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Affiliation: Orthopedic Research Center, Bone and Joint Research Lab, Ghaem Hospital, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran <http://orthopresearch.com/>

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Education

- **Assistant Professor at Orthopedic Research Center (ORC), 2023-Present**
Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.
- **Manager of Bone and Joint Research Laboratory (BJRL), 2022-Present**
Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.
- **Research assistance at Biotechnology Research Center, 2023-Present**
Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.
Research fields: Skin Tissue Engineering, Drug Delivery System, Stem cell
- **Post Doc of Bone Tissue Engineering, 2021-2023**
Orthopedic Research Center, Ghaem Hospital, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.
Post Doc Research fields: Synthesis of Biomaterials, Bone Tissue Engineering
- **Ph.D in Chemical Engineering, 2012-2018**
University of Sistan and Baluchestan, Zahedan, Iran.
(Rank 1, GPA: 19.71).
Ph.D thesis: Fabrication of composite micro/nano fibers-based small-diameter vascular grafts.
- **M.Sc. in Chemical Engineering, 2009-2011**
Islamic Azad University, Shahrood. Iran.
(Rank 1, GPA: 18.07).
M.Sc. Thesis: Investigation the solet effect in fluid diffusion.
- **B.S of Chemical Engineering, 2003-2007**
Islamic Azad University, Birjand. Iran.
(GPA: 16.84).

Academics and Experiences

- Mashhad University of Medical Sciences (MUMS), Mashhad, Iran
Research assistant as advisor for Pharm.D Students, 2019-Present
- Mashhad University of Medical Sciences (MUMS), Mashhad, Iran
Laboratory manager, 2021-Present
- Mashhad University of Medical Sciences (MUMS), Mashhad, Iran
Research assistant as advisor at Orthopedic Research Center (ORC), 2021-2023

- Mashhad University of Medical Sciences (MUMS), Mashhad, Iran
Writing and development of a proposal for stem cell and regenerative medicine institute, 2019
- University of Sistan and Baluchestan, Zahedan, Iran
Research assistant as advisor for M.Sc. Students, 2013-2018
- University of Sistan and Baluchestan, Zahedan, Iran
Lecturer, 2012-2017
- University of Sistan and Baluchestan, Zahedan, Iran
Laboratory manager, 2013-2018
- University of Sistan and Baluchestan, Zahedan, Iran
A participant in the university president's research advisory council, 2014-2017

Academic Appointments

1. Appointments at Mashhad University of Medical Sciences.
2. Director Research at Bone & Joint Research Lab, at Mashhad University of Medical Sciences.

Memberships

1. Basic Science Member at Orthopedics Research Center (ORC), Mashhad, Iran (2020–present).
2. Research and Development Manager at Avisa Medical Innovators of East, Mashhad, Iran (2023–present).
3. Member of the Management Team at the FUM Center for Advanced Rehabilitation and Robotics Research (FUM CARE), Mashhad, Iran (2023–present).
4. Manager of Bone and Joint Laboratory (BJRL), Mashhad, Iran (2022–present).
5. Member of Iran's National Foundation of Elites, Iran (2007- present).
6. Evaluator for choosing the top medical research topic and proposal (2023).

Achievements

1. The highest average in University of Sistan and Baluchestan in 5 years period of PhD course 2013-2018
2. The highest average in Islamic Azad University of Shahrood Branch in 2 years period of MSC course 2010-2012
3. The Best Article at " The Best Orthopedic Article Of The Year ",Iran University Of Medical Science, in 2024

4. Top Cited Article in journal "PLASMA PROCESSES AND POLYMERS" entitled "Different methods of hydroxyapatite-based coatings on external fixator pin with high adhesion approach", 2022-2023
5. The Best Article at " 7th International Biennial Congress of the Iranian Society of Knee Surgery, Arthroscopy, and Sports Traumatology , (ISKAST) ", in 2023
6. The Best Poster at 31th Congress of Iranian Orthopedic Association, in 2023
7. The Best Poster at 30th Congress of Iranian Orthopedic Association, in 2022
8. Top Researcher at Sistan and Baluchestan University, Zahedan, Iran, in 2022
9. Top researcher in the Engineering department of the Sistan and Baluchestan University, Zahedan, Iran, in 2018.
10. Top researcher in the Engineering department of the Sistan and Baluchestan University, Zahedan, Iran, in 2017.

Grants

1. National Institute for Medical Research and Development (NIMAD), 2022; Construction of artificial blood vessels and evaluation of its function In vitro & In vivo [No: 957314]
2. National Institute for Medical Research and Development (NIMAD), 2022; First Carpometacarpal Joint Magnetic Distractor [No: 4001155]
3. Iran National Science Foundation (INSF), 2022; First Carpometacarpal Joint Magnetic Distractor [No: 4002792]
4. Noafarin, 2024; Design, Fabrication and Performance Evaluation of a Magnetic Distractor for Pain Relief, Control, and Osteoarthritis Treatment of First Carpometacarpal Joint
5. Noafarin, 2024; Effectiveness Evaluation of Hip Exoskeleton Assist Robot for Elderly with Complications Hemiplegic stroke
6. President for Science and Technology, 2024; Design, Fabrication and Performance Evaluation of a Magnetic Distractor for Pain Relief, Control, and Osteoarthritis Treatment of First Carpometacarpal Joint
7. President for Science and Technology, 2024; Effectiveness Evaluation of Hip Exoskeleton Assist Robot for Elderly with Complications Hemiplegic stroke

Publications

- **Peer-reviewed Papers**

1. **Creating and evaluating a novel small diameter PCL/PU vascular graft for finger reconstruction: A comprehensive analysis of structural, mechanical, in vitro, and in vivo assessments**

Mohaddese Mohaddesi, Afsaneh Jahani, Ehsan Vahedi*, Mehrnoush Nakhae, Mohammad H. Ebrahimzadeh, Ali Moradi, Nafiseh Jirofti*

Materials Today Communications, 2024

<https://doi.org/10.1016/j.mtcomm.2024.109427>

2. **Lignin and Pluronic-based nanomicelles as promising amiodarone nanocarriers: Synthesis, physical characterization, biological, and in silico evaluations**
Nafiseh Jirofti, Farkhonde Sarhaddi, Mahdiye Poorsargol, Afsaneh Jahani, Niloufar Rahiman, Erfan Rahmani, Abbas Rahdar, Fatemeh Kalalinia, Razieh Behzadmehr, Ana M Díez-Pascual
Industrial Crops and Products, 2024
3. **Calculation of Forearm and Hand Three-dimensional Anthropometry Based on Two-dimensional Image Feature Extraction: an Approach for Cock-up Splint Design**
Mahla Daliri, Mahla RAJABI, Sedigheh RASTAGHI, Mehdi ATAELI, Mona MEYBODI, Mohadeseh MOHADESI, Afsaneh JAHANI, Ali MORADI, Nafiseh Jirofti
The Archives of Bone and Joint Surgery, 2024
4. **Contribution of Soft Tissue Passive Forces in Thumb Carpometacarpal Joint Distraction**
Hamed Hafiz, Seyed Abdolmajid Yousefsani, Ali Moradi, Alireza Akbarzadeh, Nafiseh Jirofti
Annals of Biomedical Engineering, 2024
5. **Investigation of Background, Novelty and Recent Advance of Iron (II,III) oxide- loaded on 3D Polymer based Scaffolds as Regenerative Implant for Bone Tissue Engineering: A Review**
Mohammad Hossein Ebrahimzadeh, Mehrnoush Nakhaei, Azar Gharib, Mahnaz Sadat Mirbagheri, Ali Moradi, Nafiseh Jirofti
International Journal of Biological Macromolecules, 2024
6. **Application of bone cements based on ceramic and polymer in orthopedic surgeries: a review article**
Naeemeh Kalali, Sogand Mirshah, Mohammad Hossein Ebrahimzadeh, Bibi Fatemeh Kalalinia, Ali Moradi, Azar Gharib, Nafiseh Jirofti
Tehran University of Medical Sciences Journal, 2024
7. **Function Assessment of a Fabricated Artificial Vascular Graft in Sheep Carotid Artery**
Gholamhossein Kazemzadeh, Hosein Kazemi Mehrjerdi, Masoud Rajabioun, Seyed Ali Alamdaran, Davod Mohebbi-Kalhari, Nafiseh Jirofti, Samaneh Abolbashari & Reza Taheri
Journal of Advances in Medical and Biomedical Research, 2023.
8. **Fabrication and characterization of 3D printing biocompatible crossin-loaded scaffolds based chitosan/collagen/hydroxyapatite structure for bone tissue engineering applications**
Nafiseh Jirofti, Maryam Hashemi, Ali Moradi, Fatemeh Kalalinia
International journal of biological macromolecules, 2023.
9. **Review of Hydroxyapatite-Based Coatings as Antibiotic Delivery System on Bone Graft Substitution: Current Challenges and Innovative Developments**
Mehrnoush Nakhaei, Nafiseh Jirofti (Co-first author), Mohammad Hosein Ebrahimzadeh, Ali Moradi
Journal of Polymers and the Environment, 2023.
10. **Review of Hydroxyapatite-Based Coatings as Antibiotic Delivery System on Bone Graft Substitution for controlling the infection in orthopedic surgery: Current Challenges and Innovative Developments**
Nafiseh Jirofti, Mehrnoush Nakhaei, Mohammad Hossein Ebrahimzadeh, Ali Moradi
Journal of Polymers and the Environment, 2023.
11. **Fabrication of the artificial pulley based on electrospun composite Polyurethane/Polycaprolactone nanofibers for orthopedic hand surgery: structural, mechanical, in vitro, and in vivo examinations**

Mehrnoush Nakhaei, Nafiseh Jirofti (Co-first author), Ali Moradi, Mahla Daliri, Mohammad Hossein Ebrahimzadeh
ACS biomaterial and engineering science, 2023.

12. Complete characterization of Sol–Gel Silver-Fluoride-Hydroxyapatite Coatings on External Fixators for Orthopedic Surgery Applications: structural, biological, and in vitro evaluations

Nafiseh Jirofti, Mohammad Hosein Ebrahimzadeh, Ali Moradi
journal of sol-gel science and technology, 2023, Final edit

13. Poly methylmethacrylate (PMMA) & poly propylenefumarate (PPF) bone cements & their modification in orthopedic surgery

Fatemeh Ghasemi, Mohammad Hosein Ebrahimzadeh, Afsaneh Jahani, Ali Moradi, , Nafiseh Jirofti
The Archives of Bone and Joint Surgery (ABJS), 2023.

14. Polymer stabilized, phenytoin-loaded nanomicelles as promising nanocarriers: In silico and in vitro evaluations

Nafiseh Jirofti, Mahdiyeh Poorsargol, Farkhonde Sarhaddi, Afsaneh Jahani, Jamileh Kadkhoda, Fatemeh Kalalinia, Abbas Rahdar, Adriana Cambón, Pablo Taboada
European Polymer Journal, 2023.

15. Different methods of hydroxyapatite-based coatings on external fixator pin with high adhesion approach

Mehrnoush Nakhaei, Nafiseh Jirofti*, Mohammad H. Ebrahimzadeh, Ali Moradi
Plasma process and polymer, 2023.

16. Fabrication and Structural, Mechanical, and Biological Characterization of Vancomycin-Loaded Chitosan-Hydroxyapatite-Gelatin Beads for Local Treatment of Osteomyelitis

Nafiseh Jirofti, Azadeh Shahroodi, Jebreil Movaffagh, Bibi Sedigheh Fazly Bazzaz, Rezvan Yazdian Robbati, Maryam Hashemi
Journal of Mazandaran University of Medical Sciences, 2023.

17. A review on developments of in-vitro and in-vivo evaluation of hybrid PCL-based natural polymers nanofibers scaffolds for vascular tissue engineering

Gholamhosein Kazemzadeh, Nafiseh Jirofti*, Hosein Kazemi Mehrjerdi, Masoud Rajabioun, Seyed Ali Alamdaran, Davod Mohebbi-Kalhari, Mahnaz Sadat Mirbagheri, Reza Taheri
Journal of Industrial Textiles, 2022.

18. Development and Characterization of the Electrospun Melittin-Loaded Chitosan Nanofibers for Treatment of Acne Vulgaris in Animal Model

Shahrbanoo Rahnema Jebreil Movaffagh, Azadeh Shahroodi, Nafiseh Jirofti, Bibi Sedigheh Fazly Bazzaz, Monir Beyraghdari¹, Maryam Hashemi, Fatemeh Kalalinia
Journal of Industrial Textiles, 2022.

19. Evaluation of wound-healing efficiency of a functional Chitosan/Aloe vera hydrogel on the improvement of re-epithelialization in full thickness wound model of rat

Jebreil Movaffagh, Seddigheh Fazli Bazzaz, Zhila Taherzadeh, Maryam Hashemi, Atieh Seyedian Moghaddam, Seyyed abbas Tabatabaee, Mohammad Azizzadeh, Nafiseh Jirofti*
Journal of Tissue Viability, 2022.

20. Pathological examination of mixed and separated hybrid PCL/PU nanofibers for soft tissue engineering applications

Gholamhosein Kazemzadeh, Nafiseh Jirofti, Davod Mohebbi-Kalhari, Farkhonde Sarhaddi, Reza Taheri *

Journal of Industrial Textiles, 2022.

21. **Synthesis, characterization and evaluation of antibacterial properties of silver- fluoride hydroxyapatite powder on coating of 316L steel external fixator by sol gel method**
Gholamhosein Kazemzadeh, Nafiseh Jirofti*, Hosein Kazemi Mehrjerdi, Masoud Rajabioun, Seyed Ali Alamdaran, Davod Mohebbi-Kalhari, Mahnaz Sadat Mirbagheri, Reza Taheri
Journal of Industrial Textiles, 2022.
22. **Improvement of wound-healing process by curcumin-loaded chitosan/collagen blend electrospun nanofibers: in-vitro and in-vivo studies**
Nafiseh Jirofti, Mohadese Golandi, Jebrail Movaffagh, Farajollah Shahriari Ahmadi, Fatemeh Kalalinia
ACS biomaterials science & engineering, 2021,
23. **Evaluation of wound healing efficiency of vancomycin-loaded electrospun Chitosan/ Poly ethylene oxide nanofibers in full thickness wound model of rat**
F. Kalalinia, Z. Taherzadeh, N. Jirofti, N. Amiri, N. Foroghinia, M. Beheshti, B. S. F. Bazzaz, M. Hashemi, A. Shahroodi and E. Pishavar
International Journal of Biological Macromolecules, 2021.
24. **Enhancing biocompatibility of PCL/PU nano-structure to control the water wettability by NaOH hydrolysis treatment for tissue engineering applications**
N. Jirofti, D. Mohebbi-Kalhari and R. Masoumi
Journal of Industrial Textiles, 2020.
25. **Fabrication and characterization of novel compliant small-diameter PET/PU/PCL triad-hybrid vascular graft**
N. Jirofti, D. Mohebbi-kalhari, A. Samimi, A. Hadjizadeh and G. H. Kazemzadeh
Biomedical Materials, 2020.
26. **Small-diameter vascular graft using co-electrospun of composite PCL/PU nanofibers**
N. Jirofti, D. Mohebbi-Kalhari, A. Samimi, A. Hadjizadeh and G. H. Kazemzadeh
Biomedical Materials, 2018.
27. **Fabrication and characterization of electrospun PU/PET Bi-hybrid scaffold for small-diameter vascular grafts**
M. Khodadoust, D. Mohebbi-Kalhari and N. Jirofti
Cardiovascular engineering and technology, 2018.
28. **Assessment of tissue reaction of rat to materials used in vascular grafts**
Gholam Hosein G. H. Kazemzadeh, N. Jirofti, D. Mohebbi-Kalhari and R. Taheri
Biomedical Research (India), 2018.
29. **Evaluation of mechanical properties and medical applications of Polycaprolactone small diameter artificial blood vessels**
M. Mirbagheri, D. Mohebbi-Kalhari and N. Jirofti
International Journal of Basic Science in Medicine, 2017.
30. **Review on common antibacterial elements loaded-hydroxyapatite as a coating on orthopedic Schanz surface for reduction infection in orthopedic surgery**
Shakila Shahi, Nafiseh Jirofti, Mohammad Hossein Ebrahimzadeh, Mehrnoush Nakhaei & Ali Moradi*
Medical Journal of Mashhad University of Medical Sciences (MUMS), 2023.
31. **Synthesis, characterization and evaluation of antibacterial properties of silver- fluoride hydroxyapatite powder on coating of 316L steel external fixator by sol gel method**

Nafiseh jirofti, Ali Moradi, Farshid Bagheri & Mohammad Hosein Ebrahimzadeh*

Medical Journal of Mashhad University of Medical Sciences (MUMS), 2023

32. A review on the structure of hydroxyapatite loaded by systemic antibiotics as an antibiotic delivery system for covering orthopedic schanzes

Mehrnoush Nakhaei, Nafiseh jirofti, Mohammad Hosein Ebrahimzadeh & Ali Moradi*

Medical Journal of Mashhad University of Medical Sciences (MUMS), 2021

33. Study of the young's modulus and failure strength of binary polymer composite structures based on polyurethane based on stress-strain curve for tissue engineering vascular graft application

N. Jirofti, D. Mohebbi-Kalhari, A. Hajdizadeh, and A. Samimi,

Amirkabir Journal of Mechanical Engineering, 2021.

34. Experimental study and evaluation of mechanical properties of nano-scale single and Composite Structures (PCL/PU) fabricated by co-Electrospinning and Blend-Electrospinning Methods

N. Jirofti, D. Mohebbi-Kalhari, A. Hadjizadeh, G. H. Kazemzadeh, and R. Taheri

Iran, Journal of Fasa University of Medical Sciences, 2019.

35. Evaluation of Biocompatibility and reaction of the immune system of the rat in single and composite electrospun nanofiber structures (PCL/PU) for Tissue Engineering Applications

N. Jiroft, D. Mohebbi-Kalhari, G. Kazemzadeh, and R. Taheri

Iran, Journal of Cell & Tissue 2017.

36. Review on common polymers in fabrication of artificial vessels used in vascular surgery and dialysis

Nafiseh Jirofti, Davod Mohebbi-Kalhari, Gholam Hosein Kazemzadeh, Reza Taheri

Iran, Medical journal of Mashhad University of Medical Sciences (MUMS), 2016.

Presentations

- **Oral**

1. Speech in "Comparison of Mechanical Properties of Polyurethane Nanofilament Pulley with Natural Pulley as a Synthetic Structure:(A Cadaveric Study)" in the 31th Iranian Orthopedic Association Annual Congress, Tehran, Iran, 2023.
2. Speech in "Fabrication of an Artificial Pulley Based on Electrospun Composite Polyurethane/Polycaprolactone Nanofibers for Hand Surgery: Structural, Mechanical, In Vitro, and In Vivo Examinations" in the 31th Iranian Orthopedic Association Annual Congress, Tehran, Iran, 2023.
3. Speech in the field of 7th International Biennial Congress of the Iranian Society of Knee Surgery, Arthroscopy, and Sports Traumatology in 2023, Emam Reza Hospital, Mashhad, Iran, 2018.
4. Speech in "Fabrication of composite micro/nano fibers-based small-diameter vascular grafts", Zahedan, Iran, 2017 (Top Speaker Award at Open Day Conference).
5. Speech in "Vascular Tissue Engineering", Zahedan, Iran, 2018 (Top speaker at Open Day Conference).

6. Speech in the field of small-diameter vascular grafts in Mashhad in 2018, Emam Reza Hospital, Mashhad, Iran, 2018.

- **Poster**

1. Complete characterization of Sol–Gel Silver-Fluoride-Hydroxyapatite Coatings on External Fixators for Orthopedic Surgery Applications: structural, biological, and in vitro evaluations Nafiseh Jirofti, Mohammad Hosein Ebrahimzadeh, Ali Moradi, journal of sol-gel science and technology, 2023, (Accepted as the best presentation).
2. Synthesis, characterization and evaluation of antibacterial properties of silver- fluoride hydroxyapatite powder on coating of 316L steel external fixator by sol gel method (Paper acceptance for Poster presentation).
Nafiseh jirofti, Ali Moradi, Farshid Bagheri, Mohammad Hosein Ebrahimzadeh, 30th Iranian Orthopedic Association Annual Congress, Tehran, Iran, 2023. (Accepted as the best poster).
3. Fabrication and characterization of 3D printing biocompatible crocin-loaded chitosan/collagen/hydroxyapatite-based scaffolds for bone tissue engineering applications (Paper acceptance for Poster presentation).
4. Nafiseh Jirofti, Maryam Hashemi, Ali Moradi, Fatemeh Kalalinia, 31th Iranian Orthopedic Association Annual Congress, Tehran, Iran, 2023. (Accepted as the best poster presentation).
5. Preparation of electrospun PET/PU hybrid small-diameter vascular scaffold
Khodadoost M , Mohebbi-Kalhari D , Jirofti N, EAMS2014, International Conference on Economics, Accounting, Management and Social Sciences, Szczecin, Poland, December 2014.
6. Co-electrospinning of PET and PU for fabricating a new hybrid vascular scaffold
Khodadoost M , Mohebbi-Kalhari D , Jirofti N, Asian Nano Forum Conference, Kish Island, Iran, March 2015.
7. Preparation of electrospun PET/PU hybrid small-diameter vascular scaffold
Khodadoost M , Mohebbi-Kalhari D , Jirofti N, EAMS2014, International Conference on Economics, Accounting, Management and Social Sciences, Szczecin, Poland, December 2014.

Awards

1. The Basic Science Award at " The Best Orthopedic Article Of The Year ",Iran University Of Medical Science, in 2024
2. Top Cited Article in journal "*PLASMA PROCESSES AND POLYMERS*" entitled "Different methods of hydroxyapatite-based coatings on external fixator pin with high adhesion approach", 2022-2023.
3. The Best Article Award at " 7th International Biennial Congress of the Iranian Society of Knee Surgery, Arthroscopy, and Sports Traumatology , (ISKAST) ", in 2023.
4. The Best Poster Award at 31th Congress of Iranian Orthopedic Association, in 2023.
5. The Best Poster Award at 30th Congress of Iranian Orthopedic Association, in 2022.
6. Top Researcher Award at Sistan and Baluchestan University, Zahedan, Iran, in 2022.
7. Top researcher in the Engineering department of the Sistan and Baluchestan University, Zahedan, Iran, in 2018.
8. Top researcher in the Engineering department of the Sistan and Baluchestan University, Zahedan, Iran, in 2017.

9. Award an honor diploma on achieving the highest GPA 19.71 (out of 12) in all semester of academic year 2011-2018 among the students admitted at the same year (2011).
10. Award an honor diploma on achieving the highest GPA 18.07 (out of 40) in the first semester of academic year 2009-2010 among the students admitted at the same year (2009).
11. Ranked 4th among more than 50 teams in the International CHEM-E-CAR Competition at the Institution of Engineering MALAYSIA in 2006.
12. Award an honor diploma on achieving the best moral behavior among engineering students in Azad University of Birjand in year 2004.
13. Ranked 7th among 35 team in the Iranian CHEMECAR Competition in the Amirkabir University of Technology (Tehran Polytechnique) in 2001

Editorial Activities

1. Contributed a book review entitled "Theory and Applications of Engineering Research" in B P International, 2023
2. Journal of Acta Biomaterialia, 2022-Present
3. Journal of Cellulose, 2022- Present
4. Scientific Report Journal, 2022- Present.
5. Journal of Archive of Bone and Joint Surgery, Mashhad University of Medical Sciences (MUMS), Reviewer, 2021- Present
6. Journal of BMC Biotechnology, 2024- Present.
7. Journal of BMC Musculoskeletal Disorders, 2024- Present.
8. Journal of Inorganic and Organometallic Polymers and Materials, 2024- Present.
9. Journal of Iranian Chemical Engineering, Journal of Iranian Chemical Engineering, Reviewer, 2021- Present
10. Journal of Acta Biomaterial, 2023- Present

Teaching Experiences

1. Transport Phenomena : Mass Transfer, Heat Transfer and Fluid Mechanics (2012-2017)
2. Engineering mathematics (2012-2017)
3. Chemistry (2012-2013)

Certificates

1. Certificate of Participating in workshop of "Cell culture, 2 Days" May Mashhad University of Medical Sciences (MUMS), Mashhad, Iran, in 2016.
2. Certificate of Participating in workshop of "Advanced workshop on bone marrow extraction" Mashhad University of Medical Sciences (MUMS), Mashhad, Iran, in 2019.
3. Certificate of Participating in workshop of "Nanotechnology and its application", University of Sistan and Baluchestan, Zahedan, Iran, in 2017.
4. Certificate of Participating in workshop of "Nanostructure analysis methods", University of Sistan and Baluchestan, Zahedan, Iran, in 2014.

5. Certificate of Participating in workshop of “Nanotechnology, patent, and commercialization”, University of Sistan and Baluchestan, Zahedan, Iran, in 2014.
6. Certificate of Participating in workshop of “Application of nanotechnology in biology and agriculture”, University of Sistan and Baluchestan, Zahedan, Iran, in 2014.
7. Certificate of Participating in workshop of “Synthesis and fabrication of nanostructures”, University of Sistan and Baluchestan, Zahedan, Iran, in 2014.
8. Certificate of Participating in workshop of “nano-composite and nanostructure materials”, University of Sistan and Baluchestan, Zahedan, Iran, in 2014.
9. Certificate of Participating in workshop of “Primary and Advanced Research Methods Workshop, University of Sistan and Baluchestan, Zahedan, Iran, in 2017.
10. Certificate of Participating in workshop of “HYSYS”, Ferdowsi University of Mashhad, Mashhad, Iran, in 2012.
11. Certificate of Participating in workshop of “Paper Writing Workshop”, University of Sistan and Baluchestan, Zahedan, Iran, in 2017

Thesis

1. Evaluation the crocin-loaded collagen-nano hydroxyapatite scaffold on osteogenic differentiation of mesenchymal stem cells for bone tissue engineering applications (**Accepted 2018/Finished 2023**)
2. Antimicrobial effects of modified HA/Ag composite coating on external fixator pins: An in vitro/in vivo study, (**Accepted 2018/ Finished 2022**)
Ali Moradi, **Nafiseh Jirofti**, Mohammad Hosein Ebrahimzadeh, Omid Fakhraiee, Majid Darroudi,
3. The effective parameters on flexibility and its Improvement in the Vascular Scaffold Structures (**Accepted 2017/ Finished 2019**)
Davod Mohebbi Kalhori, **Nafiseh Jirofti (Adviser)**, Reyhane Maleki
4. Evaluation the effects of surface modification alkaline hydrolysis treatment on the performance of composite and individual nano-fibers structures, (**Accepted 2017/ Finished 2018**)
Davod Mohebbi Kalhori, **Nafiseh Jirofti (Adviser)**, Ramin Masoumi
5. Investigation of surface modification of single and composite polyurethane and polyethylene terephthalate nano-fibers using alkaline hydrolysis, (**Accepted 2017/ Finished 2018**)
Davod Mohebbi Kalhori, **Nafiseh Jirofti (Adviser)**, Hadi Farazi Yazdanabad
6. Effect of alkaline hydrolysis on hydrophobicity and mechanical properties of composite vascular grafts-based Poly caprolactone and Poly ethylene terephthalate, (**Accepted 2016/ Finished 2017**)
Davod Mohebbi Kalhori, **Nafiseh Jirofti (Adviser)**, Mahnaz Sadat Mirbagheri
7. The effect of performance of modified polymer membrane (polyethylene terephthalate) on the efficiency improvement of microbial fuel cells, (**Accepted 2015/ Finished 2017**)
Davod Mohebbi Kalhori, **Nafiseh Jirofti (Adviser)**, Mostafa Ghaffari

Proposals

- **Research**

1. Synthesis and optimization of polymethyl methacrylate bone cement to improve mechanical properties and biological performance for orthopedic application (**Accepted, 2024**)
Ali Moradi, Mohammad Hossein Ebrahimzadeh, Nafiseh Jirofti, Naeemeh Kalali, Afsaneh Jahani
2. Synthesis and characterization of zein - hydroxypropyl methyl cellulose dressing containing zinc oxide nanoparticles and Arnebia Euchroma for full-thickness wound healing (**Submitted, 2023**)
Bibi Fatemeh Kalalinia, Nafiseh Jirofti
3. Fabrication and Performance Evaluation of Synthesized Meshes Based on Electrospun Nanofibers Loaded with Mesenchymal Stem Cells for the Applications of Massive and Irreversible Rotator Cuff Tears (**Submitted, 2023**)
Mohammad Hossein Ebrahimzadeh, Naeemeh Kalali, Nafiseh Jirofti, Ali Moradi
4. Biomechanical properties of hand fingers flexor and Palmaris longus tendon grafts, in comparison with Peroneus longus, and Tibialis anterior/Tibialis posterior for the Anterior Cruciate Ligament (ACL) Reconstruction (**Submitted, 2023**)
Mohammad Hossein Ebrahimzadeh, Mahla Daliri, Nafiseh Jirofti, Mahdieh Sameiy, Azadeh Ghochani, Ali Moradi
5. Investigating of possible bacterial contamination in orthopedic surgery external fixator: characterizing existing bacterial species (**Submitted, 2023**)
Ali Moradi, Mohammad Hossein Ebrahimzadeh, Ali Birjandinezhad, Nafiseh Jirofti, Mohammad Arif Hasani, Masoumeh Sadeghi
6. Fabrication and Characterization of micro-nano composite electrospun nanofibers of PU/PCL hand arteries implantation, (**Accepted 2023**)
Ehsan Vahedi, Mohammad Hosein Ebrahimzadeh, Nafiseh Jirofti, Ali Moradi
7. Synthesis of acrylic bone cement functionalized with nanoparticles to improve mechanical properties and biological performance, especially for local therapeutic delivery to spinal metastase, (**Accepted 2023**)
Ali Moradi, Nafiseh Jirofti, Mohammad Hosein Ebrahimzadeh, , Ehsan Vahedi, Afsaneh Jahani
8. Clinical evaluation of the relationship between Prosthesis Joint Infection and gut microbiota disturbance in an animal model, (**Accepted 2023**)
Mohammad Hosein Ebrahimzadeh, Nafiseh Jirofti, Ali Moradi, Naeemeh Kalali
9. Evaluation of the clinical performance of 3D printed scaffolds based on alginate and bio glass nanoparticles containing magnesium and strontium in inducing the differentiation of mesenchymal stem cells towards osteoblast cells with the aim of treating non-union fractures: Superior and Inferior organs, (**Accepted 2023**)
Mohammad Hosein Ebrahimzadeh, Nafiseh Jirofti, Ali Moradi, Hamid Arabi, Fatemeh kalalinia, Afsaneh Jahani, Naeemeh Kalali
10. Clinical trial evaluation of the association between gut microbiota and joint prosthesis infection: a systematic review and meta-analysis, (**Accepted 2023**)
Mohammad Hosein Ebrahimzadeh, Nafiseh Jirofti, Ali Moradi, Masoumeh Sadeghi, Naeemeh Kalali

11. The effect of IV and local tranexamic acid on surgeon visualization, clinical outcomes, and blood loss, on pump pressure during arthroscopic rotator cuff repair: a randomized clinical trial (**Submitted, 2022**)
 Mohammad Hossein Ebrahimzadeh, Mahla Daliri, Masoumeh Sadeghi, Ali Moradi, Naeemeh Kalali, **Nafiseh Jirofti**
12. Clinical efficacy and safety of Mesenchymal stem cells in treatment of osteogenesis imperfect: A systematic review and meta-analysis, (**Accepted 2023**)
 Mohammad Hosein Ebrahimzadeh, **Nafiseh Jirofti**, Ali Moradi, Masoumeh Sadeghi
13. Fabrication and structural, mechanical, and biological characterization of the composite scaffolds based on hyaluronic acid for meniscus repairing (**Accepted 2023**)
 Mohammad Hosein Ebrahimzadeh, **Nafiseh Jirofti**, Ali Moradi, Fatemeh kalalinia, Afsaneh Jahani, Fahimeh shahabipour
14. Structural, mechanical and in vitro properties evaluation of composite scaffolds base on alginate and loaded-tobramycin bioglass contain induced osteogenic differentiation for bone tissue engineering applications : preclinical phase, (**Accepted 2023**)
 Mohammad Hosein Ebrahimzadeh, **Nafiseh Jirofti**, Ali Moradi, Fatemeh kalalinia, Afsaneh Jahani
15. Evaluation the clinical efficacy of antibacterial fixators with schanz pin with Hydroxy Apatite/ Silver (HA/Ag) nano-composite coating in orthopedics surgery: A clinical trial, (**Accepted 2023**)
 Mohammad Hosein Ebrahimzadeh, **Nafiseh Jirofti**, Ali Moradi, Mohammad Aref Hassani
16. Clinical outcome of massive rotator cuff repair, clinical and radiological follow-up, (**Accepted 2023**)
 Mohammad Hosein Ebrahimzadeh, Ali Birjandinezhad, Mohammad saadat Mehr, **Nafiseh Jirofti**
17. A Comparison between biomechanical function of Flexor Sheath Artificial Pulley and Natural Pulleys: A Cadaver study, (**Accepted 2021**)
 Ali Moradi, **Nafiseh Jirofti**, Mohammad Hosein Ebrahimzadeh, Mahla Daliri, Mehrnoush Nakhaiee, Ehsan Asghari, Ehsan Khadivi
18. Designing, Manufacturing and Evaluating a Magnetic Joint Distractor for Treating First Caropmetacarpal (CMC1) Osteoarthritis (AO): First Phase, (**Accepted 2020**)
 Alireza Akbarzadeh, Ali Moradi, Babak Shojaiee, Nafiseh Jirofti, Mahla daliri
19. Development of microvascular graft for hand digital arteries by electrospinning, (Accepted 2020)
 Mohammad Hosein Ebrahimzadeh , Bizhan Malaekheh nekoiee, Ehsan Vahedi, **Nafiseh Jirofti** Ali Moradi ,Bita Abasi, Ali Moradi,
20. Evaluation of the efficiency of thymoquinone-incorporated collagen-nanohydroxyapatite scaffold in induction of mesenchymal stem cells differentiation into bone cells for bone tissue engineering, (**Accepted 2020**)
 Maryam Hashemi, Fatemeh kalalinia, Fatemeh Mosafa, **Nafiseh Jirofti** Sepideh Arabzadeh,
21. Fabrication of artificial vessel and evaluation of In vitro & In vivo function, (**Accepted 2018**)
 Ehsan Vahedi, Mohammad Hosein Ebrahimzadeh, **Nafiseh Jirofti**, Ali Moradi
22. Evaluating the efficacy of 3D printing of collagen scaffolds incorporating with crocin for bone regeneration, (**Accepted 2018**)

Maryam Hashemi, Jebreil Movaffagh, Sirous Nekoiee, Armin Ataranzadeh, Hossein Hosseinkhani, **Nafiseh Jirofti**, Ali Moradi

- **Secondary study**

A. Accepted Studies of systematic review and Meta-analysis

1. Comparison of the Therapeutic Results of Ultrasound-Guided Percutaneous Needling versus Open Surgeries in Patients with Chronic Lateral Epicondylitis: A Systematic Review and Meta-Analysis, **(Accepted 2024)**. Ali Moradi, Mohammad H Ebrahimzadeh, **Nafiseh Jirofti**, Mohsen Dehghani, Mohammad Hadi Rajabi, Naeemeh Kalali, Maedeh Sharafoddin, Fatemeh Nikbakht.
2. Comparison between clinical outcome of the meniscal repairing by CMI, Actifit, NUsurface as commercial artificial meniscus: systematic review, **(Accepted 2023)**. Mohammad H Ebrahimzadeh, Ali Moradi, Masoumeh Sadeghi, **Nafiseh Jirofti**, Monavar Afzal-Aghaee, Afsaneh Jahani.
3. Clinical efficacy and safety of Mesenchymal stem cells in treatment of osteogenesis imperfect: A systematic review and meta-analysis, **(Accepted 2023)**. Mohammad H Ebrahimzadeh, Ali Moradi, **Nafiseh Jirofti**, Masoumeh Sadeghi, Mohadeseh Mohadesi Khorasani.
4. Clinical trial evaluation of the association between gut microbiota and joint prosthesis infection: a systematic review and meta-analysis, **(Accepted 2023)**. Mohammad H Ebrahimzadeh, Naeemeh Kalali, Ali Moradi, Masoumeh Sadeghi, **Nafiseh Jirofti**.
5. Comparison of Clinical Outcome of Subacromial Balloon Spacer and Superior Capsular Reconstruction for Massive and Irreparable Rotator Cuff Tears: A Systematic Review and Meta-analysis, **(Accepted 2023)**. Mohammad H Ebrahimzadeh, Ali Moradi, **Nafiseh Jirofti**, Masoumeh Sadeghi, Naeemeh Kalali.

B. Submitted Studies of systematic review and Meta-analysis

1. A Review on Comparison of the Clinical Outcomes of All-Inside and Transtibial Pullout Repair for Medial Meniscus Posterior Root Injuries: Systematic Review and Meta-Analysis, **(Submitted 2024)**. **Nafiseh Jirofti**, Mohammad H Ebrahimzadeh, Ali Moradi, Mohsen Dehghani, Maedeh Sharafoddin, Fatemeh Nikbakht.
2. Exploring the diagnostic yield of whole exome sequencing in neuromuscular disorders; A systematic review and meta-analysis, **(Submitted 2024)**. Ali Moradi, Mohammad H Ebrahimzadeh, **Nafiseh Jirofti**, Masoumeh Sadeghi, Maedeh Sharafoddin, Fatemeh Nikbakht.
3. Exploring the Clinical Outcomes of Total Knee Arthroplasty after Opening and Closing-Wedge High Tibial Osteotomy: A Systematic Review and Meta-Analysis Study, **(Submitted 2024)**. Ali Moradi, Mohammad H Ebrahimzadeh, **Nafiseh Jirofti**, Masoumeh Sadeghi, Mohammad Amin Khojastehnezhad Golmakani, Maedeh Sharafoddin, Fatemeh Nikbakht.
4. Systematic Review and Meta-Analysis of Clinical Outcomes in Closed Reduction Methods in Intramedullary Nailing Treated Adults Femoral Shaft Fractures, **(Submitted 2024)**.

Ali Moradi, Mohammad H Ebrahimzadeh, **Nafiseh Jirofti**, Amin Rezaeeian, Mohsen Dehghani, Pouya Yousefli, Maedeh Sharafoddin, Fatemeh Nikbakht.

Language

English (fluent)

Persian (Mother Tongue)

Skills

Tissue and cell analysis: Fixation and Pathology examination, Cryosection, Cell culture (primary cells, cell lines, isolation of mesenchymal stem cells from Rat).

Tissue engineering: Electrospinning, 3D Printing, Lyophilize, Mechanical test, Biological test, In vitro study, In vivo study (Cadaver-Animal), Hydrogel preparation, Drug encapsulation, 3D cell co-culture, Different synthesis methods.

Laboratory animal: Handling of rats and mice, Hamsters, Guinea pig, and Rabbit. Footpad injection mice (subcutaneous injection, intradermal injection), Whole tissue isolation

Computer skills: Design Expert, EndNote, ImageJ, Simplify, Slicer, Visio, Edraw max, Origin, Prism, Sketching graphical abstract.

Graphic design: Sketching schematic figure for graphical abstract, scientific image for journal

Competences: Leader ship, Management Ability, Relationship Management, Self-starter, Results-focused, Energetic, Eager to learn, Good ability to plan, Flexible, honest, Thoughtful, Friendly, honest and steady.

Hobbies

Reading books Listening to podcasts, Listening to music, Watching movies, Photography, Voluntary good deeds, Exercise

References

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