



Mohammad Mostafa Pourseif, PhD.

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Current Affiliations

Assistant Professor at

- I. Research Center for Pharmaceutical Nanotechnology (RCPN), Biomedicine Institute,
- II. Faculty of Advanced Medical Sciences

Tabriz University of Medical Sciences, Tabriz, IRAN

Profile Summary

Passionate research scientist with over 10 years of experience in Vaccine Design and Development. Adept at utilizing Bioinformatics methods, i.e., High-Throughput Data analysis (Microarray & Next-Generation Sequencing), Structural Bioinformatics (Dynamics Simulations), R and Python Programming, and computational/experimental designing peptide-based therapeutics. Motivated team player with a proven record of meeting deadlines and good experience in receiving and managing grants. History of building lasting relationships with supervisors and co-workers. Excellent communication skills. Eager to continue my academic journey with international universities.

Research Interests

Bioinformatics – Molecular Dynamics Simulations – Computational Genomics/Transcriptomics/Proteomics – Computational/Experimental based Design and Development of Therapeutics (i.e., Drugs, Vaccines, and Bio-Drugs).

Academic Educations

Degree	Month, Year	University	Field of Study	Supervisor
Postdoc	2018 – 2020	Tabriz University of Medical Sciences	Structural Bioinformatics and Systems Pharmacology of Detrimental Diseases	Prof. Yadollah Omid
Ph.D.	2013 – 2018	University of Tabriz & Tabriz University of Medical Sciences	Physiology – Vaccine Design and Development	Prof. Yadollah Omid
M.Sc.	2009 – 2011	University of Tabriz	Physiology – Reproduction Biology	Prof. Gholamali Moghaddam
B.Sc.	2004 – 2009	University of Tabriz	Animal Sciences	

Teaching Experience

Course name	Degree	Students' Field of study	Date
Bioinformatics	PhD	Applied Cell Sciences	2022 – now
Bioinformatics	PhD	Molecular Medicine	2022 – now
Systems biology	PhD	Medical Biotechnology	2022 – 2023
Cellular and Molecular Biology: Bioinformatics	PhD	Medical Physiology	2024
Systems biology	MSc	Medical Immunology	2022 – now

Workshop leader

Course name	Venue	Date
SDS-PAGE and Western Blotting (Theory and Practice)	Ayandeh Laboratory, Urmia-Iran	2017
Bioinformatics: Sequence Alignment and Phylogenetic analysis	Faculty of Advance Medical Sciences	2022
Computational Vaccine Designing	College of Pharmacy	2023
Molecular docking Simulation	Faculty of Advance Medical Sciences	2023
Familiarization with High-throughput Microarray Data Analysis (Theory and Practice)	Faculty of Advance Medical Sciences	2024
Structural Bioinformatics: Molecular Dynamics Simulations using GROMACS	Faculty of Advance Medical Sciences	2024
Primer Design	Faculty of Medicine	2024

National Patent

Title: Production of recombinant vaccine rEGVac against parasitic causative agent of hydatid disease and for simultaneous immunization of sheep and dog: an in silico, in vitro, and in vivo study.

National Patent Number: 100538

International Classification: C12R 32/1;A61P 00/33;C12N 00/15

State Organization for Registration of Deeds and Properties Intellectual Property Center
(<http://iripo.ssaa.ir/>), Tehran, Iran.

Journal Publications

Title	Journal	Date
Curcumin and nano-curcumin applications in psychiatric disorders	Phytotherapy Research	2024
Deciphering anti-biofilm property of <i>Arthrospira platensis</i> -origin peptides against <i>Staphylococcus aureus</i>	Computers in Biology and Medicine	2023
Self-amplifying mRNA vaccines: Design, development, and optimization	Drug Discovery Today	2022
Recombinant production and characterization of L-glutaminase (glsA) as a promiscuity therapeutic enzyme	Applied Microbiology and Biotechnology	2022
Pharmacoinformatics-based phytochemical screening for anticancer impacts of yellow sweet clover, <i>Melilotus officinalis</i> (Linn.) Pall	Computers in Biology and Medicine	2021
A domain-based vaccine construct against SARS-CoV-2, the causative agent of COVID-19 pandemic: development of self-amplifying mRNA and peptide vaccines	BioImpacts	2021
Structure-based drug repurposing against COVID-19 and emerging infectious diseases: methods, resources and discoveries	Briefings in bioinformatics	2021
A novel multi-objective metaheuristic algorithm for protein-peptide docking and benchmarking on the LEADS-PEP dataset	Computers in Biology and Medicine	2021
Vaccination with rEGVac elicits immunoprotection against different stages of <i>Echinococcus granulosus</i> life cycle: a pilot study	Acta Tropica	2021
Next-generation vaccines and the impacts of state-of-the-art in-silico technologies	Biologicals	2021
Modulatory Role of Vaginal-Isolated <i>Lactococcus lactis</i> on the Expression of miR-21, miR-200b, and TLR-4 in CAOV-4 Cells and In Silico Revalidation	Probiotics and antimicrobial proteins	2020
Nanobody-based therapeutics against colorectal cancer: Precision therapies based on the personal mutanome profile and tumor neoantigens	Pharmacological Research	2020
Epitope-based vaccine design: a comprehensive overview of bioinformatics approaches	Drug Discovery Today	2020
Designing a new generation of expression toolkits for engineering of green microalgae; robust production of human interleukin-2	BioImpacts	2020
Peptide-mediated drug delivery across the blood-brain barrier for targeting brain tumors	Expert Opinion on Drug Delivery	2019

Functional expression and impact of testis-specific gene antigen 10 in breast cancer: a combined in vitro and in silico analysis	BioImpacts	2019
Phage antibody library screening for the selection of novel high-affinity human single-chain variable fragment against gastrin receptor: an in silico and in vitro study	DARU Journal of Pharmaceutical Sciences	2019
A multi-method and structure-based in silico vaccine designing against <i>Echinococcus granulosus</i> through investigating enolase protein	BioImpacts	2019
In silico design of a triple-negative breast cancer vaccine by targeting cancer testis antigens	BioImpacts	2019
Stable transformation of <i>Spirulina (Arthrospira) platensis</i> : a promising microalga for production of edible vaccines	Applied microbiology and biotechnology	2018
A novel B-and helper T-cell epitopes-based prophylactic vaccine against <i>Echinococcus granulosus</i>	BioImpacts	2018
A novel in silico minigene vaccine based on CD4+ T-helper and B-cell epitopes of EG95 isolates for vaccination against cystic echinococcosis	Computational Biology and Chemistry	2018
Current status and future prospective of vaccine development against <i>Echinococcus granulosus</i>	Biologicals	2018
Molecular machineries of pH dysregulation in tumor microenvironment: potential targets for cancer therapy	BioImpacts	2017
Blood-brain barrier transport machineries and targeted therapy of brain diseases	BioImpacts	2016

Under Review Processing

- 1 Designing ToxiVax452, an Epitope-Based Vaccine Candidate Targeting *Toxoplasma gondii* Tachyzoite-Specific SAG1-Related Sequence (SRS) Proteins
- 2 Proteome-wide screening of *Staphylococcus aureus*: a network-based reverse vaccinology approach to identifying potential vaccine candidates
- 3 Designing a cocktail of self-amplifying mRNA vaccines against *Staphylococcus aureus*: Immunoinformatics, Structural modeling, Simulations, and Revalidation using experimental evidences
- 4 Molecular Characterization, Structural and Functional Simulations of Putative L-Glutaminase YLaM Identified from *Bacillus licheniformis*
- 6 Design and development of self-amplifying mRNA vaccine nanoformulations
- 7 Aripiprazole loaded niosome/chitosan gold nanoparticles for chemo-photodynamic therapy of breast cancer cells
- 8 Upregulation of serum miR 155 and miR 30c as a Potential Biomarker for Alzheimer's Disease

Book Chapter

Nanoengineering of Biomaterials

Chapter 14: Nanoscale Vaccines: Design, Delivery, and Applications

Yadollah Omid, Mohammad M. Pourseif, Hossein Omidian, and Jaleh Barar

Drug Delivery; Volume 1

Published Print: 14 February 2022

Speaker in Conferences

- The 2nd National Conference on Biomathematics__ University of Tabriz

22 – 23 Oct 2022

Title of Speech: Personalized medicine: A Comprehensive Interdisciplinary Field of Research

- 1st Advances in Medical Sciences and Technologies__ Tabriz University of Medical Sciences

6 – 8 May 2023

Title of Speech: Computational Vaccinology for Design and Development of the Next-Generation of Gene-based Vaccines

Membership in International Journals

Journal

BioImpacts
Informatics in Medicine Unlocked
Frontiers in Clinical Microbiology

Role

Associate Editor
Guest Associate Editor
Editorial Board

Other Items

- ❖ Engaged as Principal Investigator (**PI**) and Co-Principal Investigator (**Co-PI**) in various intra-university, extramural, and international research projects (Iran-China).
- ❖ A member of the **Scientific Committee** of the 3rd International and 12th National Iranian Conference on Bioinformatics, hosted by the University of Science and Technology of Mazandaran, Behshahr, Iran.
- ❖ I served as a **mentor**, delivering specialized workshops during **HiMed 2024**, a startup weekend event, for a duration of 50 hours.
- ❖ **Reviewer** in various International Journals.
- ❖ **Editor** in BioImpacts' Special Issue: Artificial Intelligence and Bioinformatics: Applications in Biomedicine.
- ❖ Served as a **supervisor** or **advisor** for multiple Master/Ph.D. thesis.
- ❖ Numerous abstract presentations at national and international **conferences**.

- ❖ Member of the Research Council, Center for Pharmaceutical Nanotechnology Research, Tabriz University of Medical Sciences (2019 - Present).