

## Curriculum Vitae

### Mohammad Ali Derakhshan, PhD. (11/01/2022)

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Assistant Professor;

Department of Medical Nanotechnology,  
School of Advanced Medical Sciences and  
Technologies, Shiraz University of Medical  
Sciences, Shiraz, Iran.

#### EDUCATION

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**PhD** : Tehran University of Medical Sciences, Tehran, Iran.  
Medical Nanotechnology, March 2016.

**Thesis:** Preparation of core/shell electrospun nano-fibrous scaffolds capable of protein sustained-release for urinary bladder reconstruction.

**Supervisors:** Dr. Reza Faridi-Majidi, Dr. Gholamreza Pourmand, Dr. Jafar Ai.

**M.Sc.** : Tehran University of Medical Sciences, Tehran, Iran.  
Medical Nanotechnology, March 2010.

**Thesis:** Preparation and characterization of HSA NPs conjugated to methotrexate and surface modified with recombinant anti-muc1 antibodies.

**Supervisors:** Dr. Rassoul Dinarvand, Dr. Fatemeh Rahbarizadeh.

**B.S.** : Guilan University, Rasht, Iran.  
Biology, January 2007.

#### HONORS AND DISTINCTIONS

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- Research award from Iran's National Elites Foundation, 2017.
- Ranked 2<sup>nd</sup> in the nationwide Medical Nanotechnology examination for PhD in 2010.
- Ranked 1<sup>st</sup> (highest GPA) among the students of Medical Nanotechnology for M.Sc. degree at Tehran University of Medical Sciences, 2010.
- Ranked 1<sup>st</sup> in the nationwide M.Sc. entrance examination for Zoology subgroup of Biology, 2007.
- Ranked 5<sup>th</sup> in Medical Nanotechnology in the nationwide M.S. entrance examination, 2007.
- Ranked 9<sup>th</sup> in the nationwide Student Biology Olympiad in 2007.

#### RESEARCH INTERESTS

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Nanoparticle synthesis; Nanofiber preparation; Tissue Engineering; Cancer Nanotechnology.

## **PUBLICATIONS**

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### ***Book Chapters***

- Toxicity Concerns of Nanocarriers, Nanotechnology-Based Approaches for Targeting and Delivery of Drugs and Genes, *Elsevier*, 2017.
  - Medical Nanotechnology (in Persian), Chapter 7, 2010.
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### ***Accepted/Published Articles***

- Three-layered PCL-Collagen Nanofibers Containing Melilotus officinalis Extract for Diabetic Ulcer Healing in a Rat Model, *Journal of Diabetes & Metabolic Disorders*, 2022.
- State-of-the-Art Nanodiagnostics and Nanotherapeutics against SARS-CoV-2, *ACS Applied Materials and Interfaces* 2021, 13, 13, 14816–14843.
- Preparation and characterization of polyurethane/chitosan/CNT nanofibrous scaffold for cardiac tissue engineering, *International Journal of Biological Macromolecules*, 2021, 180, 590-598
- Fabrication and characterization of chitosan/kefiran electrospun nanofibers for tissue engineering applications, *Journal of Applied Polymer Science*, 50547, 2021.
- Development of Multi-channel Electro-conductive Nanofibrous Conduits for Peripheral Nerve Regeneration, (preprint), <https://assets.researchsquare.com/files/rs-367393/v1/0b691e21-88ab-40c2-9635-bb80ed887fb3.pdf?c=1631880940>.
- Novel electro-conductive nanocomposites based on electrospun PLGA/CNT for biomedical applications, *Journal of Materials Science: Materials in Medicine*, 2018.
- PCL/gelatin nanofibrous scaffolds with human endometrial stem cells/Schwann cells facilitate axon regeneration in spinal cord injury, *Journal of Cellular Physiology*, 2018.
- Plasmonic photothermal therapy of colon cancer cells utilising gold nanoshells: an in vitro study, *IET Nanobiotechnology*, 2017.
- Biomimetic modification of polyurethane-based nanofibrous vascular grafts: A promising approach towards stable endothelial lining, *Materials Science and Engineering: C*, 2017.

- Preparation of collagen/polyurethane/knitted silk as a composite scaffold for tendon tissue engineering, *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, 2017.
- Electrospun nerve guide scaffold of poly( $\epsilon$ -caprolactone)/collagen/nanobioglass: an in vitro study in peripheral nerve tissue engineering, *Journal of Biomedical Materials Research Part A*, 2017.
- Fabrication and characterization of nanofibrous tricuspid valve scaffold based on polyurethane for heart valve tissue engineering, *Nanomedicine Research Journal*, 2017.
- Electrospun PLLA nanofiber scaffolds for bladder smooth muscle reconstruction, *International urology and nephrology*, 2016.
- Comparison of capability of human bone marrow mesenchymal stem cells and endometrial stem cells to differentiate into motor neurons on electrospun poly ( $\epsilon$ -caprolactone) scaffold, *Molecular neurobiology*, 2016.
- Application of Electrospun Nanofibrous PHBV Scaffold in Neural Graft and Regeneration: A Mini-Review, *Nanomedicine Research Journal*, 2016.
- Artificial Neural Networks modeling of electrospun polyurethane nanofibers from chloroform/methanol solution, *Journal of Nano Research*, 2016.
- Fabrication of antibacterial silver nanoparticle modified chitosan fibers using Eucalyptus extract as a reducing agent, *Journal of Applied Polymer Science*, 2015.
- Preparation of an ascorbic acid/PVA–chitosan electrospun mat: a core/shell transdermal delivery system, *RSC Advances*, 2015.
- Nanoparticles of conjugated methotrexate-human serum albumin: preparation and cytotoxicity evaluations, *Journal of nanomaterials*, 2011.

## **PATENT**

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- 1) Multi-mode cancer targeted nanoparticulate system and a method of synthesizing the same, *US Patent*, 2013, App. 13/347,813.
- 2) Silk Woven Scaffold containing Non-woven Nanofibrous Coating for Tendon Regeneration, Iran's Patent Office, 2016.

## **PROFESSIONAL SERVICES**

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- Head of the Scientific Committee, Second National Conference on Nanofibers, 2019, Tehran.
- Member of the Scientific Committee, National Conference of Medical Nanotechnology Graduates, 2021, Tehran.

- Member of Executive and Scientific Committees, International Conference on Nanofibers (ICNF2017), Tehran, Iran.
- Member of Iranian Society of Nanomedicine, Since 2014.
- Member of executive committee, Nanosafety and Nanomedicine Conference (1<sup>st</sup>), 2014, Tehran, Iran.
- Member of executive committee, 1<sup>st</sup> Iran-India joint conference on nanotechnology, Tehran, Iran, April 2008.

#### **JOURNAL EDITORSHIP**

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- *Nanomedicine Research Journal*, Since 2016.
- *Journal of Advanced Medical Sciences and Applied Technologies (JAMSAT)*, since 2018.

#### **STUDENT THESIS SUPERVISION AND ADVISORY COLLABORATION**

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- Double-layered Electrospun Nanofibrous Wound Dressings Containing Anti-microbial Essential Oils for Burn Healing.
- Polyurethane Nanofibers containing Gold Nanoparticles for Myocardial Tissue regeneration.
- Preparation and Characterization of Nanofibrous Structures to Regenerate Damaged Cornea.
- Preparation of PU-Chitosan-CNT Nanofibrous Composites for Heart Tissue Engineering.
- Antioxidant Electrospun Collagen-based Nanofibers for Diabetic Ulcer Healing.