

# Curriculum Vitae

## Biography & CORE COMPETENCIES

Mohammad Mostafa Pourseif (Ph.D.) is Assistant Professor at Tabriz University of Medical Sciences (TUOMS), Research Center for Pharmaceutical Nanotechnology (RCPN), Tabriz-Iran. His main research field is vaccine design and development against infectious diseases and cancers through the bioinformatics and systems biology approaches, as well as the experimentally production of nano-formulated recombinant peptide- and mRNA-based vaccines.

## EDUCATION

**Sep 2013 – Feb 2018**     **Ph.D., Animal Physiology-Vaccinology**  
Department of Animal Physiology, Faculty of Agriculture, University of Tabriz, Tabriz, Iran

**Thesis:**     Physiology of Immune System, Hematology and Necropsy of Male Lambs and Definitive Hosts in Challenge with the Protective Antigens of *Echinococcus granulosus*

**Sep 2009 – Aug 2011**     **M.Sc., Animal Physiology-Reproduction**  
Department of Animal Physiology, Faculty of Agriculture, University of Tabriz, Tabriz, Iran

**Thesis:**     Evaluation of semen characteristics in genetically crossbred rams in reproductive and non-reproductive seasons

**Feb 2005 – Sep 2009**     **B.Sc., Animal Sciences**  
Department of Animal Physiology, Faculty of Agriculture, University of Tabriz, Tabriz, Iran

## National Registered Patent

**Title:** Production of recombinant vaccine rEGVac against parasitic causative agent of hydatid disease and for simultaneous immunization of sheep and dog.

**National Patent Number:** 100538

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



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Assistant Professor of Physiology, Research Center for Pharmaceutical Nanotechnology (RCPN), Research and Development Complex, Tabriz University of Medical Sciences (TUOMS), Daneshgah street, Tabriz, IRAN.

Please click [here](#) to link to my online CV.

## Languages

Native	Persian
English writing	Good
Listening	Good
Speaking	Partly Good

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

## TEACHING EXPERIENCES

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- 2014–2016** Biology and Zoology (B.Sc. students), Faculty of Biology, Higher Education Institute of Rab-Rashidi, Tabriz, Iran
- 28 - 30 Sep 2016** Western Blotting, Ayandeh Laboratory (Theoretical & Practical), Urmia, Iran.
- 2019 - 2020** Physiology, FARADAR, Tehran Iran

## TECHNICAL EXPERTISE

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- A. Gene Cloning and Expression; Protein Dialysis and Purification; SDS-PAGE, Western Blotting.
- B. Cell Culture, MTT Assay, DNA Ladder Assay and Cell Cycle
- C. Primer and Probe Designing, PCR, Q-PCR, RFLP, Electrophoresis
- D. ELISA, Flow Cytometry.
- E. Caring, Handling, and Using of livestock and Laboratory Animals
- F. Recombinant Vaccine Designing and Immunoinformatics
- G. Drug Design: Docking (AutoDock, ...), Pharmacophore, Virtual Drug Screening
- H. Systems-Biology based Vaccinology
- I. Network Analysis of the Biological Data and Infectious agents
- J. High-throughput Microarray Data Analysis
- K. R Language Programming
- L. Molecular Dynamics (MD) Simulation by GROMACS.

## PUBLICATIONS

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### A. Congress

1. **M. M. Pourseif**, A. Salemi, Ali Shayanfar, Y. Omidi. Systems vaccinology analysis for identification of the crucial protective antigens of *Staphylococcus aureus*. **Oral Presentation**. 35<sup>th</sup> World Vaccines & Immunization Congress. November 12-13, 2019, Brisbane, Australia.

2. **M. M. Pourseif**, Gholamali Moghaddam, Abbas Rafat, Ali Olfati. **2011**. Study of the relationship between quantity and quality seminal traits and libido in the crossbred Rams. *First National Animal Biotechnology Conference*. P: 31-34. (In Persian).
3. **M. M. Pourseif**, Gholamali Moghaddam, Abbas Rafat, Jalil Shodja. **2011**. Effect of Genetic groups and photoperiod on seminal quality and quantity traits in the crossbred Rams. *First National Animal Biotechnology Conference*. P: 175-178. (In Persian).
4. **M. M. Pourseif**, Gholamali Moghaddam, Abbas Rafat, Raziollah Jafari. **2011**. Study of Testosterone plasma and their relationship with seminal characteristics in crossbred Rams. *First National Animal Biotechnology Conference*. P: 197-200. (In Persian).
5. Ali Olfati, Gholamali Moghaddam, **M. M. Pourseif**, Behzad Habibi. **2011**. Effect of PGF2 $\alpha$  on seminal characteristics in the crossbred Rams. *First National Animal Biotechnology Conference*. P: 215-218. (In Persian).
6. **M. M. Pourseif**, Gholamali Moghaddam, Hossein Daghighkia. **2014**. Study of some of male breeding soundness indices and libido on the crossbred Rams. *6<sup>th</sup> Iranian Animal Sciences Congress*. (In Persian).
7. Gh. Moghaddam, **M. M. Pourseif**, Y. Omidi. **2016**. Prediction MHC class I and II T-Cell epitopes from *Echinococcus granulosus* 14-3-3 antigen using IEDB and TmhcPred algorithms. *17<sup>th</sup> International Congress on Infectious Diseases*.
8. **M. M. Pourseif**, Nima Aghapour Sabagh, Ali Shabestari Asl 3, Bahram Amoghli Asl, Gholamali Moghaddam. **2014** Study on effects of different dosage of Tramadol on normal dog's ECG and liver function. *6<sup>th</sup> Iranian Animal Sciences Congress*. (In Persian).
9. Gh. Moghaddam, **M. M. Pourseif**, Y. Omidi. **2016**. Preliminary immunoinformatics research for prediction the most immunogenic linear and conformational B-cell epitopes of 14-3-3 antigen in *Echinococcus granulosus*. *17<sup>th</sup> International Congress Infectious Diseases*.
10. Moghaddam Gh., **Pourseif M. M.**, Rafat S. A. June **2012**. Seasonal variation in semen characteristics of crossbred rams in the northwest of Iran. *XXVII World Buiatrics Congress Lisbon Portugal*.

## B. Journal Publications

### Master of Science (M.Sc.)

1. Gholamali Moghaddam, **Mohamad Mostafa Pourseif**, Reza Asadpour, Seid Abbas Rafat and Raziallah Jafari-Jozani. **2012**. Relationship between Levels of Peripheral Blood Testosterone, Sexual Behavior, Scrotal Circumference and Seminal Parameters in Crossbred Rams. *Acta Scientiae Veterinariae*, 43(3): 1049.
2. **Mohammad M. Pourseif**, Gh. Moghaddam, S. A. Rafat, H. Daghighkia and A. Pourseif. **2013**. Photoperiod as a factor for studying fluctuations of seminal traits in rams during breeding and non-breeding season. *Journal of Veterinary Medicine and Animal Health*. 5(6).

3. R. Asadpour, **Mohammad M. Pourseif**, G. Moghaddam, R. Rafat, H. Tayefi and H. Mahmodi. 2012. Effect of vitamin B12 addition to extender on some physicochemical parameters of semen in crossbred rams. *African Journal of Biotechnology*. 11 (54).
4. Reza Asadpour, **Mohammad M. Pourseif**, GH. Moghaddam and H. Tayefi. 2012. Activity of antioxidant enzymes and malondialdehyde in seminal plasma and their relationship with semen characteristics in crossbred rams. *Indian Journal of Animal Sciences*, 82(7): 710-712.
5. Gholamali Moghaddam, **Mohamad M. Pourseif**, Ali A.R. Rahimi. 2013. Study of correlation between reaction time and refractory period (as indices of libido) with semen characteristics in ArkharMerino\*Moghani and Baluchi\*Moghani rams. *Italian Journal of Animal Science*, volume 11:e66.
6. Gh. Moghaddam, **Mohammad M. Pourseif**, S.A. Rafat. 2012. Seasonal variation in semen quantity and quality traits of Iranian crossbred rams. *Slovak Journal of Animal Science*. 45 (3).
7. Gholamali Moghaddam, Ehsan Ziai, Seyed Abbas Rafat, Hossein Daghighkia and **Mohamad M. Pourseif**. 2012. Evaluation of estrogen, insulin and some blood metabolites of dairy cows on the incidence of ovarian cysts in the Dasht Azar-Negin farm. *Journal of Animal Science Researches, Tabriz University*. 4 (22). (In Persian).
8. Gholamali Moghaddam, **Mohamad M. Pourseif**. 2014. Simultaneous study of some of male breeding soundness indices and sexual urge on the crossbreed rams. *Slovak Journal of Animal Science*. 47(1): 25-32.

### Doctorate (Ph.D.)

9. **M. M. Pourseif**, Gh. Moghaddam, N. Saeedi, A. Barzegari, J. Dehghani, Y. Omid. 2018. Current status and future prospective of vaccine development against *Echinococcus granulosus*. *Biologicals*. 51, 1-11.
10. **M. M. Pourseif**, Gh. Moghaddam, B. Naghili, N. Saeedi, S. Parvizpour, A. Nematollahi, Y. Omid. 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*. 72, 150-163.
11. **Mohammad M. Pourseif**, Gholamali Moghaddam, Hossein Daghighkia, Ahmad Nematollahi, Yadollah Omid. 2018. A novel B-and helper T-cell epitopes-based prophylactic vaccine against *Echinococcus granulosus*. *BioImpacts*. 8(1): 39-52.
12. Jaleh Barar, Mohammad A. Rafi, **Mohammad M. Pourseif**, Y. Omid. 2016. Blood-brain barrier transport machineries and targeted therapy of brain diseases. *BioImpacts*. 6(4): 225-248.
13. Sepideh Parvizpour, Jafar Razmara, **Mohammad M. Pourseif**, Yadollah Omid. 2019. *In silico* design of a triple-negative breast cancer vaccine by targeting cancer-testis antigens. *BioImpacts*. 9(1): 55-64.

14. Jaber Dehghani, Khosro Adibkia, Ali Movafeghi, Abolfazl Barzegari, **Mohammad M. Pourseif**, Hadi Maleki Kakelar, Asal Golchin, and Yadollah Omid. 2018. Stable transformation of *Spirulina* (*Arthrospira*) *platensis*: a promising microalga for the production of edible vaccines. *Applied Microbiology and Biotechnology*. 102(21): 9267-9278.
15. Mohammad Reza Asgharzadeh, Jaleh Barar, **Mohammad M. Pourseif**, Morteza Eskandani, Mojtaba Jafari Niya, Mohammad Reza Mashayekhi, Yadollah Omid. 2016. Molecular machineries of pH dysregulation in tumor microenvironment: potential targets for cancer therapy. *BioImpacts*. 7(2): 115-133.

## Research Fellow at the RCPN

16. Sepideh Jalilzadeh-Razin, Malihe Mantegi, Mohammad R. Tohidkia, Yaghub Pazhang, **Mohammad M. Pourseif**, Jaleh Barar, Yadollah Omid. 2019. Phage antibody library screening for the selection of novel high-affinity human single-chain variable fragment against gastrin receptor: as *in silico* and *in vitro* study. *DARU Journal of Pharmaceutical Sciences*, 27(1): 1-14.
17. Behzad Jafari<sup>†</sup>, **Mohammad M. Pourseif**<sup>†</sup>, Jaleh Barar, Mohammad A. Rafi, Yadollah Omid. Peptide-mediated drug delivery across the blood-brain barrier for targeting brain tumors. *Expert Opinion on Drug Delivery*.  
<sup>†</sup> *Jafari and Pourseif are Co-First Author in this paper.*
18. Mohammad Reza Asgharzadeh<sup>†</sup>, **Mohammad M. Pourseif**<sup>†</sup>, Jaleh Barar, Mojtaba Jafari Niya, Mohammad Reza Mashayekhi, Yadollah Omid. 2019. Functional expression and impacts of testis-specific gene antigen 10 (TSGA10) in breast cancer: a combined *in vitro* and *in silico* approach. *BioImpacts*. 9(3): 149-160.  
<sup>†</sup> *Asgharzadeh and Pourseif are Co-First Author in this work.*
19. **Mohammad M. Pourseif**, Mitra Yousefpour, Mohammad Aminianfar, Gholamali Moghaddam and Ahmad Nematollahi. 2019. A multi-method and structure-based *in silico* vaccine designing against *Echinococcus granulosus* through investigating enolase protein. *BioImpacts*. 9(3): 143-158.
20. Azita Moradi<sup>†</sup>, **Mohammad M. Pourseif**<sup>†</sup>, Behzad Jafari, Sepideh Parvizpour, Yadollah Omid. 2020. Nanobody-based therapeutics against colorectal cancer: precision therapies based on the personal mutanome profile and tumor neoantigens. *Pharmacological Research*. 156: 104790.  
<sup>†</sup> *Azita and Pourseif are Co-First Authors in this paper.*
21. Yalda Rahbar-Saadat<sup>†</sup>, **Mohammad M. Pourseif**<sup>†</sup>, Sepideh Zonouzi<sup>†</sup>, Abolfazl Barzegari, Jaleh Barar, Yadollah Omid. Modulatory Role of Vaginal-Isolated *Lactococcus lactis* on the Expression of miR-21, miR-200b, and TLR-4 in CAOV-4 Cells and *in silico* revalidation. Probiotics and Antimicrobial Proteins. <https://doi.org/10.1007/s12602-019-09596-9>.  
<sup>†</sup> *Rahbar-Saadat, Pourseif, and Zonouzi are Co-First Authors in this paper.*

22. Sepideh Parvizpour, **Mohammad M. Pourseif**, Jafar Razmara, Yadollah Omid. Epitope-based vaccine design: a comprehensive overview of bioinformatics approaches. *Drug Discovery Today*.

## Assistant Professor

### Published

1. **Mohammad M. Pourseif**, Gh. Moghaddam, A. Nematollahi, M. Khordadmehr, B. Naghili, J. Dehghani, Y. Omid. Vaccination with rEGVac elicits immunoprotection against different stages of *Echinococcus granulosus* life cycle: A pilot study. *Acta Tropica*. Volume 218, June 2021, 105883.
2. **Mohammad M. Pourseif**, Sepideh Parvizpour, Behrouz Naghili, Jaber Dehghani, Behzad Jafari, Yadollah Omid. 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; 11(1): 65–84
3. Aysan Salemi, **Mohammad M. Pourseif**, Yadollah Omid. Next-generation vaccines and the impacts of state-of-the-art *in silico* technologies. *Biologicals*. 2021 Jan; 69: 83–85.
4. Y. Masoudi-Sobhanzadeh, A. Salemi, **M. M. Pourseif**, B. Jafari, Y. Omid, A. Masoudi-Nejad. Structure-based drug repurposing against COVID-19 and emerging infectious diseases: methods, resources and discoveries. *Briefings in Bioinformatics*. 17 May 2021.

## BOOK Chapter

### In Progress

### BOOK Title: Nanoengineering of Biomaterials

Volume III: Biomedical Applications

Chapter title: Nano-scaled vaccines: design, delivery and applications

## Scientific Activities

### Courses & Workshops

Title	Organizer	Days
<b>Experimental</b>		
1- Molecular Cloning, Gene Expression, and Protein Purification	Iran Pasteur Institute, 7 <sup>th</sup> Summer School	5
2- Recombinant protein expression (PCR, qPCR, SDS-PAGE, Western-blotting, Electrophoresis, RFLP)	TUOMS *	5
3- Working, handling, and treatment of Farm and Lab Animals	TUOMS	3
5- Cell Culture	TUOMS	6
6- CRISPR Technology and Their Application in Genome Editing and Regenerative Medicine	TUOMS	2
7- FACS Flow cytometry	TUOMS	3
<b>Computational</b>		
1- Drug design (Docking, Pharmacophore, virtual screening)	ParsSilico Lab	5
2- Professional Probe and Primer Design	ParsSilico Lab	2
3- Molecular dynamics (MD) simulation using GROMACS	NCPV Lab <sup>‡</sup>	5
4- SAS software	M.Sc. Course in TUOMS	‡
5- R Language Programming	Self-learning	-
6- Vaccine designing and Immunoinformatics	ParsSilico Lab	3
7- High-throughput Gene Expression Data Analysis	ParsSilico Lab	5
8- Systems Biology (Network construction and analysis and so on)	ParsSilico Lab	5
9- Systems Pharmacology using Static and Dynamic Models	BioNeuroSystems & ParsSilico Labs	4
10- Linux (Ubuntu and Centos 7.0)	Self-learning	-

<sup>‡</sup>NCPV Lab: NicoPardazesh Virtual Lab; \* TUOMS: Tabriz University of Medical Sciences. †: Theory and Practical (3 units)

## Gene Registration in NCBI

Name	Web Link
14-3-3 protein [Echinococcus granulosus]	<a href="https://www.ncbi.nlm.nih.gov/protein/AMX81438.1">https://www.ncbi.nlm.nih.gov/protein/AMX81438.1</a>

## Honor and Awards

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- The high-rank student in the Iranian Ph.D. Entrance Exam.
- An outstanding student at the University of Tabriz.
- Awarded member of Special Talent at the University of Tabriz.
- Membership in the **Asian Council of Science Editors**
- One of the Vaccine Research leaders at the Research Center for Pharmaceutical Nanotechnology (RCPN), As a pioneer research center in the field of nanomedicine in Iran, link: <https://nano.tbzmed.ac.ir/?PageID=16>