

Personal Info

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Profiles

Google Scholar: <https://scholar.google.com/citations?user=YG8lyHcAAAAJ&hl=en>

ResearchGate: <https://www.researchgate.net/profile/Mahnaz-Ahmadi-3>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57224876597>

Affiliation

-Assistant Professor, Department of Tissue Engineering and Applied Cell Sciences, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences (Aug 2024 - Current)

Education

Ph.D. in Pharmaceutical Nanotechnology (2018-2023) (9 semesters)

- Department of Pharmaceutics and Pharmaceutical Nanotechnology, School of Pharmacy, **Shahid Beheshti University of Medical Sciences (SBMU)**, Tehran, Iran.
- Average: **18.88** out of 20 in courses (1st rank in class)
- **1st rank** of the PhD comprehensive exam
- Dissertation Title: *Synthesis and Characterization of Radiolabeled Nanoscale Metal Organic Framework (NMOF) and In Vivo Evaluation to Pave the Way for Drug Delivery and Imaging*
- Dissertation score: **20 out of 20**
- Member of Shahid Beheshti University of Medical Sciences **Exceptional Talents Development Center**

MSc in Physical Chemistry (2013-2015)

- Iran University of Science and Technology (IUST), Tehran, Iran.

BSc in Applied Chemistry (2007-2012)

- Sharif University of Technology (SUT), Tehran, Iran.

Publications

Journal Articles

- Heydari S, Masoumi N, Esmaeeli E, Ayyoubzadeh SM, Ghorbani-Bidkorpheh F, Ahmadi M* (2024) *Artificial Intelligence in nanotechnology for treatment of diseases*, Journal of Drug Targeting
- Pouyanfar N, Anvari Z, Davarikia K, Aftabi P, Tajik N, Shoara Y, Ahmadi M*, Ayyoubzadeh SM, Shahbazi MA, Ghorbani-Bidkorpheh F (2024) *Machine learning-assisted rheumatoid arthritis formulations: a review on smart pharmaceutical design*, Materials Today Communications
- Banan K, Niknam S, Ahmadi M*, Tabasi S, Ghalkhani M, Adabi M, Ghorbani-Bidkorpheh F, (2024) *molecularly imprinted electrochemical sensor based on carbon nanofibers for Amiodarone determination*. Microchemical Journal
- Ayyoubzadeh SM, Banaye Yazdipour A, Ghorbani-Bidkorpheh F, Ahmadi M* (2024) *Prediction of ovarian cancer using artificial intelligence tools*, Health Science Reports
- Ahmadi, M., Ayyoubzadeh, SM., Ghorbani-Bidkorpheh, F. (2024) *Toxicity prediction of nanoparticles using machine learning approaches*. Toxicology
- Ahmadi, M., Alizadeh B., Ayyoubzadeh SM., Abiyarghamsari M. (2024) *Predicting Pharmacokinetics of Drugs Using Artificial Intelligence Tools: A Systematic Review*. European Journal of Drug Metabolism and Pharmacokinetics
- Ahmadi M*, Ghorbani-Bidkorpheh F, Shahhoseini S, Asadian E, Mosayebnia M. (2024) *Optimization of synthesis and radiolabeling of ZIF-8 nanoparticles*, Iranian Journal of Pharmaceutical Research
- Akhtari, N., Ahmadi, M., Kiani Doust, Y., Asadian, E., Behzad S., Vatanpour, H., Ghorbani-Bidkorpheh, F. *Natural agents as wound-healing promoters* (2024) Inflammopharmacology

- Pouyanfar, N., Ahmadi, M., Ayyoubzadeh, S.M., Ghorbani-Bidkorpheh, F. *Drug Delivery System Tailoring via Metal-organic Framework Property Prediction using Machine Learning: A Disregarded Approach*, (2023) *Materials Today Communications*
- Hatamabadi, D., Joukar S., Shakeri P., Balalaie S., Yazdani A., Khoramjouy M., Mazidi SM., Kobarfard F., Mosayebnia M, Bozorgchami N., Ahmadi M, Ayyoubzadeh SM., and Shahhosseini S. (2023) *Synthesis and Radiolabeling of Glu-Urea-Lys with ^{99m}Tc-Tricarbonyl-Imidazole-Bathophenanthroline Disulfonate Chelation System and Biological Evaluation as Prostate-Specific Membrane Antigen Inhibitor*, *Cancer Biotherapy and Radiopharmaceuticals*
- Yazdipour, A., Masoorian, M., Ahmadi, M., Mohammadzadeh, N., Ayyoubzadeh, SM., (2023) *Predicting the toxicity of nanoparticles using artificial intelligence tools: a systematic review*. *Nanotoxicology*
- Ahmadi, M., Emzhik, M., Mosayebnia, M. (2023) *Nanoparticles labeled with gamma-emitting radioisotopes: an attractive approach for in vivo tracking using SPECT imaging*. *Drug Delivery and Translational Research*
- Ahmadi, M., Khoramjouy, M., Dadashzadeh, S., Asadian, E., Mosayebnia, M., Geramifar, P., Shahhosseini, S., Ghorbani-Bidkorpheh, F. (2023) *Pharmacokinetics and biodistribution studies of [^{99m}Tc]-Labeled ZIF-8 nanoparticles to pave the way for image-guided drug delivery and theranostics*. *Journal of Drug Delivery Science and Technology*
- Khounraz F, Khodadoost M, Baniasadi T, Mohammadi G, Ahmadi M, Ayyoubzadeh SM. *Prognosis of COVID-19 patients using lab tests: A data mining approach*. *Health Science Reports*
- Masoudifar, R., Pouyanfar, N., Liu, D., Ahmadi, M., Landi, B., Ghorbani-Bidkorpheh, F., Asadian, E., Shahbazi, M. (2022) *Surface engineered metal-organic frameworks as active targeting nanomedicines for mono-and multi-therapy*. *Applied Materials Today*
- Ahmadi, M., Ebrahimnia, M., Kecili, R., Shahbazi, A., Ghorbani-Bidkorpheh, F. (2022): *Microporous Metal-Organic Frameworks: Synthesis and Applications*. *Journal of Industrial and Engineering Chemistry*
- Yoosefi, S., Ghorbani-Bidkorpheh, F., Ahmadi, M., Moraffah, F., Dinarvand, F., Esfandyari-Manesh, M. (2022) *Synthesis and Characterization of Methotrexate Anti-Cancer*

Biodegradable Molecularly Imprinted Polymer Nanoparticles. DARU Journal of Pharmaceutical Sciences

- Siavashi, S., Soltani, M., Ahmadi M., Landi, B., Ghorbani-Bidkorbeh, F. (2022) *A Comprehensive Review of One Decade of Microfluidic Platforms Applications in Synthesis of Enhanced Carriers Utilized in Controlled Drug Delivery*. Advanced Materials Technologies
- Ayyoubzadeh, S. M., Ahmadi, M., Khounraz, F., Ahmadi, M., Pourhamidi, R., Abbasi, S. (2022) *Requirement analysis of mHealth app for pregnancy care and a framework suggestion for evaluating pregnancy mobile apps*. Journal of Obstetrics, Gynecology and Cancer Research
- Ahmadi, M., Ayyoubzadeh, S.M., Ghorbani-Bidkorbeh, F., Shahhosseini, S., Dadashzade, S., Asadian, E., Mosayebnia, M., Siavashi, S. (2021) *An investigation of affecting factors on MOF characteristics for biomedical applications: A systematic review*. Heliyon
- Ahmadi, M., Siavashi, S, Ayyoubzadeh, S.M., Kecili, R., Ghorbani-Bidkorbeh, F. (2021): *Controllable Synthesis of Polymeric Micelles by Microfluidic Platforms for Biomedical Applications: A Systematic Review*. Iranian Journal of Pharmaceutical Research
- Eslamian, L., Ahmadi, M., Ahmadi, M. (2021) *Prescribing Aspirin for Preeclampsia Prevention in Pregnant Women During COVID-19: Should or Shouldn't?*. Iranian Journal of Pharmaceutical Research
- Ayyoubzadeh, S. M., Ayyoubzadeh, S. M., Zahedi, H., Ahmadi, M., & Kalhori, S. R. N. (2020). *Predicting COVID-19 incidence through analysis of google trends data in iran: data mining and deep learning pilot study*. JMIR Public Health and Surveillance

Book chapters

- Ahmadi, M., Pouyanfar, N., Banan, K., Ghorbani-Bidkorbeh, F. *Green Magnetic Nanoparticles for Biomedical Application Elsevier Publication*. (2024).
- Mosayebnia, M., Ahmadi, M., Emzhik, M., *Gamma ray-involved cancer therapy and imaging. Academic Press Publication*. (2023).
- Ahmadi M., Borhan A., Ghorbani-Bidkorbeh, F., Sefat, F., Shahbazi, A. *Nano-targeted drug delivery approaches for bacterial infections*. Book title: *Emerging Nanomaterials and Nano-Based Drug Delivery Approaches to Combat Antimicrobial Resistance*. **Elsevier Publication**. (2022).

- Asadian E., Ahmadi M., Ghorbani-Bidkorbeh, F., *Emerging Metal-organic Framework Nanomaterials for Cancer Theranostics*. Book title: *Cancer Nanotheranostics*. **Springer Publication**. (2021).

In progress papers and book chapters

- Ahmadi M*, *The future prospect of metal-organic frameworks for theranostic purposes in brain disorders*, *Nanomedicine Journal* (**Accepted**)
- Masoudifar, R., Ahmadi, M., Pouyanfar, N., Ghorbani-Bidkorbeh, F. *Nanotechnology Based Theranostic Approaches in Brain Diseases (Book Chapter)* **Elsevier Publication**. (**Under publication**)
- Davarikia K, Ghazizadeh Y, Ayyoubzadeh SM, Ahmadi M, Ghorbani-Bidkorbeh F., *Integration of artificial intelligence and microfluidics for cancer diagnosis and treatment*. (**Under review**)
- Movahedi S, Bahramian F, Ahmadi M, Ghorbani-Bidkorbeh F. *Next-Generation Microfluidics Based on Artificial Intelligence: Design, Fabrication, and Applications for Food Samples* (**Under review**)
- Ayyoubzadeh SM, Alizadeh B, Davarikia K, Ahmadi M. *AI in Drug Delivery System Development* (Book Chapter) **Elsevier Publication** (**Under publication**)
- Afsharara H., banan K., Hatambadi D., Amiri O., Ahmadi M, Ghorbani-Bidkorbeh F., *Separation and purification of active pharmaceutical ingredient of Norfloxacin from degradation products by molecularly imprinted polymers* (**Submitted**)

Other publications

- Laviyan, S., Mirbolouk Moghaddam, N., Ahmadi, M., Sharifi, S (2020). [*Pharmaceutics textbook*]. Dr. Khalili Publications.
- Amani, V., Ahmadi, M. (2020). [*A Comprehensive Review on Pharmaceutics*]. Dr. Khalili Publications.

Conference papers

- Metal-Organic Frameworks as an Innovative Targeted Drug Delivery System in Breast Cancer Treatment: A Rigorous Examination of Novel Therapeutic Strategies, **17th international breast cancer congress (2024)**
- Prediction of Nanoparticle Toxicity Using Machine Learning, **1st International Congress of Artificial Intelligence in Medical Sciences (2023)**
- Integration of artificial intelligence and microfluidics for disease diagnosis, **1st International Congress of Artificial Intelligence in Medical Sciences (2023)**
- Prediction of breast cancer using artificial intelligence tools, **Shiraz International mHealth Congress (2023)**
- Radiolabeling of metal-organic frameworks (MOFs) with Technetium-99m for diagnostic applications, **The 5th International Congress on Pharmacy-Updates (2022)**
- Polymeric Micelles: Synthesis by Microfluidic Technique and Its Role in Dermatology, **4th international and 6th national congress of the wound and tissue repair (2019)**
- Novel noninvasive detection methods for wounds caused by the skin squamous cell carcinoma, **5th international conference on Research in Science and Technology, (2016)**
- Synthesis and Optimization of DNPOH and BDNPA, **5th international conference on Research in Science and Technology, (2016)**
- Optimization of synthesis condition of BDNPA energetic polymer, **18th conference on chemistry, (2015)**

Approved research proposals and grants

- *Evaluation of Zeolitic imidazolate framework-8 (ZIF-8) loaded with levofloxacin on Pseudomonas aeruginosa isolates from children with cystic fibrosis and its effect on MRC-5 and A549 cell lines, 2024, (Co-PI), Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.MSP.REC.1403.143](https://www.sbm.ac.ir/SBMU.MSP.REC.1403.143)*

- *Predicting the efficiency of nanoliposomes in cancer treatment using machine learning approach, 2024, (PI),* Communication with Industry (Red Crescent Society of the Islamic Republic of Iran)
- *Predicting the efficacy of gold nanostructures in photothermal therapy using artificial intelligence tools, 2024, (Co-PI),* Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.RETECH.REC.1402.836](https://doi.org/10.29253/IR.SBMU.RETECH.REC.1402.836)
- *Predicting pharmacokinetics of drugs using artificial intelligence tools: a systematic review, 2023, (PI),* Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.RETECH.REC.1401.716](https://doi.org/10.29253/IR.SBMU.RETECH.REC.1401.716)
- *Prediction of ovarian cancer using artificial intelligence tools, 2023, (Co-inv),* Tehran University of Medical Sciences, Ethical approval ID: [IR.TUMS.SPH.REC.1401.277](https://doi.org/10.29253/IR.TUMS.SPH.REC.1401.277)
- *Toxicity prediction of nanoparticles using data mining approaches, 2023, (Co-PI),* Ethical approval ID: [IR.SBMU.PHARMACY.REC.1401.291](https://doi.org/10.29253/IR.SBMU.PHARMACY.REC.1401.291)
- *Synthesis and labeling of metal-organic framework (MOF) with technetium-99m for diagnostic purposes, 2020, (Co-PI),* National Institute for Medical Research Development Islamic Republic Iran (NIMAD), Contract number: [988055](https://doi.org/10.29253/IR.SBMU.PHARMACY.REC.1399.151)
- *Synthesis and physicochemical evaluation of metal-organic frameworks: radiolabeling and in vivo investigation by SPECT imaging, 2020. (Co-PI).* Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.PHARMACY.REC.1399.151](https://doi.org/10.29253/IR.SBMU.PHARMACY.REC.1399.151)
- *Synthesis, characterization and in vitro evaluation of MIL-100(Fe) in methotrexate delivery to rheumatoid arthritis, 2021. (Co-Inv)* Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.PHARMACY.REC.1400.245](https://doi.org/10.29253/IR.SBMU.PHARMACY.REC.1400.245)
- *Application of Metal organic framework ZIF-8 in methotrexate delivery, 2021. (Co-Inv)* Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.PHARMACY.REC.1400.078](https://doi.org/10.29253/IR.SBMU.PHARMACY.REC.1400.078)

Thesis

- **Advisor**

- *AI-assisted microfluidics ZIF-8 synthesis and application for osteo-regeneration within wood/quince seed mucilage scaffold*, Niki Pouyanfar, **Pharmaceutics PhD student**, 2024-now
- *Evaluation of Zeolitic imidazolate framework-8 (ZIF-8) loaded with levofloxacin on Pseudomonas aeruginosa isolates from children with cystic fibrosis*, Sara Bahonar, **Microbiology PhD student**, 2023-now
- *Synthesis and characterization of ZIF-8 system containing ciprofloxacin and its antibacterial evaluation*, Moin Farnia, **PharmD student**, 2023-now
- *Synthesis, characterization, and in vitro evaluation of Mupirocin@ZIF-8 in basil seed mucilage in secondary skin infection of Atopic dermatitis*, Hasti Sepahi, **PharmD student**, 2023-now
- *Synthesis and characterization of ZIF-8@Mxene nanosystem for metformin drug delivery in breast cancer*, Niloofar Masoumi, **PharmD student**, 2023-
- *Design and fabrication of Molecularly Imprinted Polymers (MIP) based on Metal Organic Frameworks (MOF) for extraction and determination of benzodiazepines in biological fluids*, Ramin Shokrehoda, **PharmD student**, 2020-2024
- *Preparation and in vitro Evaluation of pH-sensitive Metal organic framework (ZIF-8) for delivery of methotrexate in rheumatoid arthritis*, Reyhane Masoudifar, **PharmD student**, 2020-2022
- *Synthesis, characterization and in vitro evaluation of MIL-100(Fe) for methotrexate delivery in rheumatoid arthritis*, Niki Pouyanfar, **PharmD student**, 2020-2022

Teaching experience

- **“Disease diagnosis using nanotechnology”**, PhD students, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, June 2024
- **“How to write scientific articles?”** Technical workshop, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Dec 2023
- **“Nanotechnology In Biomedicine”** Workshop, Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, July 2023

Certificates

- Theranostic agents in medical imaging workshop, Tehran University of Medical Sciences, 2020
- Pharmaceutical supplements technical supervisor certificate, Iranian Food and Drug Administration (IFDA), 2018
- Medical Devices Technical Supervisor certificate, Iranian Medical Device Society (IMEDS), 2016
- Gas Chromatography (GC) workshop, Comprehensive Research Laboratory of Tehran University of Medical Sciences, 2015
- ICP (Inductively Coupled Plasma) workshop, Iran University of Sciences and Technology (IUST), 2015
- Step by step with the publication of the first article in the field of machine learning, Tehran University of Medical Sciences, 2023
- Principles of research methods, Shahid Beheshti University of Medical Sciences, 2021
- Scientific research, Bam University of Medical Sciences, 2022

Reviewing Activities

- Scientific referee of **Alborz cultural foundation** (Alborz Prize), 2023
- Scientific referee of the **pharmacy updates congress**, 2021 and 2023
- Reviewed for **scientific journals** (Nanomedicine, International Journal of Biological Macromolecules, Journal of Industrial and Engineering Chemistry, Heliyon, Iranian Journal of Pharmaceutical Research, Iranian Journal of Pharmaceutical Science)

Honors and Awards

- 1st team rank of Legalomed entrepreneurship Festival (2021)
- 1st rank in PhD entrance national exam in Pharmaceutical Biomaterials field
- 1st rank in PhD class based on score
- 1st rank of the PhD comprehensive exam

English language certificates

- MHLE (Ministry of Health Language Exam)

- MSRT (Ministry of Science Research and Technology)

Work experience

Assistant Professor (Aug 2024-Current)

Department of Tissue Engineering and Applied Cell Sciences, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences

Health Researcher (Sep 2023- Aug 2024)

Medical Nanotechnology and Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

R&D expert and Technical Supervisor (2015-2017)

ChitoTech Company (Producer of advanced wound dressings, hemostatic products and antiseptics)