



MOBIN HAGHDEL

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“In the Name of Allah”

Curriculum Vitae (CV) Mobin Haghdel

Personal Details

First Name: Mobin

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Address: Vali Asr sqr, School of Advanced Medical Sciences and Technologies, Shiraz
University of Medical Sciences, Shiraz , Iran

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Education

Level	Description
Ph.D.	<ul style="list-style-type: none">✓ Field of study: Tissue Engineering✓ Institute: School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran.✓ Thesis Title: Synthesis of Nanofiber and Design multi-layer polymeric scaffolds for Esophageal Tissue Engineering (Score: 20 / 20)✓ Supervisors: Dr. Mohammad Hadi Imanieh Dr. Ali Akbar Alizadeh Dr. Younes Ghasemi✓ GPA: 19.16 / 20
M.Sc.	<ul style="list-style-type: none">✓ Field of study: Mechanical Engineering, Fluid Mechanics✓ Institute: School of Mechanical Engineering, Shiraz University, Shiraz, Iran.✓ Thesis Title: Numerical simulation of unsteady gas flow (Score: 20 / 20)✓ Supervisors: Dr. Mohammad Mahdi Alishahi✓ GPA: 18.96 / 20
B.Sc.	<ul style="list-style-type: none">✓ Field of study: Mechanical Engineering, Fluid Mechanics✓ Institute: School of Mechanical Engineering, Shiraz University, Shiraz, Iran.✓ Thesis Title: Research on jet packs operation and primary design of two models (Score: 20 / 20)✓ Supervisors: Dr. Mohammad Mahdi Alishahi✓ GPA: 16.33 / 20
H.S.	<ul style="list-style-type: none">✓ Field of study: Math-Physics✓ Institute: Ehsan complex, Shiraz, Iran



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Honors and distinction

- ✓ **1st rank** among 24 graduate students of mechanic department at Shiraz university (GPA: 18.96/20), 2012
- ✓ **4th rank** among 60 undergraduate students of mechanic department at Shiraz university (GPA: 16.33/20), 2010
- ✓ **8th rank** among 20,000 participants in the Iranian national university PhD entrance examination in Fluid Mechanics engineering 2017
- ✓ Admission to the PhD. Of Mechanical Engineering in the Shiraz University by **privileged entitlement**, 2013
- ✓ **Scholarship award** for outstanding students from Iran ministry of science, research and technology, 2014
- ✓ Admission to the PhD of Mechanical engineering in the **Sharif University of Technology** (top Iranian University in Engineering) by Iranian national university PhD entrance examination, 2017
- ✓ **1st rank** in quota among participants in the Iranian national university PhD entrance examination in Tissue engineering 2017
- ✓ Admission to the PhD of Tissue engineering in shiraz university of medical sciences by Iranian national university PhD entrance examination ,2017
- ✓ Member of council of University gifted students (Established to support students with highest intellectual abilities), 2012 (graduate, Shiraz University)

Patent

- ✓ Iran patent No. 139450140003001456 with title Design and Manufacture of Ultrasonic Model ejector
- ✓ Iran patent with title: Design and Manufacture of Advanced rotating wall bioreactor with Simultaneously two separated cell culture fluid flow (in progress)



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Teaching experiences

- ✓ Heat transfer lab, undergraduate fluid mechanics department, @ Shiraz University
- ✓ MATLAB programming, graduate, @ Shiraz University of Medical Sciences
- ✓ 3D printing techniques, graduate, @ Shiraz University of Medical Sciences

Teaching Assistant

- ✓ Systems biology, graduate, Instructor: Dr. Alizadeh
- ✓ Computational Fluid Dynamics (CFD), undergraduate, Instructor: Prof. M. M. Alishahi
- ✓ Turbomachines, undergraduate, Instructor: Dr. Khaleghi
- ✓ Dynamics, undergraduate, Instructor: Dr. Khaleghi

Teaching Skills

- ✓ Biomechanics
- ✓ Fluid and Solid Mechanics for Medical and Human Applications
- ✓ Scaffold construction and characterization methods
- ✓ Techniques for making tissue biological structures
- ✓ Principles of evaluating the Mechanics of tissues and scaffolds
- ✓ Medical Equipment's
- ✓ Computer Programming: MATLAB, C++, Python, Fortran, C#
- ✓ Computer Design Modeling Software: Solidworks, Catia, AutoCAD, Abacus, Ansys, ...
- ✓ Biomaterials: Polymers, Ceramics, Metals and Composites
- ✓ Medical information systems and technologies
- ✓ Bioprocess Engineering: Bioreactors and Bioprinter for Tissue Engineering
- ✓ GMP, GCP principles
- ✓ Bioinformatics
- ✓ Biostatistics



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Teaching Skills

- ✓ Principles of Tissue Engineering
- ✓ 3D and 2D cell cultures
- ✓ Systems Biology
- ✓ Principles of commercialization and standardization of tissue engineering products
- ✓ Application of nanotechnology in tissue engineering
- ✓ Cell, Tissue and Organ Banking
- ✓ Artificial Intelligence in medical applications
- ✓ Mathematical modeling and differential Equations applications in physiology, Anatomy, Genetics and

Professional Experiences

- ✓ Professional in design and works with several manufacturing machines such as: Milling, Drilling, cutting, pressing, welding, CNC machines, ...
- ✓ Professional on design and work with 3D printing, Bioprinting software's and machines
- ✓ Professional in Biomechanics, Mechanical Engineering, Simulations
- ✓ Professional on Scaffold manufacturing techniques such as: electrospinning, bioprinting, Molding, casting,...
- ✓ Professional on design and manufacturing bioreactors and fermenters
- ✓ Professional on design of solar systems and Nano Technologies
- ✓ Professional on stablish Knowledge-based company and Marketing
- ✓ Professional on launching Startups, get Supports and Funds
- ✓ Works on 3D and 2D cell culture, isolation and banking techniques
- ✓ Works on fabrication Biomaterial polymers, Ceramics and metal particles
- ✓ Experiences on some lab equipment's setup and cleanroom design
- ✓ Experiences on design and product high tech medical devices and medical supplies
- ✓ Experiences on techniques: Flow cytometry, PCR and Real time PCR, DNA extraction and sequencing, karyotype, western blot, HLA typing, Immunohistochemistry, Drug Delivery, ...



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Computer skills

Operating systems	<ul style="list-style-type: none">- All version of windows- All version of MacOS- Linux Basic, Ubuntu
Scientific software	<ul style="list-style-type: none">- Fluent- Gambit- CFX- Ansys CFD- LAMMPS (molecular dynamics)- Solidworks- Catia- Sketchup and civil 3D platforms- AutoCad- Abaqus- Mechanical Desktop
Programming	<ul style="list-style-type: none">- MATLAB (professional)- C++- Fortran- C#- Arduino programming- Python
Official software	<ul style="list-style-type: none">- Microsoft Word- Microsoft Excel- Microsoft Power points- Microsoft Access- Microsoft Visio- Endnote
Others	<ul style="list-style-type: none">- Photoshop- Digitizer- MRI to 3D software(such as Mimics,...)- Prism(GraphPad)- Ultimaker/Slicer- Image Processing softwares



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Interests

- ✓ Biomechanics
- ✓ organ & lab on a chip
- ✓ Microfluidic biosensors & MEMS
- ✓ Biomaterials
- ✓ advanced biomaterials-stem cell interactions
- ✓ computational analysis of biological systems
- ✓ Bioprinters
- ✓ bioreactors
- ✓ Medical robotics
- ✓ Targeted drug delivery
- ✓ CFD in medicine
- ✓ Manufacturing mechanics
- ✓ Mathematical Modeling and Simulation in Medicine

Other Activities

- ✓ Founder and CEO of knowledge-Based Company: Khodkafa Sanat Salamat Fars
- ✓ Founder and Chairman of the Board of Scientific Research Institute: Kavoshgar Khorshid
- ✓ Founder and Member of the Board of Company: Rahiyan Hagh Shiraz
- ✓ Member of the student research committee in Shiraz University of Medical Sciences and Shiraz University
- ✓ Member of the Young Advisors of the President of Shiraz University of Medical Sciences
- ✓ Active in cultural, religious and charity affairs in Shiraz city



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Languages

- ✓ Persian (Native)
- ✓ English (Advanced)
- ✓ Arabic (intermediate)



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Publications

1. **M. Haghdel**, S. M. H. Jayhooni, K. Jafarpur, "Numerical simulation of convective heat transfer from a rotating disk in air streams", 1st Iranian Conference on Heat and Mass Transfer ICHMT, Zahedan, Iran, **2012**.
2. R. Kamali, **M. Haghdel**, H. Kazemi, "Comparison the Effects of Compressibility and Rarefaction for Gas flow in Microchannels with Different Cross-Section ", 20th Annual International Conference on Mechanical Engineering-ISME, Shiraz, Iran, **2012**.
3. **M. Haghdel**, M. M. Alishahi, "Design, Numerical simulation and construction of single stage LGGT system", 1st National Aerodynamics & Hydrodynamics Conference-HAC, Tehran, Iran, **2012**. (in Persian)
4. A. Jami Alahmadi, **M. Haghdel**, A. Chenari, H., Kazemi, "Innovative method for manufacturing blades using 4 axis CNC milling", International Conference on Mechanical Engineering and Advanced Technology, Esfahan, Iran, **2012**. (in Persian)
5. A. Jami Alahmadi, A. Chenari, M. Shahabzade, H., Kazemi, **M. Haghdel** , "Reverse engineering in the design and manufacture of centrifugal compressor impeller using 5 axis CNC milling", International Conference on Mechanical Engineering and Advanced Technology, Esfahan, Iran, **2012**. (in Persian)
6. A. Haghdel, H. Abiri, **M. Haghdel**, M. R. Eskandari, "Tetrahedral fluid method applied to FDTD for simulation of transient behaviors of high energy collisionless plasmas", IEEE Transactions on Plasma Science **Journal**, **2016**.
7. **M. Haghdel**, R. Kamali, A. Haghdel, Z. Mansoori, "Effects of non-Newtonian properties of blood flow on magnetic nanoparticle targeted drug delivery", Nanomedicine **Journal**, **2017**.



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Publications

8. M. S. Derakhshanian, **M. Haghdel**, M. M. Alishahi, "The search for a reliable simulation tool of oblique water entry problems using experimental and numerical approaches", Elsevier Ocean Engineering **Journal**, **2018**.
9. M. Mirzaei, M.R. Vesal, **M. Haghdel**, "Investigation of Bird strike damage on Fokker 100 airplane wing and nose", Mechanical engineering and technology **Journal**, **2020**.
10. P. Jafari, A. Haghdel, **M. Haghdel**, M. Asadpour, "The Presentation of a Mathematical Model for Aerodynamic Coefficients Extraction in Supersonic Aeroballistics Projectile Test", Fluid Mechanics & Aerodynamics **Journal**, **2021**.
11. **M. Haghdel**, A. A. Alizadeh, Y. Ghasemi, H. Hosseinpour, H. Foroutan, S. Shahriarirad, M. H. Anbardar, S. M. Dehghani, M. H. Imanieh, "Utilization of 3D-printed polymer stents for benign esophageal strictures in patients with caustic ingestion", Future medicine/3D printing in medicine **Journal**, **2021**.
12. **M. Haghdel**, M. H. Imanieh, H. Hosseinpour, Y. Ghasemi, A. A. Alizadeh, "Development of Bio-artificial Esophageal Tissue Engineering Utilization for Circumferential Lesion Transplantation: A Narrative Review", Iranian Journal of Medical Sciences **Journal**, **2022**.
13. N. Ansari, M. Davoodi, **M. Haghdel**, ..., "A comparative study of the effect of Kegel exercises and conventional therapy vs. conventional therapy alone in treating functional constipation in children: A randomized controlled clinical trial", BMC Pediatrics **Journal**, **2023**. (in progress)
14. H. Dortaj, A. A. Alizadeh, **M. Haghdel**, "Miniproteins: A Promising Tissue Engineered Scaffold for Clinical Approaches ", BMC Biotechnology **Journal**, **2023**. (in progress)