

# Curriculum Vitae

## ➤ PERSONAL INFORMATION

**Name:** Maryam Bazrgar  
**Date of Birth:** 7/12/1986  
**Place of Birth:** Shiraz  
**Nationality:** Iranian  
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## ➤ ADDRESS FOR CORRESPONDENCE

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## ➤ EDUCATION

### **2016-2022 Ph.D. in Neuroscience**

Neuroscience Research Center School of Medicine Shahid Beheshti University of Medical Sciences,  
Tehran, Iran

**Thesis:** Evaluation of insulin effect on the expression of AD-related miRNAs in an animal mode

**Supervisor:** Prof. Abolhassan Ahmadiani.

### **2011-2014 MSc in animal physiology**

Faculty of Basic Sciences, Damghan University, Damghan, Iran

**Thesis:** Study of melatonin neuroprotective effects on cerebellar Purkinje cell in lead-treated

**Supervisor:** Dr. Iran Goudarzi

### **2005-2010 BSc in Biology**

Faculty of Basic Sciences, Ferdowsi University of Mashhad, Khorasan Razavi, Mashhad, Iran

## ➤ RESEARCH INTERESTS

- Neurodegeneration
- Neurogenetics
- Neuroepigenetics
- Aging-Associated MicroRNAs
- Non-coding RNA & Neurodegeneration
- Systems Biology
- Bioinformatics

## ➤ PUBLICATIONS

**Bazrgar, M. et al.** Comprehensive analysis of lnc RNA-associated ceRNA network reveals novel potential prognostic regulatory axes in glioblastoma multiforme. **Journal of Cellular and Molecular Medicine** 28, e18392 (2024).

Azizan, Z., Zali, H., Mirmotalebisohi, S. A., **Bazrgar, M** \* & Ahmadiani \*, A. Deciphering molecular bridges: Unveiling the interplay between metabolic syndrome and Alzheimer's disease through a systems biology approach and drug repurposing. **Plos one** 19, e0304410 (2024).

Soleimani, E., Ahmadiani, A., **Bazrgar, M.**, Khodaghohi, F. & Eliassi, A. The 40 Hz White LED Alleviates Psychiatric Symptoms Induced by STZ in Vivo: Evidence from Behavioral and Molecular Studies. **Basic and Clinical Neuroscience** 15 (2024).

Khodabakhsh P, **Bazrgar M**, Mohagheghi F, Parvardeh M, Ahmadiani A. MicroRNA-140-5p inhibitor attenuates memory impairment induced by amyloid- $\beta$  oligomer in vivo possibly through Pin1 regulation. **CNS Neuroscience & Therapeutics**. 2022;164: 00:1-13.

**Bazrgar M**, Khodabakhsh P, Dargahi L, Mohagheghi F, Ahmadiani A. MicroRNA modulation is a potential molecular mechanism for neuroprotective effects of intranasal insulin administration in amyloid  $\beta$  oligomer induced Alzheimer's like rat model. **Experimental Gerontology**. 2022;164:111812.

**Bazrgar M**, Khodabakhsh P, Prudencio M, Mohagheghi F, Ahmadiani A. The role of microRNA-34 family in Alzheimer's disease: a potential molecular link between neurodegeneration and metabolic disorders. **Pharmacological Research**. 2021:105805.

Khodabakhsh P, **Bazrgar M**, Dargahi L, Mohagheghi F, Taei AA, Parvardeh S, et al. Does Alzheimer's disease stem in the gastrointestinal system? **Life Sciences**. 2021;287:120088.

**Bazrgar M**, Khodabakhsh P, Mohagheghi F, Prudencio M, Ahmadiani A. Brain microRNAs dysregulation: implication for missplicing and abnormal post-translational modifications of tau protein in Alzheimer's disease and related tauopathies. **Pharmacological research**. 2020;155:104729.

**Bazrgar M**, Goudarzi I, Lashkarbolouki T, Salmani ME. Melatonin ameliorates oxidative damage induced by maternal lead exposure in rat pups. **Physiology & behavior**. 2015;151:178-88.

**Bazrgar M**, Goudarzi I, Abrari K, Elahdadi Salmani M, Lashkarbolouki T. Effect of postnatal chronic lead exposure on spatial learning and memory in male rat. **Zahedan J Res Sci**. 2015;17(9):29-32.

**Bazrgar M**, Goudarzi I, Lashkarbolouki T, Salmani ME, Abrari K. Effect of postnatal lead exposure on the male rats cerebellum: Histological and behavioral evaluation.2015

## ➤ PUBLICATIONS UNDER REVIEW

Mohsen Ahmadi, **Maryam Bazrgar**, Saeedeh Akhavan, Mohadeseh Fathi, **Pegah Mousavi**, and A Soudeh Ghafouri-Fard \*. **Comprehensive Bioinformatic analysis of HOXB and HOXD family members in glioblastoma" has been successfully submitted online and is presently being given full consideration.**

**Maryam Bazrgar**, Masoumeh Pourhadi, Forough Shams, Rasoul Ghasemi, Morteza Aliashrafi, Zahra Niknam, Melina Rezapour, Alireza Bonakdar, Hakimeh Zali \*. **Intranasal administration of 3D-cultured hUSSCs-derived exosomes attenuates memory impairment induced by streptozotocin possibly through miR-34a-5p and miR-132-3p regulation.**

Zahra Azizan<sup>1</sup>, **Maryam Bazrgar** \*, Mohammad Hossein Harirchian<sup>1</sup>, Narges Bazgir<sup>3</sup>, Sadra Habibi Moini<sup>1</sup>, Sara Ghaseminejad-Kermani, Kamran Safa, Azam Eshaghian-dorcheh. **Osteopontin in Alzheimer's Disease: A Double-Edged Sword in Neurodegeneration and Neuroprotection: A Systematic Review.**

Parisa Azimi; **Maryam Bazrgar**; Taravat Yazdanian; Mehdi Totonchi; Abolhassan Ahmadiani. **Cancer/testis antigens FBXO39 and CEP55 expression correlates with survival in GBM patients.**

## ➤ NATIONAL & INTERNATIONAL CONFERENCES

### • ORAL PRESENTATIONS

- **Bazrgar M**, Goudarzi I, Lashkarbolouki T, Salmani ME. Melatonin ameliorates oxidative damage induced by maternal lead exposure in rat pups. 9<sup>th</sup> International Conference on Brain Disorders & Therapeutics, August 21-22, 2020 | Webinar, London, UK
- **Bazrgar M**, Khodabakhsh P, Dargahi L, Mohagheghi F, Ahmadiani A. Modulation of iroRNA-132 as a Potential Molecular Mechanism Involved in the Beneficial Effects Of Intranasal Insulin Administration in the Soluble Amyloid  $\beta$  Oligomer Induced Alzheimer's Like Rat Model. 4<sup>th</sup> International and 25<sup>th</sup> Iranian Congress of Physiology & Pharmacology, October 20-22, 2021, Webinar, Tehran, Iran
- **Bazrgar M**, Khodabakhsh P, Dargahi L, Mohagheghi F, Ahmadiani A. Evaluation of insulin effect on the expression of AD-related miRNAs in an animal model. IBRO Associate School of Neuroscience, Advances in Molecular Neurobiology Research, March 3- 9, 2019, Amarkantak, India.

### • POSTER PRESENTATIONS

- **Maryam Bazrgar**, Mohsen Ahmadi, Seyed Amir Mirmotalebisohi, Parisa Azimi, Leila Dargahi, Hakimeh Zali \* , Abolhassan Ahmadiani\*. **construction and analysis of a lncRNA-miRNA-mRNA network based on competitive endogenous RNA reveal prognostic biomarkers for glioblastoma multiforme.** 1<sup>th</sup> International Congress of Cancer Genomics (CGC2023), May 3-5, 2023, Tehran, Iran
- 21<sup>st</sup> Iranian Congress of Physiology and Pharmacology in Tabriz University of Medical Sciences, 23-27 August 2013

- Isfahan National Congress and Student Award in Biological Sciences, 25-26 September 2013

## ➤ **TEACHING EXPERIENCES**

2015-2016: Teaching neurophysiology to psychology undergraduate students at Hakim Toos and Bahar Mashhad universities, Khorasan Razavi, Mashhad, Iran

2023: Teaching Neurogenetics to Neuroscience PhD students at Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

2023: Teaching Bioinformatics to Neuroscience PhD students at Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

2024: Teaching Neurogenetics to Neuroscience PhD students at Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

## ➤ **SKILLS**

- **Molecular biology:** RNA extraction, reverse transcription, PCR primer design, PCR, RT-qPCR
- **Histology:** Nissl staining, Congo red staining
- **Biochemistry:** Western Blot, enzyme activity assay
- **Microscopy:** Fluorescence and light microscopy
- **Animal manipulation:** Behavioral Animal Models, handling and behavioral assessment
- **IT:** Extensive knowledge of standard office software, Sigmaplot, SPSS, Graphpad Prism, Endnote, R software.
- **Systems Biology:** construction and analysis of competitive endogenous RNA (CeRNA) network and PPI network, Microarray analysis, RNA-seq analysis, GEO and TCGA Data collection, Functional enrichment analysis, ...

## ➤ **GRANT RECEIVED**

- The IBRO international travel grants to attend the 9th International Conference on Brain Disorders and Therapeutics, August 21-22, 2020, London, UK
- The IBRO travel grants to attend the IBRO Associate School of Neuroscience, March 3-9, 2019, Amarkantak, India

## ➤ **WORKSHOPS ATTENDANT**

- IBRO-APRC School of Neuroscience, Indira Gandhi National Tribal University, March 3-9, 2019, Amarkantak, India
- 3<sup>rd</sup> Symposium of Genetics and Stem Cell, National Institute of Genetic Engineering and Biotechnology 27<sup>th</sup> December 2017, Tehran, Iran
- Non-Coding RNAs, 4-7 December 2017, Pasteur Institute, Tehran, Iran
- 2<sup>nd</sup> National Festival & International Congress on Stem Cell & Regenerative Medicine, 13-15 July 2017, Tehran, Iran

## ➤ RESEARCH PROJECTS

- Investigating the mechanism of astaxantin on spinal cord injury based on bioinformatic analysis with validation by laboratory studies
- Exploring the biological pathways associated with synaptic pruning and the impact of minocycline on these pathways in the male rat model of autism: A bioinformatics, behavioral and molecular study
- Investigating the expression pattern of microRNAs related to insulin resistance in the brain and pancreas of Alzheimer-like rats induced by a high-fat diet
- Investigating the effect of minocycline on improving behavioral symptoms and synaptic pruning in the male rat model of autism
- Identification of molecular links between Alzheimer's disease and metabolic syndrome based on bioinformatic analyses
- Evaluation of the molecular links of Alzheimer's disease and diabetes mellitus type 2 based on the biology systems and Drug repurposing
- Identifying CeRNA regulatory networks in different stages of Alzheimer's disease to investigate AD pathogenesis, identify key biomarkers, and therapeutic targets using bioinformatics analysis
- Evaluation of the effects of exosomes secreted by cord blood-derived unrestricted somatic stem cells on the expression of micro-RNAs in the brain of Alzheimer's disease model rats
- Identifying the potential regulatory axis, prognostic biomarkers, and therapeutic targets for glioblastoma multiforme through Competitive endogenous RNA (CeRNA) regulatory network analysis obtained from big data of TCGA database
- Evaluating the effect of insulin on the expression of miRNAs related to Alzheimer's disease in an animal model
- Evaluation of the effect of insulin on the expression of microRNA-132 in an animal model of Alzheimer's disease

## ➤ JUDGING ARTICLES

- Neurobehavioral Toxicity of graphene quantum dots (GQDs) nanoparticles on NMRI mice: Behavioral study and histopathological evaluation (Iranian Journal of Pharmaceutical Research)

- MiR-433 inhibits cell invasion of glioblastoma via direct targeting TRPM8 based on bioinformatic Analysis and experimental validation (Gene)
- EIF4A3 as a Prognostic Biomarker and Potential Therapeutic Target in Glioma: An In-Silico Pharmaco-Informatics Analysis (Computers in Biology and Medicine)
- Differential changes in the quantity of the hippocampal glial connexins mRNAs during memory consolidation (Physiology and Pharmacology)
- Standardized extract of *Centella asiatica* (L) Urban leaves ameliorate suicidal behavioral traits in social isolation-induced stressed laboratory rats (Physiology and Pharmacology)
- Evaluation of subjective and objective perception of memory function in multiple sclerosis patients (Physiology and Pharmacology)
- Identification of Endometriosis Molecular Regulatory Axes through Bioinformatics Analysis: Insights into lncRNAs, miRNAs, and mRNAs (Physiology and Pharmacology)
- Cytotoxic Effects of Gum and Leaf Extract of *Ferula assafoetida* on MCF-7 and MDA-MB-231 Breast Cancer Cell Lines (Physiology and Pharmacology)
- Standardized extract of *Centella asiatica* (L) Urban leaves ameliorate suicidal behavioral traits in social isolation-induced stressed laboratory rats (Physiology and Pharmacology)
- Effect of Different Dipeptidyl Peptidase-4 Inhibitors on Lipid Profile of Type II Diabetic Patients (Physiology and Pharmacology)
- Efficient Modified-mRNA Transfection in Neural Stem Cells
- Chronic toxicity assessment of pistachio oil in female wistar rats: an experimental study with histopathological evaluations (Physiology and Pharmacology)
- Design of Saliva miR-320a-3p Glioblastoma Diagnosis Kit (A Thesis Submitted in Partial Fulfillment for the Degree of Animal Biology-Physiology)

## ➤ REFERENCES

### **Prof. Abolhassan Ahmadiani,**

Professor of Neuropharmacology, Head of Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

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### **Dr. Leila Dargahi,**

Associated Professor of Pharmacology, Neurobiology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

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**Dr. Hakimeh Zali,**

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