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Associate professor in School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Academic background

- PhD graduate of medical nanotechnology, Tehran University of medical science, School of Advanced Technologies in Medicine, Tehran, Iran
- Thesis: Synthesis of conductive nanofibrous hydrogel for muscle tissue engineering in microfluidic system, Academic Supervisor: S. M. Rezayat , M. soleimani
- Master of Medical Nanotechnology, Tehran University of Medical Sciences, School of Advanced Technologies in Medicine, 2011
- Thesis: The differentiation of muscle stem cells by nanofibrous electrospun polycaprolactone, Academic Supervisor: S. M. Rezayat , M. Soleimani, J. Ai
- Bachelor of Animal biology, Tabriz university, 2008

Awards and Honors

- Recognized and encouraged as the best researcher of medical Nanotechnology in Iran by Iranian Nanotechnology society , 2011
- Ranked Second, among Ph.D students in the Board exam, 2013
- Ranked fourth, in the Ph.D Entrance Examination held by Ministry of Health and Medical Education, 2011
- Ranked as a selective inventor of color competition by Amir Kabir university, 2015

Accepted articles

- Mohamadali, M., Irani, S., Soleimani, M., & **Hosseinzadeh, S**. (2017). PANi/PAN copolymer as scaffolds for the muscle cell-like differentiation of mesenchymal stem cells. Polymers for Advanced Technologies.

- Mohammadi Amirabad, Leila, Mohammad Massumi, Mehdi Shamsara, Iman Shabani, Afshin Amari, Majid Mossahebi Mohammadi, **Simzar Hosseinzadeh** et al. "Enhanced cardiac differentiation of human CVD patient-specific iPS cells by applying unidirectional electrical pulses using aligned electroactive nanofibrous scaffolds." *ACS Applied Materials & Interfaces* (2017).

- **Hosseinzadeh, Simzar**, et al. "Study of epithelial differentiation and protein expression of keratinocyte-mesenchyme stem cell co-cultivation on electrospun nylon/B. vulgaris extract composite scaffold." *Materials Science and Engineering: C* (2017).

- Reza Ghiasi, Hadi Bharifar, **Simzar Hosseinzadeh**, Mohammad Ail Zarinfard, Amir Hossein Hakimyoun, The Stability and Properties of Mn+@ C26-2nBnNn (M= alkaline and earth alkaline metals; n=0, 3) Complexes for Synthesis Application, Journal of Applied Chemical Research, 8, 2, 29-36 (2014)

- **Hosseinzadeh S**, Soleimani M, Rezayat SM, Ai J, Vasei M, The activation of satellite cells by nanofibrous poly ε-caprolacton constructs, Journal of biomaterials applications (2013): 0885328213481072.

- **Simzar Hosseinzadeh**, Masoud Soleimani, Sayed Mahdi Rezayat, Jafar Ai, Mohammad Vasei. The Activation of Satellite Cells by nanofibrous Collagen-CrosslinkedPoly(ε-caprolacton) Constructs. The Iranian Annual Congress on Progress in Tissue Engineering and Regenerative Medicine, accepted abstracts by Artificial Organs, 18th through 20th of May 2013

- **Hosseinzadeh Simzar**, Soleimani Masoud, Vashegani Farahani Ebrahim, Ghanbari Hossein, Arkan Elham, Rezayat Sayed Mahdi*, Detailed mechanism of aniline nucleation into more conductive nanofiber, synthetic metals, 2015

- **Hosseinzadeh Simzar**, Esnaashari Sara, Omid Sadeghpour , Hamedi Shokouhsadat, Predictive modeling of phenolic compound release profile from nanofibrous structure of chitosan-poly ethleneoxide patches, journal of Polymer engineering, 2015

- Matin Mahmodifard, Masoud Soleimani, Shadi Hatami, Soheila Zamanloui, **Simzar Hosseinzadeh as corresponding author**, The different fate of satellite cells on conductive composite electrospun nanofibers with graphene and graphene oxide nanosheets, biomedical materials, 2015

- Matin Mahmoudifard, Sara Soudi, Masoud Soleimani, **Simzar Hosseinzadeh**, Elaheh Esmaeili, Manouchehr Vossoughi, Efficient protein immobilization on polyethersolfone electrospun nanofibrous membrane via covalent binding for biosensing applications, Journal of material science and engineering, 2015

- **Hosseinzadeh, Simzar**, Sayed Mahdi Rezayat, Ebrahim Vashegani-Farahani, Matin Mahmoudifard, Soheila Zamanlui, and Masoud Soleimani. "Nanofibrous hydrogel with stable electrical conductivity for biological applications." Polymer 97 (2016): 205-216.

- **Hosseinzadeh, Simzar**, Matin Mahmoudifard, Farzaneh Mohamadyar-Toupkanlou, Masomeh Dodel, Atena Hajarizadeh, Mahdi Adabi, and Masoud Soleimani. "The

nanofibrous PAN-PANi scaffold as an efficient substrate for skeletal muscle differentiation using satellite cells." Bioprocess and biosystems engineering (2016): 1-10.

- Esnaashari, Seyedeh Sara, Samira Raminfard, Zeinab Gharaylou, and **Simzar Hosseinzadeh as corresponding author**. "More Precise Mapping of Gliobalstoma Based on a Nanoprobe-Decorated Drug Molecule." Journal of Advanced Medical Sciences and Applied Technologies 2, no. 1 (2016): 176-180.

- **Hosseinzadeh, Simzar as corresponding author**, Zeinab Zarei, Sara Esna-ashari, and Masoud Soleimani. "Cell interactions under controlled of surface substrate." Journal of Applied Tissue Engineering 3, no. 1 (2016).

Academical projects

- Microfluidic systems as a progressing model from cardio blastoma into differentiated cardiac cells, as **advisor**, Iran University of medical science
- Chitosan-PEO/extract as non-woven polymers provide nanoscaled and improved surface for keratinocyte, as **supervisor**, company of stem cell technology
- Electrical bioreactors progress mesenchymal stem cells to multi nuclear muscle cells, as **advisor**, Islamic Azad University, Science and Research Branch, Tehran
- Antibacterial burning dress from herbal extract/polyurethane electrospun mats, as **advisor**, Baqiyatallah University of Medical Sciences
- Delivery of Bumetanid to glioblastoma as marginal targeting and therapeutic aim, as **supervisor**, company of stem cell technology
- Piezoelectrical scaffold for cartilage engineering, as supervisor, as **supervisor**, company of stem cell technology
- Viola odorata extract for therapeutic approaches of breast cancer, as **supervisor**, company of stem cell technology
- The permeability of MSc1 complex nanoparticles from Caco2 cell line, as **advisor**, company of sodour ahrarsharg
- The in vivo assessment of periodontal nanofibrous patch for human as **advisor**, Tehran university of medical science
- Nanofibrous piezoelectric scaffolds for cartilage tissue engineering as **supervisor**, company of stem cell technology
- Hyperthermia effect of Cobalt Ferrite nanoparticles on breast cancer as **advisor**, Sharif university
- …….

پایان نامه

۱- مشاور خانم حوریه حسین پور، فوق میکروبیولوژی، دانشگاه علوم پزشکی بقیه الله
۲- مشاور آقای مهرداد پیران، فوق سلولی-ملکولی، پروژه ی سربازی
۳- مشاور آقای مهدی سجادی، فوق مکانیک، دانشگاه علم و صنعت
۴- مشاور خانم مرجان محمدعلی، فوق سلولی-ملکولی، دانشگاه آزاد
۵- مشاور خانم مریم سعادتی، دکترای فیزیک، دانشگاه زنجان
۶- راهنمای اول خانم میترا سلامت، فوق سلولی-ملکولی، دانشگاه آزاد
۷- راهنمای اول خانم ندا الماسی، فوق سلولی-ملکولی، دانشگاه آزاد
۸- مشاور خانم تهرانی، دکترای بیوتکنولوژی، دانشگاه علوم پزشکی رشت

Research experience

- Synthesis of nanoparticles
- Electrospining technique
- Biocompatibility assays by MTT, ROS and …..
- Extraction of RNA and cDNA synthesis
- Assessment of gene expression by PCR, Real-Time PCR
- Protein studies by western assay, Elisa assay, Immunocytochemistry, Immunohistochemistry
- Cell differentiation staining
- Principles of cell culture
- Isolation of stem cells
- Synthesis of Herbal drug
- Working with animal models
- Microfluidic patterning
- Cell culture and drug screening in microfluidic device
- COMSOL multiphysics modeling software

Workshop presentations

- Preparation of scaffolds for tissue engineering, Iranian academic center for education, culture and research
- Tissue engineering principles, Sharif University of Technology
- Tissue engineering and isolation of mesenchymal cells from adipose tissue, Azad University of Shahre Rey
- دوره ی آشنایی با فناوری نانوتکنولوژِی و کاربردهای آن در صنعت نفت، سازمان بهداشت و درمان صنعت نفت، ماهشهر آبادان

Books

- Medical nanotechnology, 2014 as author
- Human embryonic stem cells of Stephan Sullivan, Chad A. Cowan and Kevin Eggan, 2013 as translator
- کلیات مهندسی بافت، توسط شرکت فناوری بن یاخته، ۲۰۱۵ بعنوان نویسنده
- سیستم میکروفلوئیدیک و رویکرد پزشکی، به عنوان نویسنده در دست چاپ

Seminars and workshops

- AFM, 1 Day, November 2007, Tehran
- Iran-India joint conference, April 2008, as Collaborator, Tehran
- Iran-India joint conference, April 2008, as Attender, Tehran
- Applications of nanotechnology in medicine, 2007, Iran University of Medical science
- Nanobiotechnology, November 2008, Tehran University
- Scientific writing, 2007, Tehran University of Medical science
- How to publish a scientific journal article workshop, February 2013, Tehran
- Bioprinting in tissue engineering, 2012, Tehran University of Medical science
- Professional symposium on nanosafety in human & Eenvironment,2012, Tehran
- 3Dimensional cell culture, 2011, research center of Tehran University of Medical science
- Business and programming in nanotechnology in Iran, 2011, Tehran University of Medical science
- The Effects of Nano Scale on Satellite Cells Proliferation and Differentiation Potential, Biotechnica Conferences, October, 2010, Germany
- …….