

CURRICULUM VITAE

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Name: Simzar Hosseinzadeh

Education:

- Bachelor of animal biology, Tabriz university, Tabriz, Iran
- Master of medical nanotechnology, Tehran University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran
- PhD of medical nanotechnology, Tehran University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran

Career/Academic Appointments:

- Associate professor in School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
- Chair of tissue engineering and applied cell science department, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Administrative Positions:

- Educational Assistant in School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Professional Honors & Recognition:

- Recognized and encouraged as the best researcher of medical Nanotechnology in Iran by Iranian Nanotechnology society, 2011
- Ranked as a selective inventor of color competition by Amir Kabir university, 2015

Grant History:

- Evaluation of probiotic bacteria on the regeneration of dermal wounds with third-degree burns in animal model
- Animal evaluation in mice using a 3-layered scaffold containing oxygen production component for full-thickness dermal wounds
- Preparation and evaluation of chitosan/carbomer injectable hydrogel containing amniotic membrane extract in endometrial repair in Asherman's syndrome mouse model
- Fabrication and characterization of hybrid electrospun nanofibrous scaffold based on polyvinyl alcohol/gum Boswellia serrata /polycaprolactan and investigating its antibacterial properties in vitro
- Simultaneous effect of quercetin nanoparticles(NQue) and cobalt ferrite magnetic nanoparticles on MCF7 cell line apoptosis via improvement of hyperthermia impact and reduction of heat shock proteins HSP proteins expression

- Evaluation of the repair of cartilage defects using alginate/hyaluronic acid/berberine hydrogel containing copper (CuO) nanoparticle and mesenchymal stem cells derived from human tissue in vitro and in vivo
- Evaluation the in-vitro antibacterial and antifungal activity of zinc substituted cobalt- ferrite nanoparticles using broth microdilution method
- Animal study of chitosan-aspirin in rat
- Synthesis and characterization of Alginate based microparticle of Amphotricine B and zinc substituted cobalt - ferrite nano-particles as anti fungal agent for therapeutic approaches in lung tissue infection
- Using carbon quantum dots and cold atmospheric plasma on the destruction of cancer cells
- Fabrication and characterization of electrospun nanofibrous scaffold from amnion-polyurethane-gelatin for growth and differentiation of keratinocytes as in vitro and in vivo
- Fabrication and characterization of electrospun cellulose acetate scaffold and graphene oxide nanoparticles for bone differentiation of adipose stem cells
- MRI-Traced site-specific pulmonary delivery of Nano-In-Micro alginate based hydrogel composed of Amphotericin B and magnetic nanoparticles
- Evaluation and characterization of carbomer hydrogel scaffold by human umbilical cord vein endothelial cells (HUV-EC) to use in corneal endothelial repair
- Fabrication and characterization of Hydrogel/Nanofiber composite scaffold containing Amniotic Membrane Extract for Tympanic Membrane perforation healing applications in in vitro and in vivo
- Human corneal endothelial tissue engineering using a scaffold based on polyacrylate and PRGF in vitro and in animal's model.
- Synthesis and characterization of chitosan-coated liposomes nanoparticles encapsulating rapamycin; assessment of its inhibitory effect on growth and proliferation in breast cancer cell lines
- Study of simultaneous impact of three ions including silver-gold-platinum as an electrospun scaffold for osteogenesis of mesenchymal stem cells derived from adipose tissue

Completed Grants:

- Design, computational optimization and in-vitro preparation of pharmaceutical nano-formulation to enhance the gastrointestinal absorption of vancomycin
- Study of osteogenic proliferation and differentiation amount of cultured human dental pulp stem cells derived from permanent teeth on an oxygenator electrospinning scaffold from PCL-sodium percarbonate: in vitro and in vivo study
- Synthesis and application of graphene/cobalt ferrite nanostructures for hyperthermia of breast cancer tumors
- The effect of released polyethylenimine from nanofibrous scaffold of polyacrylonitril-polyethylenimine on expression of endothelial genes of cardiac progenitor cells
- Biocompatible fabrication of injectable hydrogel without oxidant for bone differentiation of mesenchymal pulp stem cell isolated from human permanent teeth
- Fabrication of gelatin-polyurethane-sodium percarbonate oxygen scaffold by electrospinning method and investigation of proliferation and differentiation of human keratinocytes in adipose tissue with fat mesenchymal stem cells in skin wound healing in vivo and in vitro
- The examination of synergistic impacts of probiotic bacteria (*Lactobacillus Plantarum*) and Platelet Rich Growth Factors (PRGF) on dermal wounds healing
- Synthesis of dermal patch obtained from electrospun nanofibers of nylon polymer-B-vulgaris extract

- Aspirin as a crosslinker of chitosan hydrogel for differentiate adipose mesenchymal stem cells into bone in vitro and in vivo.
- Analysis of osteogenic effect of Poly(acrylic acid)/nanoparticle tricalcium phosphate scaffold by using human cord mesenchymal stem cells
- Synthesis of nanocomposite membrane containing magnetic nanoparticles-polyvinylidene difluoride and assessment of mesenchymal stem cells differentiation to neural cells using magnetic bioreactor as in vitro study
- Coincident usage of cobalt ferrite magnetic nanoparticles and quercetin for MCF7 cell line apoptosis via improvement of hyperthermia impact and reduction of hsp proteins expression
- Fabrication and study of chitosan / aspirin hydrogel to differentiate adipose mesenchymal stem cells into bone in vitro and in vivo.
- Examination of osteogenesis of mesenchymal stem cells using electrospun nanofibers of polyacrylonitrile-cloisite 30B clay
- Fabrication of niosome nanoparticles including curcumin drug and assessment of its growth inhibitory on thyroid cancer cell line including SW-1736 and TT as non-medullary and medullary cell lines respectively

Lectures, Courses, Web-based Education:

No case.

PROFESSIONAL SERVICE

Peer Review Groups/Grant Study Sections:

No case.

Journal Service:

- Anatomical Science (<https://systems.enpress-publisher.com/index.php/AS/about/editorialTeam>)
- American journal of nanotechnology and nanomedicine (<https://www.scireslit.com/Nanotechnology/editorsJ.php>)

Professional Organizations:

- Tehran University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran (1386-1394)
- Stem Cell Technology Research Center, Tehran, Iran (1387-1397)
- School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran (1395-present)

Committees Memberships:

- Medical nanotechnology research center, shahid beheshti university of medical sciences, Tehran, Iran (1400-present)

- Shahid beheshti University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran (1401-present)

Bibliography:

Peer-Reviewed Original Research:*(List of published articles according to Vancouver style, from past to present)*

- Evaluation of probiotic bacteria on the regeneration of dermal wounds with third-degree burns in animal model
- Animal evaluation in mice using a 3-layered scaffold containing oxygen production component for full-thickness dermal wounds
- Preparation and evaluation of chitosan/carbomer injectable hydrogel containing amniotic membrane extract in endometrial repair in Asherman's syndrome mouse model
- Fabrication and characterization of hybrid electrospun nanofibrous scaffold based on polyvinyl alcohol/gum Boswellia serrata /polycaprolactan and investigating its antibacterial properties in vitro
- Simultaneous effect of quercetin nanoparticles(NQue) and cobalt ferrite magnetic nanoparticles on MCF7 cell line apoptosis via improvement of hyperthermia impact and reduction of heat shock proteins HSP proteins expression
- Evaluation of the repair of cartilage defects using alginate/hyaluronic acid/berberine hydrogel containing copper (cuo) nanoparticle and mesenchymal stem cells derived from human tissue in vitro and in vivo
- Evaluation the in-vitro antibacterial and antifungal activity of zink substituted cobalt- ferrite nanopartcles using broth microdilution method
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- Synthesis and characterization of Alginate based microparticle of Amphotricine B and zink substituted cobalt - ferrite nano-particles as anti fungal agent for therapeutic approaches in lung tissue infection
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- Fabrication and characterization of electrospun nanofibrous scaffold from amnion-polyurethane-gelatin for growth and differentiation of keratinocytes as in vitro and in vivo
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- fabrication of niosome nanoparticles including curcumin drug and assessment of its growth inhibitory on thyroid cancer cell line including SW-1736 and TT as non-medullary and medullary cell lines respectively

Chapters, Books:

- Golchin, Ali, Parisa Kangari, Sepideh Mousazadehe, Faeza Moradi, and Simzar Hosseinzadeh. "Nanotechnology in Cell Delivery Systems." In *21st Century Nanoscience—A Handbook*, pp. 19-1. CRC Press, 2020.
- Golchin, Ali, Forough Shams, Parisa Kangari, Arezoo Azari, and Simzar Hosseinzadeh. "Regenerative medicine: injectable cell-based therapeutics and approved products." *Cell Biology and Translational Medicine, Volume 7: Stem Cells and Therapy: Emerging Approaches* (2020): 75-95.
- Translation of “Scaffold for tissue engineering: biological design, materials and fabrication”, 1402, Shahid beheshti University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran
- Principles of materials based on medicine, 1402, Shahid beheshti University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran

Invited Editorials, Commentaries, Reports and Case Studies:

No case.