarcoma. *Journal of Drug Delivery Science and Technology*. 2023 Apr 1;82:104356.
19. Karimi T, Mottaghitalab F, Keshvari H, **Farokhi M***. Carboxymethyl chitosan/sodium carboxymethyl cellulose/agarose hydrogel dressings containing silk fibroin/polydopamine nanoparticles for antibiotic delivery. *Journal of Drug Delivery Science and Technology*. 2023 Feb 1;80:104134.
20. **Farokhi M***, Mottaghitalab F, Babaluei M, Mojarab Y, Kundu SC. Advanced multifunctional wound dressing hydrogels as Drug carriers. *Macromolecular Bioscience*. 2022 Dec;22(12):2200111.
21. Zargar S, Asefnejad A, Azami M, **Farokhi M**. Fabrication and Characterization of Collagen Nanofiber/Fibroin Silk Scaffolds for Corneal Tissue Engineering. *Journal of Advanced Materials and Technologies*. 2022 Nov 22;11(3):15-30.
22. Zahedi P, Hassani Besheli N, **Farokhi M***, Mottaghitalab F, Sohrabi A, Ghorbanian SA. Silk fibroin nanoparticles functionalized with fibronectin for release of vascular endothelial growth factor to enhance angiogenesis. *Journal of Natural Fibers*. 2022 Oct 28;19(14):9223-34.
23. Kiadeh SZ, Ghaee A, Pishbin F, Nourmohammadi J, **Farokhi M**. Nanocomposite pectin fibers incorporating folic acid-decorated carbon quantum dots. *International Journal of Biological Macromolecules*. 2022 Sep 1;216:605-17.
24. Motasadizadeh H, Tavakoli M, Damoogh S, Mottaghitalab F, Gholami M, Atyabi F, **Farokhi M***, Dinarvand R. Dual drug delivery system of teicoplanin and phenamil based

on pH-sensitive silk fibroin/sodium alginate hydrogel scaffold for treating chronic bone infection. *Biomaterials Advances*. 2022 Aug 1;139:213032.

25. Zarrin NK, Mottaghitalab F, Reis RL, Kundu SC, **Farokhi M***. Thermosensitive chitosan/poly (N-isopropyl acrylamide) nanoparticles embedded in aniline pentamer/silk fibroin/polyacrylamide as an electroactive injectable hydrogel for healing critical-sized calvarial bone defect in aging rat model. *International Journal of Biological Macromolecules*. 2022 Jul 31;213:352-68.
26. Mottaghitalab F, Motasadizadeh H, Shokrgozar MA, Shojaei S, **Farokhi M***. Fabrication of Silk Scaffold Containing Simvastatin-Loaded Silk Fibroin Nanoparticles for Regenerating Bone Defects. *Iranian Biomedical Journal*. 2022 Mar;26(2):116.
27. Basiri H, Mohseni SS, Abouei Mehrizi A, Rajabnejadkeleshteri A, Ghaee A, **Farokhi M**, Kumacheva E. Composite Microgels for Imaging-Monitored Tracking of the Delivery of Vascular Endothelial Growth Factor to Ischemic Muscles. *Biomacromolecules*. 2021 Nov 18;22(12):5162-72.
28. Moztaarzadeh F, **Farokhi M**, Mehrizi AA, Basiri H, Mohseni SS. Preparation of microfluidic-based pectin microparticles loaded carbon dots conjugated with BMP-2 embedded in gelatin-elastin-hyaluronic acid hydrogel scaffold for bone tissue engineering application. *International Journal of Biological Macromolecules*. 2021 Aug 1;184:29-41.
29. Kiadeh SZ, Ghaee A, **Farokhi M**, Nourmohammadi J, Bahi A, Ko FK. Electrospun pectin/modified copper-based metal–organic framework (MOF) nanofibers as a drug delivery system. *International Journal of Biological Macromolecules*. 2021 Mar 15;173:351-65.
30. Norouzi P, Motasadizadeh H, Atyabi F, Dinarvand R, Gholami M, **Farokhi M***, Shokrgozar MA, Mottaghitalab F. Combination therapy of breast cancer by codelivery of doxorubicin and survivin siRNA using polyethylenimine modified silk fibroin nanoparticles. *ACS Biomaterials Science & Engineering*. 2021 Feb 4;7(3):1074-87.
31. Rezaei F, Keshvari H, Shokrgozar MA, Doroud D, Gholami E, Khabiri A, **Farokhi M***. Nano-adjuvant based on silk fibroin for the delivery of recombinant hepatitis B surface antigen. *Biomaterials Science*. 2021;9(7):2679-95.
32. **Farokhi M***, Mottaghitalab F, Saeb MR, Shojaei S, Zarrin NK, Thomas S, Ramakrishna S. Conductive biomaterials as substrates for neural stem cells differentiation towards neuronal lineage cells. *Macromolecular Bioscience*. 2021 Jan;21(1):2000123.

33. Nourbakhsh M, Zarrintaj P, Jafari SH, Hosseini SM, Aliakbari S, Pourbadie HG, Naderi N, Zibaii MI, Gholizadeh SS, Ramsey JD, Thomas S, **Mehdi Farokhi***, Mohammad Reza Saeb. Fabricating an electroactive injectable hydrogel based on pluronic-chitosan/aniline-pentamer containing angiogenic factor for functional repair of the hippocampus ischemia rat model. *Materials Science and Engineering: C*. 2020 Dec 1;117:111328.
34. Rezaei F, Damoogh S, Reis RL, Kundu SC, Mottaghitalab F, **Farokhi M***. Dual drug delivery system based on pH-sensitive silk fibroin/alginate nanoparticles entrapped in PNIPAM hydrogel for treating severe infected burn wound. *Biofabrication*. 2020 Oct 16;13(1):015005.
35. Yazdi MK, Taghizadeh A, Taghizadeh M, Stadler FJ, **Farokhi M**, Mottaghitalab F, Zarrintaj P, Ramsey JD, Seidi F, Saeb MR, Mozafari M. Agarose-based biomaterials for advanced drug delivery. *Journal of Controlled Release*. 2020 Oct 10;326:523-43.
36. Zarrintaj P, Zangene E, Manouchehri S, Amirabad LM, Baheiraei N, Hadjighasem MR, **Farokhi M**, Ganjali MR, Walker BW, Saeb MR, Mozafari M. Conductive biomaterials as nerve conduits: recent advances and future challenges. *Applied Materials Today*. 2020 Sep 1;20:100784.
37. Askarzadeh N, Nazarpak MH, Mansoori K, **Farokhi M**, Gholami M, Mohammadi J, Mottaghitalab F. Bilayer Cylindrical Conduit Consisting of Electrospun Polycaprolactone Nanofibers and DSC Cross- Linked Sodium Alginate Hydrogel to Bridge Peripheral Nerve Gaps. *Macromolecular Bioscience*. 2020 Sep;20(9):2000149.
38. Hasanzadeh S, **Farokhi M**, Habibi M, Shokrgozar MA, Ahangari Cohan R, Rezaei F, Asadi Karam MR, Bouzari S. Silk fibroin nanoadjuvant as a promising vaccine carrier to deliver the FimH-IutA antigen for urinary tract infection. *ACS Biomaterials Science & Engineering*. 2020 Jul 6;6(8):4573-82.
39. Zarrintaj P, Ramsey JD, Samadi A, Atoufi Z, Yazdi MK, Ganjali MR, Amirabad LM, Zangene E, **Farokhi M**, Formela K, Saeb MR. Poloxamer: A versatile tri-block copolymer for biomedical applications. *Acta biomaterialia*. 2020 Jul 1;110:37-67.
40. Zirak Hassan Kiadeh S, Ghaee A, Bahi A, **Farokhi M**, Nourmohammadi J, Ko FK. Diameter-Tuning of Electrospun Pectin-Based Nanofibers. In *Eco-friendly and Smart Polymer Systems 13* 2020 (pp. 301-305). Springer International Publishing.

41. **Farokhi M***, Mottaghitalab F, Reis RL, Ramakrishna S, Kundu SC. Functionalized silk fibroin nanofibers as drug carriers: Advantages and challenges. *Journal of Controlled Release*. 2020 May 10;321:324-47.
42. Hadisi Z, **Farokhi M**, Bakhsheshi- Rad HR, Jahanshahi M, Hasanpour S, Pagan E, Dolatshahi- Pirouz A, Zhang YS, Kundu SC, Akbari M. Hyaluronic acid (HA)- based silk fibroin/zinc oxide core-shell electrospun dressing for burn wound management. *Macromolecular bioscience*. 2020 Apr;20(4):1900328.
43. Basiri H, Abouei Mehrizi A, Ghaee A, **Farokhi M**, Chekini M, Kumacheva E. Carbon dots conjugated with vascular endothelial growth factor for protein tracking in angiogenic therapy. *Langmuir*. 2020 Mar 3;36(11):2893-900.
44. Zafar B, Mottaghitalab F, Shahosseini Z, Negahdari B, **Farokhi M***. Silk fibroin/alumina nanoparticle scaffold using for osteogenic differentiation of rabbit adipose-derived stem cells. *Materialia*. 2020 Mar 1;9:100518.
45. Mottaghitalab F, Kiani M, **Farokhi M**, Dinarvand R, Ghodsollahi T, Atyabi F. The Effect of Fibronectin Coating on Protein Corona Structure and Cellular Uptake of Single-Walled Carbon Nanotubes. *Precision Nanomedicine*. 2020 Jan 26;3(1):459-70.
46. Yazdi MK, Zarrintaj P, Mottaghitalab F, **Farokhi M**, Ramsey JD, Saeb MR. Controlled/localized release and nanotechnology. *Nanoengineered Biomaterials for Advanced Drug Delivery* 2020 Jan 1 (pp. 27-36). Elsevier.
47. Norouzi P, Rastegari A, Mottaghitalab F, **Farokhi M**, Zarrintaj P, Saeb MR. Nanoemulsions for intravenous drug delivery. *Nanoengineered Biomaterials for Advanced Drug Delivery* 2020 Jan 1 (pp. 581-601). Elsevier.
48. Rastegari A, Mottaghitalab F, **Farokhi M***. Fabrication technology of chitosan-based IPN: drug delivery application. *Interpenetrating polymer network: Biomedical applications*. 2020:55-78.
49. Mohammadinejad R, Maleki H, Larraneta E, Fajardo AR, Nik AB, Shavandi A, Sheikhi A, Ghorbanpour M, **Farokhi M**, Govindh P, Cabane E. Status and future scope of plant-based green hydrogels in biomedical engineering. *Applied Materials Today*. 2019 Sep 1;16:213-46.

50. **Farokhi M***, Mottaghitalab F, Saeb MR, Thomas S. Functionalized theragnostic nanocarriers with bio-inspired polydopamine for tumor imaging and chemo-photothermal therapy. *Journal of Controlled Release*. 2019 Sep 10;309:203-19.
51. **Farokhi M***, Mottaghitalab F, Fatahi Y, Saeb MR, Zarrintaj P, Kundu SC, Khademhosseini A. Silk fibroin scaffolds for common cartilage injuries: possibilities for future clinical applications. *European Polymer Journal*. 2019 Jun 1;115:251-67.
52. Manouchehri S, Bagheri B, Rad SH, Nezhad MN, Kim YC, Park OO, **Farokhi M**, Jouyandeh M, Ganjali MR, Yazdi MK, Zarrintaj P. Electroactive bio-epoxy incorporated chitosan-oligoaniline as an advanced hydrogel coating for neural interfaces. *Progress in Organic Coatings*. 2019 Jun 1;131:389-96.
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54. Fani N, **Farokhi M**, Azami M, Kamali A, Bakhshaiesh NL, Ebrahimi-Barough S, Ai J, Eslaminejad MB. Endothelial and osteoblast differentiation of adipose-derived mesenchymal stem cells using a cobalt-doped CaP/Silk fibroin scaffold. *ACS Biomaterials Science & Engineering*. 2019 Apr 11;5(5):2134-46.
55. Basiri A, **Farokhi M***, Azami M, Ebrahimi-Barough S, Mohamadnia A, Rashtbar M, Hasanzadeh E, Mahmoodi N, Baghaban Eslaminejad M, Ai J. A silk fibroin/decellularized extract of Wharton's jelly hydrogel intended for cartilage tissue engineering. *Progress in biomaterials*. 2019 Mar;8:31-42.
56. Mottaghitalab F, **Farokhi M***, Fatahi Y, Atyabi F, Dinarvand R. New insights into designing hybrid nanoparticles for lung cancer: Diagnosis and treatment. *Journal of controlled release*. 2019 Feb 10;295:250-67.
57. Hassani Besheli N, Damoogh S, Zafar B, Mottaghitalab F, Motasadizadeh H, Rezaei F, Shokrgozar MA, **Farokhi M***. Preparation of a codelivery system based on vancomycin/silk scaffold containing silk nanoparticle loaded VEGF. *ACS Biomaterials Science & Engineering*. 2018 Jul 3;4(8):2836-46.
58. Naserzadeh P, Mortazavi SA, Ashtari K, Salimi A, **Farokhi M**, Pourahmad J. Evaluation of the toxicity effects of silk fibroin on human lymphocytes and monocytes. *Journal of Biochemical and Molecular Toxicology*. 2018 Jun;32(6):e22056.

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61. **Farokhi M***, Mottaghitalab F, Samani S, Shokrgozar MA, Kundu SC, Reis RL, Fatahi Y, Kaplan DL. Silk fibroin/hydroxyapatite composites for bone tissue engineering. *Biotechnology advances*. 2018 Jan 1;36(1):68-91.
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