

Curriculum Vitae



Personal Data

Name: Nasrin

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Date of Birth: 1982

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Education

2002-2006 **B.Sc.** Biology, Azad University, Tehran, Iran, 2006.

2009-2011 **M.Sc.** Biochemistry, Azad University, Tehran, Iran, 2011.

Thesis entitled “Biosorption of cadmium by *Brevundimonas sp.*, a novel biosorbent isolated from hot-spring waters in Ramsar with the high background radiation areas under supervision of Dr. Kambiz Akbari (National Institute of Genetic Engineering and Biotechnology, Tehran/Iran)

2015-2020 **Ph.D.** Molecular Medicine, Pasteur Institute of Iran, Tehran, Iran.

Thesis entitled “Evaluation of transcriptome profiling of skin lesion in cutaneous leishmaniasis due to *Leishmania tropica*” under supervision of Dr. Sima Rafati (Pasteur Institute of Iran) and Dr. Ali M Harandi (University of Gothenburg, Sweden). Thesis defense date: Oct 4, 2020.

International Grant Support

- 2017** 100 STUDENTS grant (850 €) from 6th world congress on leishmaniasis (Toledo-Spain)
- 2018** Using funding from the **European Union's Horizon 2020** research and innovation programme under grant agreement N°778298 (2000 € per months), as a visiting researcher, I was in **University of Gothenburg, Sweden** for seven months (**from 15 August 2018 to 15 March 2019**).

Publications

- 1.** Taslimi Y[†], **Masoudzadeh N[†]**, Bahrami F, Rafati S. Cutaneous leishmaniasis: multiomics approaches to unravel the role of immune cells checkpoints. **Expert Review of Proteomics. 2022** (accepted manuscript).
IF: 3.9
- 2.** Bahrami F, **Masoudzadeh N**, Lari A, Van Veen S, Persson J, et al. Blood transcriptional signatures of cutaneous leishmaniasis in patients, healed and asymptomatic residents of endemic areas. **Molecular Immunology. 2022**.149:165-173.
IF: 4.4
- 3.** **Masoudzadeh N**, Östensson M, Persson J, Goyonlo VM, Agbajogu C, Taslimi Y, et al. Molecular signatures of anthroponotic cutaneous leishmaniasis in the lesions of patients infected with *Leishmania tropica*. **Scientific Reports. 2020**;10(1):1-15.
IF: 4.5
- 4.** **Masoudzadeh N**, Mizbani A, Rafati S. Transcriptomic profiling in Cutaneous Leishmaniasis patients. **Expert Review of Proteomics. 2020**:1-9.
IF: 3.6
- 5.** Taslimi Y, Agbajogu C, Brynjolfsson SF, **Masoudzadeh N**, Mashayekhi V, Gharibzadeh S, et al. Profiling inflammatory response in lesions of cutaneous leishmaniasis patients using a non-invasive sampling method combined with a high-throughput protein detection assay. **Cytokine. 2020**;130:155056.
IF: 3

6. **Masoudzadeh N**, Mizbani A, Taslimi Y, Mashayekhi V, Mortazavi H, Sadeghipour P, et al. *Leishmania tropica* infected human lesions: Whole genome transcription profiling. **Acta tropica**. 2017;176:236-41.

IF: 2.4

7. **Masoudzadeh N**, Alidoust L, Samie N, Hajfarajollah H, Sharafi H, Modiri S, et al. Distinctive protein expression patterns of the strain *Brevundimonas* sp. ZF12 isolated from the aqueous zone containing high levels of radiation to cadmium-induced stress. **Journal of biotechnology**. 2014;186:49-57.

IF: 3.1

8. **Masoudzadeh N**, Zakeri F, bagheri Lotfabad T, Sharafi H, Masoomi F, Zahiri HS, et al. Biosorption of cadmium by *Brevundimonas* sp. ZF12 strain, a novel biosorbent isolated from hot-spring waters in high background radiation areas. **Journal of hazardous materials**. 2011;197:190-8.

IF: 4.9

International Congress

1. Bahrami F, **Masoudzadeh N**, Lari A, Van Veen S, Persson J, et al. Whole blood samples analyzed by dcRT-MLPA revealed immune transcript signatures for people with different clinical stages of cutaneous Leishmaniasis. **7th World Congress on Leishmaniasis** held in Cartagena, Colombia **2022** (Oral).
2. **Nasrin Masoudzadeh**, Malin Östensson, Josefine Persson, Vahid Mashayekhi, Christopher Agbajogu, Sima Rafati, Ali M. Harandi. High-throughput protein analysis in the lesions of cutaneous leishmaniasis patients infected with *Leishmania tropica*. 15th Virtual International Congress of Immunology and Allergy (**2021**), Ahvaz University, Ahvaz, Iran (Poster).
3. Y Taslimi, C Agbajogu, **N Masoudzadeh**, V Mashayekhi, S Gharibzadeh, M Ostensson, S Nakka, A Mizbani, S Rafati, AM Harandi. Profiling inflammatory response in active lesion of cutaneous leishmaniasis patients using a non-invasive sampling method and a high-throughput protein detection assay. EUROPEAN JOURNAL OF IMMUNOLOGY (IF: 5.1), 49 (**2019**) 1952 (Poster).
4. **Nasrin Masoudzadeh**, Amir Mizbani, Yasaman Taslimi, Sima Habibzadeh, Vahid Mashayekhi, Hossein Mortazavi, Hossein Malekafzali Ardekani, Sima Rafati.,

Transcriptome profiling of the *Leishmania tropica* infected cutaneous lesion. 14th International Congress of Immunology and Allergy (ICIA2018) Shahid beheshti University, Tehran, Iran (Oral).

5. **Masoudzadeh, N.**, Mizbani, A., Mashayekhi, V., Mortazavi, H., Taslimi, Y., Habibzadeh, S., Malekafzali Ardakani, H., Rafati, S., Whole genome transcription profiling of the *Leishmania tropica* infected lesions from cutaneous leishmaniasis patients. **6th World Congress on Leishmaniasis** held in Palacio de congresos El Greco, Toledo, **Spain 2017** (Oral).
6. **Masoudzadeh, N.**, Modiri, S., Haghghi, O., Masoudzadeh, N., Azarivand, A., Shahbanbi Zahiri, H., Akbari Noghabi, K., Differential proteomic responses in *Brevundimonas* sp. ZF12 strain to cadmium-induced stress. 1st International and 9th national Biotechnology Congress of Islamic Republic of Iran, **2015**, Shahid beheshti University, Tehran, Iran (Poster).
7. **Masoudzadeh, N.**, Zakeri, F., Sharafi, H., Shahbani Zahiri, H., Akbari Noghabi, K. *Brevundimonas* sp. ZF12: A cadmium novel biosorbent isolated from hot spring waters in high background radiation areas in Ramsar. Second National Conference of Applied Microbiology. Tehran University, **2011** (Poster).
8. **Masoudzadeh, N.**, Sharafi, H., Akbari Noghabi, K. A novel cadmium biosorbent, *Brevundimonas* sp. ZF12 isolated from high background radiation areas in Ramsar north of Iran, has been selected for the 1st International and 12th Iranian Congress of Microbiology, **2011**, Kermanshah, Iran (Poster).

Experience and Skills

Laboratory skills

- ✚ DNA, RNA and protein extraction, Plasmid extraction
- ✚ PCR, Real-time PCR, RT² profiler PCR array, RFLP
- ✚ Electrophoresis, 2D SDS-PAGE (proteomics)
- ✚ Protein purification and recovery from inclusion bodies using aqueous two phase system (PEG-salt), ELISA
- ✚ Sample preparation for high-throughput PEA (Proximity Extension Assay) to analysis 92 cytokines and chemokines proteins expression and interpretation of data
- ✚ Working with Agilent 2100 Bioanalyzer for evaluation of RNA integrity

- ✚ Diagnosis of CL disease with the non-invasive sampling method from patients
- ✚ Parasite and bacterial culture

Bioinformatics skills

- ✚ RNA sequencing data analysis and interpretation of differential gene expressions using R
- ✚ Heatmap, Volcano plot, Venn diagram and PCA drawing using R, Prism and online websites
- ✚ Long non-coding RNA (lncRNAs) analysis and interpretation of data and also evaluation of their interaction with protein coding genes and lncRNAs functions prediction
- ✚ Functional enrichment analyses based on Gene Set Enrichment Analysis (GSEA) and Ingenuity Pathway Analysis (IPA) software's and pathways visualization using R
- ✚ Weighted correlation network analysis (WGCNA) R package for the correlation network analysis
- ✚ Biological databases for pathway analysis including Gene ontology (GO) consortium, Enrichr, DAVID, REVIGO, KEGG and Reactome pathway analysis, STRING for protein interaction
- ✚ Primer design using primer3plus, AlleleID and NCBI primer blast
- ✚ ImmQuant software for determination of cell population
- ✚ Image Master 2D Platinum version 6 software (Melanin) for 2-D gels analysis related to proteomics
- ✚ Response surface method (RSM) software

Programming languages: R

Teaching

- ✚ Biochemistry Physics teaching (B. Sc) at the Islamic Azad University of Tehran, Iran 2013.
- ✚ Immune therapy, cell therapy and gene therapy (3h for Ph.D. student) at Tehran University, Iran 2018.
- ✚ Bioinformatics I (8h for Ph.D. student) at Pasture Institute of Iran, 2022.

- ✚ “High throughput technologies in translational immunology” workshop at Pasteur Institute of Iran 9 March 2022.

Principal Investigator

- ✚ Comparing of genes expression associated with interferon gamma signaling pathway and PD-1/PD-L1 genes between the lesions of acute and chronic patients infected with *Leishmania tropica* (**Institute Pasteur of Iran, 2021, NO: 2030**).

Research Assistance

- ✚ Comprehensive analysis of long non-coding RNAs in the lesion of cutaneous leishmaniasis patients infected with *Leishmania tropica* along with their validation (**Institute Pasteur of Iran, 2021, NO: 1933**).
- ✚ Long noncoding mRNA-based transcriptomic investigation of human inflammatory response due to asymptomatic *Leishmania tropica* infection (**Institute Pasteur of Iran, 2022 , NO: 2156. under review**).
- ✚ Gene expression alteration of the innate immune response in the salivary glands of *Anopheles stephensi* elicited by *Plasmodium berghei* infection **Institute Pasteur of Iran, 2022 , NO: 2153. under review**.

Attended courses/ workshops/ meetings

Courses:

Advanced Course of Immunotherapy, April 23-25, 2018. Baloot hotel, Tehran, Iran.

Workshops:

- Bioinformatics analysis for single cell omics, Australasian Cytometry Society (virtual workshop) conference, Sydney, Australia, 7 November 2021.
- Genome editing in *Leishmania* parasite based on CRIPR/Cas9, Pasteur Institute of Iran, Tehran, Iran 21-22 September 2021.
- Next Generation Sequencing: miRNA-seq data analysis, Pasteur Institute of Iran, Tehran, Iran 24-25 Jan 2018.
- Circulating miRNA profiling methods, Pasteur Institute of Iran, Tehran, Iran 3-4 Jan 2018.
- Genome editing technology (CRISPR/Cas9), Pasteur Institute of Iran, Tehran, Iran 30 May 2016.

- International workshop on Leishmania and Leishmaniasis immunology, vaccine and drug discovery-therapy, Pasteur Institute of Iran, 9-13 November 2016.
- Relative gene expression by Real-Time PCR, Royan Institute, Tehran, Iran, 8-9 August 2015.
- RNA-seq and Exome Sequencing: Introduction, Application and data analysis, National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran, 13-16 October 2015.
- Enzyme engineering, National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran, 8-10 May 2011.