

PROFILE

First name: Shirin

Last name: Mahmoodi

Nationality: Iranian

Country of residence: Iran

ADDRESS

Department of Medical biotechnology, Fasa University of Medical Sciences

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WORK EXPERIENCE

2017-current, Assistant Professor at Department of Medical biotechnology,
Fasa University of Medical Sciences

TEACHING EXPERIENCE

- Genetics Engineering to M.S.c students
- Medical Genetics to M.S.c students
- Molecular cell biology to M.S.c students
- Bioinformatics to M.S.c students
- Principles of working with laboratory animals to M.S.c students

- Information systems to M.S.c students
- Principles of standardization of biological product to M.S.c students
- Principles of cell signaling to Ph.D students

FIELD OF STUDY

- Recombinant Proteins
- Multi-Epitope Vaccines
- Immunoinformatics
- Enzyme Engineering
- Cancer Immunotherapy
- Peptide Design

EDUCATION

2013-2017, Ph.D student of Medical Biotechnology, Tabriz University of Medical Science.

2009- 2012, Tehran - Alzahra University, Cellular and Molecular Biology Microbiology, Master Degree (MSC)

2004-2008, Ahvaz- Jondi Shapour (Shahid Chamran) University

Cellular and Molecular Biology- Genetics, Bachelor Degree (BSC)

GRADUATE ACTIVITY

- Nine M.S.c students performed their project under my supervision

PROJECTS

- Assessment of a five gene panel (MMP13, SURVIVIN, MASPIN, CK20, MGB1) for the molecular detection of circulating tumor cells in the peripheral blood of breast cancer patients and assessment them to detection of metastases in patients
- Designing a multi-epitope DNA based vaccine against anti-apoptotic proteins for cancer immunotherapy
- Bioinformatic's evaluation of immunogenic proteins of Shigella pathogenic species, design, cloning and expression of multi-epitope peptide vaccine
- A novel candidate vaccine against over-expressed antigens in hepatocellular carcinoma: Epitopes identification, vaccine design, cloning and expression
- Designing a novel multi-epitope peptide vaccine against SARS-CoV-2 by using imonoinformatics tool

- Evaluation of Immunogenicity of oral dosage form of chitosan nanoparticles containing multi epitopes peptide vaccine against *Shigella* bacteria in BALB / C mice
- Comprehensive review on the latest achievements in Prevention, Diagnosis and Treatment of COVID-19
- Nucleic Acid-Based Vaccines Platform Against Covid-19 Pandemic :A comprehensive review study
- Evaluation of the immunogenicity of multi-epitope peptide vaccine against *Shigella* pathogenic species in BALB/C mice
- Design, expression , purification and evaluation of fusion antimicrobial peptide LL37- hBD10
- Bioinformatics study of superoxide dismutase from thermophilic bacteria in order to decrease immunogenicity, cloning, expression and activity assay of engineered enzyme

ACADEMIC SKILLS

- Expert in Genetic consultation and pedigree analysis
- Expert in Karyotyping
- Expert in DNA and RNA Extraction and purification, electrophoresis

- Laboratory animals handling
- Cell culture
- **Microbiological Techniques:**
 - Bacterial and Yeast culture
 - Expert in biochemical tests for identification of bacteria
 - Expert in long term preservation of bacteria: lyophilization
 - Expert in cryopreservation of bacteria in short term
- **Enzyme techniques:**
 - Purification of enzyme
 - Activity enzyme assay
 - Expert in determination of protein concentration
 - Expert in SDS- PAGE
 - Expert in Native- PAGE
 - Expert in western blotting
 - Gene cloning and expression
 - Bioinformatics skills:
 - Primer and probe design
 - Vaccine design

- Epitope selection
- Modeling
- Docking

IT SKILLS

- Windows and office tools
- Word, Excel, power point
- Minitab

LANGUAGES

- Persian (Farsi) Native
- English Intermediate

ENGLISH ARTICLES

- Harnessing bioinformatics tool for designing a novel multi-epitope peptide vaccine against breast cancer, **Shirin Mahmoodi**, Navid Nezafat, Abolfazl Barzegar, Ali-reza Nikanfar, Nosratollah Zarghami, Younes Ghasemi, *Current Pharmaceutical Biotechnology*, 2016, 17, 1099-1113.
- Expression and purification of a novel multi-epitope , peptide vaccine for breast cancer immunotherapy, **Shirin mahmoodi**, Navid nezafat, Shamin Sarmadi, Nosratollah Zarghami, Younes Ghasemi, *Minerva Biotechnologica*, 2017 , 29(1):1-7.
- Designing a novel multi-epitope peptide vaccine against pathogenic *Shigella* spp. based immunoinformatics approaches, **Shirin Mahmoodi**,

Ebrahim Farhani, Navid Nezafat, International Journal of Peptide Research and Therapeutics.

- Copper nanoparticles as antibacterial agents, review, **Shirin Mahmoodi** Somayeh Hallaj-Nezhadi, Molecular pharmaceutics & organic process research, 2018, 6(1).
- Phage display as a bio-technique for cancer immunotherapy, **Shirin Mahmoodi**, Navid Nezafat, Younes Ghasemi, letters in drug design & discovery. *Letters in Drug Design & Discovery*.
- New approach for cancer immunotherapy based on the cancer stem cell antigens properties, **Shirin Mahmoodi**, Navid Nezafat, Manica Negahdaripour, Nosratollah Zarghami, Younes Ghasemi, journal of current molecular medicine.
- Multi-epitope Vaccines (MEVs), as a Novel Strategy against Infectious Diseases, Mohammad Mahmoudi Goumari, Ibrahim Farhani, Navid Nezafat, **Shirin Mahmoodi**, *Current Proteomics*, 2020, 17, 000-000.
- *In Silico* Designing a Novel Multi-epitope DNA Vaccine against Anti-apoptotic Proteins in Tumor Cells, **Shirin Mahmoodi**, Navid Nezafat, *Current Proteomics*, 2019, 16, 222-230.
- *In Silico* Design of a Novel Multi-Epitope Peptide Vaccine Against Hepatocellular Carcinoma, Fatemeh Motamedi Dehbarez, Navid Nezafat, **Shirin Mahmoodi**, *Letters in Drug Design & Discovery*, 2020, 17, 000-000.

- Design, expression, and purification of a multi-epitope vaccine against *Helicobacter Pylori* based on Melittin as an adjuvant, Elham Jafari, **Shirin Mahmoodi**, *Microbial Pathogenesis* 157 (2021).
- A Novel Design of Multi-epitope Peptide Vaccine Against *Pseudomonas aeruginosa*, Fatemeh Esmaeilzadeh, **Shirin Mahmoodi**, *Letters in Drug Design & Discovery*, 2022, 19, 304-313
- Production of a Novel Multi-Epitope Peptide Vaccine against Hepatocellular Carcinoma, Fatemeh Motamedi Dehbarez, **Shirin Mahmoodi**, *Iran J Med Sci*
- Recent achievements in nano-based technologies for ocular disease diagnosis and treatment, review and update, Mehrdad Afarid, **Shirin Mahmoodi**, Roghayyeh Baghban, *Journal of Nanobiotechnology* (2022) 20:361

PERSIAN ARTICLES

- Spectrophotometric study of Congo red-Xanthan interaction and factors affecting on it, Seyede Zahra MousavyNejad, **Shirin Mahmoodi**, Mohammad Reza Soudi, *journal of applied biological*, Alzahra university.
- Designing a novel multi-epitope peptide vaccine against SARS-Cov-2 using immunoinformatics tool, **Shirin Mahmoodi**, *Daneshvar Medicine*, Vol. 30, No. 4, 2022

CONFERENCES

- **Mahmoodi, sh**, Soudi, MR, Moosavi- Nejad, Z, Isolation of xanthan degrading bacterium from garden soil, second national conference of applied microbiology- Tehran University
- **Mahmoodi, sh**, Soudi, MR, Moosavi- Nejad, Z, Screening of xanthanase producing- bacteria from soils cabbage farms in Tehran suburb, 7 th National Biotechnology Congress of Iran, Niroo Research Instito, Tehran, Iran.
- Attendance in Tabriz international life science conference, 22-24 May 2013.
- **Mahmoodi, Shirin**, Soudi, Mohammad Reza, Moosavi-Nejad, Seyyedeh Zahra. Enzymatic xanthan degradation by isolated bacteria from soil farms in Tehran suburb, The National Conference on protein and Peptide Sciences, Shiraz University, 10-11 December, 2014.

WORKSHOP

- Nanotechnology, 2009, Alzahra University Real time PCR, 2009, Alzahra University
- Enzyme engineering, 2011, National Institute of Genetic engineering and Biotechnology.
- Biosafety, 2015, Tabriz University of Medical Science.

GENE SUBMISSION

Characterization of a novel xanthan-degrading enzyme from *Paenibacillus* sp. Strain SM26 isolated from soils of cabbage farm, Mahmoodi, Shirin, Soudi, Mohammad Reza, Moosavi-Nejad, Seyyede Zahra, and National Centre for Biotechnology Information (NCBI). 2013, KF874657

Honor

- Ranked first, among all graduated students in Accounting Department of Medical Biotechnology at Tabriz University of Medical science, IRAN
- Selected as the top professor of the Faculty of Modern Sciences and Technologies, 2022