

Dr. Elmira Mohammadi

Assistant Professor, Pharmaceutical Sciences Research Center

Isfahan University of Medical Sciences, Isfahan, Iran

Email: el.mohammadi@pharm.mui.ac.ir

EDUCATION

- **Ph.D. in Pharmaceutical Biotechnology**, Isfahan University of Medical Sciences, Isfahan, Iran (2014–2020)
- **M.Sc. in Microbial Biotechnology**, University of Isfahan, Iran (2009–2011),
- **B.Sc. in Biology**, University of Isfahan, Iran (2005–2009),

TEACHING EXPERIENCE AND TRAINING COURSES

- **Lecturer**, Islamic Azad University, Falavarjan Branch (2012–2013)
– Taught undergraduate biology and biotechnology courses.
- **Thesis Advisor and Supervisor**
– M.Sc. Thesis: “Anticancer properties of probiotics on colon cancer cell lines,” Ashrafi University, 2023.
– M.Sc. Thesis: “Design of fusion proteins,” Royan Institute, 2024.
- **Instructor – Scientific Workshops**
– Searching in Scientific Databases, Isfahan University of Medical Sciences (4 hours).
– Summer School on Molecular Skills: Cloning, Database Search, Molecular Dynamics Simulation, Introduction to Fermentor (23 hours).
– Summer School on Molecular Skills: DNA Extraction and PCR Techniques (16 hours).

RESEARCH PROJECTS

- Screening of available drugs to identify effective compounds against *Staphylococcus aureus* infections using machine learning approaches (2024) – **Principal Investigator**
- Pan-cancer analysis of gastrointestinal cancers to identify common gene markers using bioinformatics and gene expression analysis (2024) – **Collaborator**
- Evaluation of mutations in chimeric reticulated structures for reduced NMDA receptor binding affinity (in silico) (2021–2022) – **Principal Investigator**
- Isolation of probiotic species from healthy mothers’ breast milk (Isfahan, Iran) (2021–2022) – **Principal Investigator**
- Bioinformatics comparison of novel and mutated forms of tissue plasminogen activator (tPA) to reduce neurotoxicity (2018–2019) – **Principal Investigator**
- Cytotoxic effects of soft coral extracts from the Persian Gulf on breast and ovarian cancer cell lines (2017) – **Collaborator**
- Spatial distribution of leukemia in Isfahan Province using Geographic Information System (GIS) (2013–2014) – **Collaborator**

SOME OF JOURNAL ARTICLES

- Shahrzad Ahangarzadeh, Elmira Mohammadi, et al. Advanced technologies for cancer immunotherapy: focus on gastrointestinal cancer. *Anti-Cancer Agents in Medicinal Chemistry*. 2025.
- Nazila Kassaian, Elmira Mohammadi. An assessment of breast milk microbiome focusing on probiotics. *Iranian Journal of Nursing and Midwifery Research*. 2025.
- Parisa Lakhshei, Shahrzad Ahangarzadeh, Fatemeh Yarian, Ameneh Koochaki, Bahram Kazemi, Zahra Kiamehr, Elmira Mohammadi, Abbas Alibakhshi. Cytotoxic effects of a novel tagged apoptin on breast cancer cell lines. *Advanced Biomedical Research*. 2024.
- Abbas Alibakhshi, Armina Alagheband Bahrami, Elmira Mohammadi, Shahrzad Ahangarzadeh, Meysam Mobasher. In-silico design of a new multi-epitope vaccine candidate against SARS-CoV-2. *Acta Virologica*. 2024.
- Pardis Mohammadi Pour, Karim Mahnam, Mahsa Taherzadeh, Shahrzad Ahangarzadeh, Abbas Alibakhshi, Elmira Mohammadi. The effect of mutation on neurotoxicity reduction of new chimeric reteplase: a computational study. *Research in Pharmaceutical Sciences*. 2023.
- Moein Shirvanian, Vajihe Azimian Zavareh, Zahra Zamanzadeh, Marjan Janghorban, Elmira Mohammadi, Shahrzad Ahangarzadeh. Probiotic potential, antiproliferative, and proapoptotic activities of *Lactobacillus fermentum* isolated from breast milk. *Advanced Biomedical Research*. 2023.
- Reza Ghavimi, Elmira Mohammadi, Vajihe Akbari, Fatemeh Shafiee, Ali Jahanian-Najafabadi. In silico design of two novel fusion proteins, p28–IL-24 and p28–M4, targeted to breast cancer cells. *Research in Pharmaceutical Sciences*. 2020.
- Afsaneh Yegdaneh, Elmira Mohammadi, Negin Mehdinezhad, Leila Shabani, Pardis Mohammadi Pour. Evaluation of cytotoxic and antioxidant activity and total phenolic content of some soft corals from the Persian Gulf. *Iranian Journal of Pharmaceutical Sciences*. 2020.
- Elmira Mohammadi, Karim Mahnam, Ali Jahanian-Najafabadi, Hamid Mir Mohammad Sadeghi. Design and production of new chimeric reteplase with enhanced fibrin affinity: a theoretical and experimental study. *Journal of Biomolecular Structure and Dynamics*. 2020.
- Elmira Mohammadi, Hooria Seyedhossein-Ghaheh, Karim Mahnam, Ali Jahanian-Najafabadi, Hamid Mir Mohammad Sadeghi. Reteplase: structure, function, and production. *Advanced Biomedical Research*. 2019.
- Elham Taherian, Elmira Mohammadi, Ali Jahanian-Najafabadi, Fatemeh Moazen, Vajihe Akbari. Cloning, optimization of periplasmic expression and purification of recombinant GM-CSF in *E. coli* BL21 (DE3). *Advanced Biomedical Research*. 2019.

- Raziye Malekian, Ali Jahanian-Najafabadi, Fatemeh Moazen, Reza Ghavimi, Elmira Mohammadi, Vajihe Akbari. High-yield production of GM-CSF in *E. coli* BL21 (DE3) by an auto-induction strategy. *Iranian Journal of Pharmaceutical Research*. 2018.
- Zahra Golestannejad, Shahin Gavanji, Elmira Mohammadi, Amir Motamedi, Mehdi Bahrani, Fatemeh Rezaei, Behrouz Larki, Amin Mojiri, Azizollah Bakhtari. Comparison of antibacterial activity of essential oils of *Foeniculum vulgare*, *Mentha arvensis*, and *Mentha piperita* against *Streptococcus mutans*. *Advanced Herbal Medicine*. 2017.
- Elmira Mohammadi, Mohsen Doostmohammadi, Shahin Gavanji, Hojjat Baghshehi, Zahra Golestannejad, Azizollah Bakhtari, Mohammadreza Golestannejad, Amir Motamedi. Cytotoxic effects of honey bee venom on human colorectal cancer cells and L929 fibroblast cells. *Traditional and Islamic Medicine Journal*. 2017.
- Elmira Mohammadi, Shahin Gavanji, Faezeh Khezimeh, Zahra Golestannejad, Mohammadreza Golestannejad, Mahin Bakhshi, Hajir Yousefshahi, Mohsen Doostmohammadi. Prediction of interaction between bee venom compounds and protective antigen of *Bacillus anthracis* using bioinformatics tools. *Tehran University Medical Journal*. 2016.
- Marjan Abedi, Zahra Ravankhah, Elmira Mohammadi, Zohreh Khosravi-Dehghi, Alireza Moafi, Bentehodai Yazdanbakhsh. Spatial distribution of leukemia in relation to environmental factors using GIS in Isfahan Province, Iran (2010–2015). *Isfahan University Medical Journal*. 2016.
- Zahra Golestannejad, Elmira Mohammadi, Amir Motamedi, Shahin Gavanji, Niloofar Fallah, Shervin Bagherie, Golshan Farzane, Milad Safaripour, Asana Vally, Mohsen Doost Mohammadi, Behrouz Larki, Azizollah Bakhtari. Chemical composition and antibacterial activity of some herbal essential oils against *Streptococcus mutans*. *Advanced Herbal Medicine*. 2015.
- Shahin Gavanji, Elmira Mohammadi, Behrouz Larki, Azizollah Bakhtari. Chemical composition identification and comparison of antibacterial activity of some essential oils against three pathogenic bacteria. *International Journal of Scientific Research in Knowledge*. 2015.
- Shahin Gavanji, Elmira Mohammadi, Behrouz Larki, Azizollah Bakhtari. Antimicrobial and cytotoxic evaluation of some herbal essential oils in comparison with common antibiotics in bioassay condition. *Integrative Medicine Research*. 2014.

CONFERENCE PRESENTATIONS

- In-silico designing and creation of a new generation of reteplase with enhanced fibrin specificity. 1st International Congress on Modern Pharmacy, Tehran, 2017 – Poster Presentation.
- A computational investigation of point mutation effects on decreasing reteplase neurotoxicity. 2nd International Congress on Modern Pharmacy, Tehran, 2018 – Oral Presentation.

- Design of a therapeutic peptide for SARS-CoV-2 spike protein. National COVID-19 Research Conference, Isfahan, 2020 – Poster.
- B-cell epitope prediction for HIV-1 matrix protein p17. 11th International Congress of Immunology and Allergy, Tehran, 2012 – Poster.
- Most recent findings around hybrids of silver nanoparticles and therapeutic agents to improve treatment efficacy in various diseases. 5th International Conference on Nanotechnology, Istanbul, Turkey, 2016 – Oral Presentation

EDITORIAL AND CULTURAL ACTIVITIES

- Contributor and editorial member of Ritalin and Generic scientific magazines, School of Pharmacy, Isfahan and Zanjan Universities.
- Member of the Central Council, “Paran” Cultural Association, Isfahan University of Medical Sciences.

HONORS AND AWARDS

- 2nd National Rank, Ph.D. Entrance Exam in Pharmaceutical Biotechnology (2014).
- National Elite Student Scholarship, Iran National Elites Foundation (2015–2016).
- Top 3rd Student, B.Sc. Program (University of Isfahan, 2009).
- Exceptional Talent Admission for M.Sc. (University of Isfahan, 2009).
- 1st Rank – University Level, Quran and Nahj al-Balagha Competition (2018).
- 4th Rank – National Level, Quran and Nahj al-Balagha Competition (2019).