

## 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

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

## 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 (1<sup>st</sup> rank in class)
- **1<sup>st</sup> 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***

- Ahmadi, M., Ayyoubzadeh, SM., Ghorbani-Bidkorpheh, F. (2024) *Toxicity prediction of nanoparticles using machine learning approaches*. Toxicology (**IF=4.5**)
- Akhtari, N., Ahmadi, M., Kiani Doust, Y., Asadian, E., Behzad S., Vatanpour, H., Ghorbani-Bidkorpheh, F. *Natural agents as wound-healing promoters* (2023) Inflammopharmacology (**IF=5.9**)
- 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 <sup>99m</sup>Tc-Tricarbonyl-Imidazole-Bathophenanthroline Disulfonate Chelation System and Biological Evaluation as Prostate-Specific Membrane Antigen Inhibitor, Cancer Biotherapy and Radiopharmaceuticals* (**IF=3.4**)
- Yazdipour, A., Masoorian, M., Ahmadi, M., Mohammadzadeh, N., Ayyoubzadeh, SM., (2023) *Predicting the toxicity of nanoparticles using artificial intelligence tools: a systematic review*. Nanotoxicology (**IF=5.881**)
- 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 (**IF=5.671**)
- Ahmadi, M., Khoramjouy, M., Dadashzadeh, S., Asadian, E., Mosayebnia, M., Geramifar, P., Shahhosseini, S., Ghorbani-Bidkorpheh, F. (2023) *Pharmacokinetics and biodistribution studies of [<sup>99m</sup>Tc]-Labeled ZIF-8 nanoparticles to pave the way for image-guided drug delivery and theranostics*. Journal of Drug Delivery Science and Technology (**IF=5.06**)
- 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 (**IF=8.666**)

- Ahmadi, M., Ebrahimnia, M., Kecili, R., Shahbazi, A., Ghorbani-Bidkorbeh, F. (2022): *Microporous Metal-Organic Frameworks: Synthesis and Applications*. Journal of Industrial and Engineering Chemistry (**IF=6.760**)
- Yoosefi, S., Ghorbani-Bidkorbeh, 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 (**IF=4.088**)
- 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 (**IF=8.856**)
- 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 (**IF=3.777**)
- 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 (**IF=1.951**)
- 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 (**IF=1.951**)
- 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 (**IF=14.557**)

### **Book chapters**

- Mosayebnia, M., Ahmadi, M., Emzhik, M., *Gamma ray-involved cancer therapy and imaging*. Elsevier Publication. (2023).

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

#### ***Under review and in progress papers and book chapters***

- Pouyanfar, N., Ahmadi, M., Ayyoubzadeh, S.M., Ghorbani-Bidkorpbeh, F. *Prediction of MOF properties using machine learning approaches*, *Materials Today Communications* **(IF=3.8) (accepted)**
- Ahmadi, M., Pouyanfar, N., Banan, K., Ghorbani-Bidkorpbeh, F. *Green Magnetic Nanoparticles for Biomedical Application (Book Chapter) (accepted)*
- Masoudifar, R., Ahmadi, M., Pouyanfar, N., Ghorbani-Bidkorpbeh, F. *Nanotechnology Based Theranostic Approaches in Brain Diseases (Book Chapter) (accepted)*
- Ahmadi, M., Alizadeh B., Ayyoubzadeh SM., Abiyarghamsari M. *Predicting Pharmacokinetics of Drugs Using Artificial Intelligence Tools: A Systematic Review (Under review)*
- Afsharara H., banan K., Hatambadi D., Amiri O., Ahmadi M, Ghorbani-Bidkorpbeh F., *Separation and purification of active pharmaceutical ingredient of Norfloxacin from degradation products by molecularly imprinted polymers (Submitted)*
- Davarikia K, Ghazizadeh Y, Ayyoubzadeh SM, Ahmadi M, Ghorbani-Bidkorpbeh F., *Integration of artificial intelligence and microfluidics for cancer diagnosis and treatment (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***

- Prediction of Nanoparticle Toxicity Using Machine Learning, 1<sup>st</sup> International Congress of Artificial Intelligence in Medical Sciences (2023)
- Integration of artificial intelligence and microfluidics for disease diagnosis, 1<sup>st</sup> 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 5<sup>th</sup> International Congress on Pharmacy-Updates (2022)
- Polymeric Micelles: Synthesis by Microfluidic Technique and Its Role in Dermatology, 4<sup>th</sup> international and 6<sup>th</sup> national congress of the wound and tissue repair (2019)
- Novel noninvasive detection methods for wounds caused by the skin squamous cell carcinoma, 5<sup>th</sup> international conference on Research in Science and Technology, (2016)
- Synthesis and Optimization of DNPOH and BDNPA, 5<sup>th</sup> international conference on Research in Science and Technology, (2016)
- Optimization of synthesis condition of BDNPA energetic polymer, 18<sup>th</sup> conference on chemistry, (2015)

### **Approved research proposals and grants**

- *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/10.29252/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/10.29252/IR.TUMS.SPH.REC.1401.277)
- *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/10.29252/988055)

- *Synthesis and physicochemical evaluation of metal-organic frameworks: radiolabeling and in vivo investigation by SPECT imaging, 2020. (PI).* Shahid Beheshti University of Medical Sciences, Ethical approval ID: [IR.SBMU.PHARMACY.REC.1399.151](https://www.sbmui.ac.ir/ethical/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://www.sbmui.ac.ir/ethical/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://www.sbmui.ac.ir/ethical/IR.SBMU.PHARMACY.REC.1400.078)

### **Thesis**

- **Advisor**

- *Synthesis and characterization of ZIF-8 system containing ciprofloxacin and its antibacterial evaluation, Moin Farnia, PharmD student, 2023-*
- *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-*
- *Synthesis and characterization of ZIF-8@Mxene nanosystem for metformin drug delivery in breast cancer, Niloofar Masoumi, PharmD student, 2023-*
- *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*
- *Design and fabrication of Molecularly Imprinted Polymers (MIP) based on Metal Organic Frameworks (MOF) for extraction and determination of benzodiazepines in biological fluids, Ramin Shokrekhoda, PharmD student, 2020-now*

### **Teaching experience**

- “**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

### 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, Heliyon, IJPR, IPJS,...)

### Honors and Awards

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

### English language certificates

- MHLE (Ministry of Health Language Exam)

- MSRT (Ministry of Science Research and Technology)

### **Work experience**

**R&D expert and Technical Supervisor at ChitoTech Company, 2015-2017** (Producer of advanced wound dressings, hemostatic products and antiseptics)

#### **Job responsibilities:**

- Preparation of common technical document (CTD) for health products such as antiseptics
- Preparation and revision of physicochemical and antimicrobial test for raw materials from USP and EP Pharmacopeia
- Preparation and modification of certificate of analysis (COA) for raw materials and final products
- Preparation of technical files for medical devices such as wound healing dressing
- Preparation of English technical file of product for CE marking
- Preparation and revision of SOP (Standard Operation Procedure)
- Preparation and revision of SMF (Site Master File)
- Preparation and revision of OPC (Operation Process Chart)
- Doing patenting products
- Obtaining an ethical code for clinical studies of products from *Iranian Registry of Clinical Trials* (IRCT)