

# Curriculum Vitae

## Elham Zahedi

### Contact Information:

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<https://scholar.google.com/citations?user=Cp6d-l4AAAAJ&hl=en>

### Education:

#### Ph.D. in Medical Physiology

- Tehran University of Medical Sciences, Tehran, Iran
- October 2018 – September 2023
- GPA: 18.31/20
- Dissertation: Evaluation effect of acetyl-L-carnitine in preventing valproate-induced autistic-like behavior in male rats with emphasis on the biogenesis and mitochondrial function
- Supervisors: Dr. Seyed Shahabeddin Sadr, Dr. Mehrdad Roghani
- Graduated with honors

#### M.Sc. in Medical Physiology

- Shahed University, Tehran, Iran
- October 2014 – June 2017
- GPA: 19.12/20
- Thesis: Investigating the effects of sub-anesthetic doses of ketamine on the efficacy of electroconvulsive therapy in male rats subjected to chronic unpredictable mild stress (CUMS)
- Supervisor: Dr. Mohsen Khalili
- Graduated with honors

#### B.Sc. in Animal Biology

- Islamic Azad University, Qom, Iran
- October 2003 – February 2007
- GPA: 15.74/20

### **Academic Appointments:**

Assistant Professor, Department of Physiology, Iran University of Medical Sciences, Tehran, Iran (September 2025–Present).

### **Honors and Awards:**

- Awarded prize for the best graduate student, Tehran University of Medical Sciences, Tehran, Iran, 2023.
- First Place, Graduate Thesis Award, Tehran University of Medical Sciences, 2020.
- Exceptional Talent Award in M.Sc. Program. Shahed University, Tehran, Iran, 2017.

### **Research Experience**

Research Collaborator (2018–2025)

- Investigated the effects of resveratrol-loaded nanoliposomes in a valproic acid model of autism.
- Evaluated beta-glucan nanoparticles in inflammaging animal models.
- Compared the efficacy of mesenchymal stem cells and conditioned medium in autism-like behaviors induced by valproic acid.
- Studied the neuroprotective role of Netrin-1 in developmental autism models.
- Investigated gut microbiota-related mechanisms involved in neuroinflammation.
- Explored ferroptosis-related pathways in streptozotocin-induced Alzheimer's disease.
- Established behavioral assessment platforms for cognition, anxiety, and depression studies.
- Investigated Nrf2/HO-1 signaling and hydrogen sulfide pathways in cognitive dysfunction models associated with chronic kidney disease.

### **Publications:**

#### **Publications in International Journals:**

1. Talebi Taheri A, Dadgostar E, Ferdosi F, Rahmati-Dehkordi F, Karimi Z, Aschner M, **Zahedi E**, et al. Neuroprotective Effects of C-Phycocyanin in Chronic Unpredictable Mild Stress-Exposed Rats: Regulation of Neuroinflammation and CREB/BDNF Signaling. *Neurochem Res.* 2026.
2. Rahmati-Dehkordi F, **Zahedi E**, Adeli S, Sahrayi H, Karimian SM.  $\beta$ -glucan-loaded nano-niosomes ameliorate spatial and associative memory impairment in a D-

galactose-induced aging rat model via modulation of microglial pyroptosis and autophagy. *Biomed Pharmacother.* 2025.

3. **Zahedi E**, Kavyannejad R, Salami P, Sadr SS. Modulating depressive-like behaviors, memory impairment, and oxidative stress in chronic stress rat model using visible light therapy. *Sci. Rep.* 2025.
4. Faraji P, Parandavar E, Kuhn H, Habibi-Rezaei M, Borchert A, **Zahedi E**, Ahmadian S. Oral administration of butylated hydroxytoluene induces neuroprotection in a streptozotocin-induced rat Alzheimer's disease model via inhibition of neuronal ferroptosis. *Mol Med.* 2024.
5. **Zahedi E**, Mokhtari Naseri F, Zamani E, Nikbakhtzadeh M, Rastegar T, Sanaeierad A, Sadr SS. Ginger Extract Improves Cognitive Dysfunction via Modulation of Gut Microbiota-Derived Short-Chain Fatty Acids in D-Galactose/Ovariectomy-Induced Alzheimer's-Like Disease. *Molecular Neurobiology.* 2024.
6. Sehati F, Hosseindoost S, Ranjbaran M, Nabavizadeh F, Karimian SM, Adeli S, **Zahedi E**, et al. Role of BIX01294 in the intracranial inhibition of H3K9 methylation lessens neuronal loss in vascular dementia model. *Drug Development Research.* 2024.
7. **Zahedi E**, Sadr S-S, Sanaeierad A, Hosseini M, Roghani M. Acetyl-L-carnitine alleviates valproate-induced autism-like behaviors through attenuation of hippocampal mitochondrial dysregulation. *Neuroscience.* 2024.
8. Fazelinejad H, **Zahedi E**, Khadivi M. Altering plasma lipids and liver enzyme activities via hippocampal injections of hen Lysozyme amyloid aggregates in an Alzheimer's disease mouse model: Insights into the therapeutic role of Bis (Indolyl) phenylmethane. *Neuroscience Letters.* 2024..
9. Noshadian M, Ragerdi Kashani I, Asadi-Golshan R, Zarini D, Ghafari N, **Zahedi E**, Pasbakhsh P. Benefits of bone marrow mesenchymal stem cells compared to their conditioned medium in valproic acid-induced autism in rats. *Molecular Biology Reports.* 2024.
10. **Zahedi E**, Sadr S-S, Sanaeierad A, Roghani M. Chronic acetyl-L-carnitine treatment alleviates behavioral deficits and neuroinflammation through enhancing microbiota derived-SCFA in valproate model of autism. *Biomedicine & Pharmacotherapy.* 2023;163:114848.
11. **Zahedi E**, Sadr SS, Sanaeierad A, Roghani M. Valproate-induced murine autism spectrum disorder is associated with dysfunction of amygdala parvalbumin interneurons and downregulation of AMPK/SIRT1/PGC1 $\alpha$  signaling. *Metabolic Brain Disease.* 2023:1-11.

12. **Zahedi E**, Sanaeierad A, Nikbakhtzadeh M, Roghani M, Zamani E. Simvastatin improves learning and memory impairment via gut-brain axis regulation in an ovariectomized/D-galactose Alzheimer's rat model. *Behavioural Brain Research*. 2023;453:114611.
13. Fazelinejad H, **Zahedi E**, Nazarian S, Kaffash Siuki Z, Nasri S, Dadmehr M, et al. Neuroprotective effect of Bis (Indolyl) phenylmethane in Alzheimer's disease rat model through inhibition of hen Lysozyme amyloid fibril-induced neurotoxicity. *Journal of the Iranian Chemical Society*. 2023;20(3):551-62.
14. Nikbakhtzadeh M, Ranjbar H, Moradbeygi K, **Zahedi E**, Bayat M, Soti M, et al. Cross-talk between the HPA axis and addiction-related regions in stressful situations. *Heliyon*. 2023.
15. Zamanian MY, Karimvandi MN, Nikbakhtzadeh M, **Zahedi E**, Bokov DO, Kujawska M, et al. Effects of Modafinil (Provigil) on Memory and Learning in Experimental and Clinical Studies: From Molecular Mechanisms to Behaviour Molecular Mechanisms and Behavioural Effects. *Current Molecular Pharmacology*. 2023;16(4):507-16.
16. Hamidizad Z, Kadkhodae M, Karimian SM, Ranjbaran M, Heidari F, Bakhshi E, et al. Therapeutic effects of CORM3 and NaHS in chronic kidney disease induced cognitive impairment via the interaction between carbon monoxide and hydrogen sulfide on Nrf2/HO-1 signaling pathway in rats. *Chemico-Biological Interactions*. 2022;368:110217.
17. Kiasalari Z, Afshin-Majd S, Baluchnejadmojarad T, Azadi-Ahmadabadi E, Esmail-Jamaat E, Fahanik-Babaei J, et al. Ellagic acid ameliorates neuroinflammation and demyelination in experimental autoimmune encephalomyelitis: Involvement of NLRP3 and pyroptosis. *Journal of Chemical Neuroanatomy*. 2021;111:101891.
18. Moradbeygi K, Parviz M, Rezaeizadeh H, Zargaran A, Sahraian MA, Mehrabadi S, Marjan Nikbakhtzadeh, **Zahedi E**. Anti-LINGO-1 improved remyelination and neurobehavioral deficit in cuprizone-induced demyelination. *Iranian Journal of Basic Medical Sciences*. 2021;24(7):900.
19. Kiasalari Z, Heydarifard R, Khalili M, Afshin-Majd S, Baluchnejadmojarad T, **Zahedi E**, et al. Ellagic acid ameliorates learning and memory deficits in a rat model of Alzheimer's disease: an exploration of underlying mechanisms. *Psychopharmacology*. 2017;234:1841-52.

#### **Publications in National Journals:**

20. Khalili M, Ghosian MH, **Zahedi E**. Effect of combination therapy with diazepam and glibenclamide on serum lipids and glucose in type 2 diabetic rats. *Journal of Basic and Clinical Pathophysiology*. 2016;4(1):7-12.
21. Khalili M, **Zahedi E**, Narenjkar J, Sanaie Rad A. Ameliorative activity of co-administration of ketamine and ECT on depression like behaviors in depressed rats. *Journal of Basic and Clinical Pathophysiology*. 2018;6(1):43-8.
22. Mehrabadi S, Alinaghpour A, **Zahedi E**. Effect of curcumin on beta-amyloid plasma level in alzheimer disease: a systematic review and meta-analysis. *International Clinical Neuroscience Journal*. 2021;8(2):55-9.
23. Mehrabadi S, **Zahedi E**. Effects of Vitamin D Supplementation on Inflammatory Markers in Multiple Sclerosis Patients: A Systematic Review and Meta-analysis. *Journal of Archives in Military Medicine*. 2021;9(1).
24. Bolouki E, Naderi G, Roghani M, **Zahedi E**. The effect of hydroalcoholic extract of *Ruta graveolens* on oxidative stress markers and cholinesterase in brain rats receiving high-cholesterol diet. *Daneshvar Medicine*. 2020;26(6):41-50.
25. Naderi G, Mohseni EA, Rad AS, **Zahedi E**. Comparison of Inhibitory Effects of Drugs Physostigmine and Procaine on the Acetylcholinesterase activity. *Daneshvar Medicine*. 2016.
26. Naderi GA, Roghani M, Esmail Jamaat E, **Zahedi E**, Sanaeirad A. The effect of *Foeniculum vulgare* (Fennel) hydroalcoholic extract on serum lipid profiles and liver enzymes in male rats fed a high cholesterol regimen. *Journal of Basic and Clinical Pathophysiology*. 2019;7(2):20-7.
27. Sanaierad A, **Zahedi E**, Ansari F, Khalili M. The effect of methadone and haloperidol combination on anxiety induced by morphine withdrawal in male mice. *Journal of Basic and Clinical Pathophysiology*. 2017;5(1):19-26.
28. **Zahedi E**, Sanaierad A, Khalili M, Esmail Jamaat E, Salari S. The effect of electroconvulsive therapy on the levels of oxidative stress factors in the prefrontal cortex of depressed rats. *Journal of Basic and Clinical Pathophysiology*. 2018;6(2):27-31.
29. Sadr SS, **Zahedi E**, Sadr R. Health System Transformation Management: Challenges and Solutions. *Iranian Journal of Culture and Health Promotion*. 2024.

**Books (in Persian language):**

- Practical Experience in Physiology Principles. Shahed University Press, ISBN: 9786006121802

**Scientific editing of the book:**

- Physiology. Gam Mandegar Press, ISBN: 978-622-96107-9-4

**Conference presentations:**

- Rahmati-dehkordi F, Nabavizadeh F, **Zahedi E.** (September 2024). Effects of Fingolimod on learning and memory impairments in a scopolamine- induced animal model of dementia. Poster presented at *the 25<sup>th</sup> National and 11<sup>th</sup> International Annual Congress on Research and Technology of Iranian Medical Sciences Students.*
- Comparative Effects of Visible Light Wavelengths on depressive-like behavior and Oxidative Stress in a Chronic Stress-Induced Rat Model. (December 2024). Poster presented at *the 13<sup>th</sup> Basic and Clinical Neuroscience Congress.*
- **Elham Zahedi,** Ashkan Sanaierad, Fatemeh Rahmati Dehkordi, Elham Esmaeil Jamaat. (December 2023). The Potential Therapeutic Impact of Simvastatin in Ameliorating Neuroinflammation and Cognitive Deficits in Alzheimer's Disease: An Experimental Study in Wistar Rats. Poster presented at *the 26<sup>th</sup> National Congress of Physiology and Pharmacology.*
- Fardin Sehati, Ghorbangol Ashabi, Mina Ranjbaran, Fatemeh Nabavizadeh, Seyed Morteza Karimian, **Elham Zahedi.** (December 2023). Inhibiting the H3K9 Methylation Can Preserve the Memory Related Proteins Expression and Ameliorate Neurological Deficit in Vascular Dementia. Poster presented at *the 26<sup>th</sup> National Congress of Physiology and Pharmacology.*
- **Elham Zahedi,** Ashkan Sanaierad, Fatemeh Rahmati Dehkordi. (October 2021) The Potential Impact of Discontinuing Endurance Exercise on Cognitive Function and Neuroprotection: Insights from a Rat Study. Poster presented at *the 25<sup>th</sup> National Congress of Physiology and Pharmacology.*
- Masood Afshari, **Elham Zahedi.** (August 2021). Environmental Experience and Autism: A Behavioral and Stereological Study. Talk presented at *the 28<sup>th</sup> Congress of Neurology and Clinical Electrophysiology.*
- **Elham Zahedi,** Mohsen Khalili, Ashkan Sanaierad. (December 2019). The Effect of Subanesthetic Dose of Ketamine on Memory Deficiency Induced by Depression. Talk presented at *the 8<sup>th</sup> Basic and Clinical Neuroscience Congress.*

- **Elham Zahedi**, Ashkan Sanaierad, Elham Esmaeil Jamaat, Mehrdad Roghani. (December 2019). The Effect of Chlorogenic Acid on Learning and Memory and Acetylcholinesterase Activity in Rats with Cognitive Deficit Induced by Intracerebroventricular Streptozotocin. Poster presented at the *6<sup>th</sup> Basic and Clinical Neuroscience Congress*.
- Shima Mehrabadi, Khadijeh Moradbeygi, **Elham Zahedi**. (December 2019). Effect of Probiotics Mixture on Memory Functions, Inflammation Markers, and Oxidative Stress in Alzheimer's Disease Rats. Poster presented at the *8<sup>th</sup> Basic and Clinical Neuroscience Congress*.
- Marjan Nikbakhtzadeh, Vahid Sheibani, Khadijeh Moradbeygi, **Elham Zahedi**. (December 2019). Evaluation of the Facial Pain Perception in Post-Traumatic Stress Disorder Rats by Eye Wiping and Allodynia Test. Poster presented at the *8<sup>th</sup> Basic and Clinical Neuroscience Congress*.
- **Elham Zahedi**, Mehrdad Roghani, Ashkan Sanaierad, Elham Esmaeil Jamaat. (December 2017). Neuronal Alternation in CA1 Area of Hippocampus and Behavioral Functions Followed by ECT and Ketamine Therapy in Depressed Rats. Talk presented at the *5<sup>th</sup> Meeting of the Iranian Division of International Academy of Pathology*.

### Teaching Experience:

- Lecturer, Medical Physiology, Iran University of Medical Sciences, Faculty of Medicine, Tehran, Iran.
- Lecturer, Medical Physiology, Tehran University of Medical Sciences, Faculty of Medicine, Tehran, Iran.
- Lecturer, Medical Physiology, Tehran University of Medical Sciences, International Campus, Tehran, Iran.
- Lecturer, Medical Physiology, Tehran University, School of Electrical and Computer Engineering, Tehran, Iran.
- Teaching Assistant, Medical Physiology, Shahed University, Faculty of Medicine, Tehran, Iran.
- Lecturer, Training workshop on Behavioral Tests for Learning and Memory Assessments in Rodents, Tehran University of Medical Sciences, Faculty of Medicine, Tehran, Iran.

- Lecturer, Training workshop on Behavioral Tests for Depression and Anxiety Assessments in Rodents, Tehran University of Medical Sciences, Faculty of Medicine, Tehran, Iran.
- Lecturer, Professional Email Writing Workshop, Tehran University of Medical Sciences, Faculty of Medicine, Tehran, Iran.
- Lecturer, Graphical Abstract Illustration Workshop, Tehran University of Medical Sciences, Faculty of Medicine, Tehran, Iran.

### **Professional Memberships and Scientific Activities:**

#### **Reviewer of:**

- *BMC Anesthesiology*
- *Chinese Medicine*
- *Discover Mental Health*
- *Journal of Stroke and Cerebrovascular Diseases*
- *Metabolic Brain Disease Journal*
- *Molecular Neurobiology*
- *NeuroMolecular Medicine*
- *Neurotoxicity Research*
- *Nutrire*
- *Scientific Reports*

#### **Member of:**

- Editorial board of Iran electronic health journal, 2024.
- Scientific committee member, congress of medical students of Tehran Universities of Medical Sciences.
- Iranian Society of Physiology and Pharmacology.
- The national elite's foundation and talented students' office.

### **Research and Technical Skills:**

- Experimental Design
- Molecular Techniques (Western blot, Enzyme Linked Immunosorbent Assay (ELISA), Polymerase Chain Reaction (PCR), Reverse Transcription Polymerase Chain Reaction (RT-PCR))
- Immunohistochemistry
- Laboratory Management

- In Vivo Animal Models Induction (Alzheimer's disease (AD), autism spectrum disorder (ASD), Aging, Parkinson's disease (PD), Multiple Sclerosis (MS), Ovariectomy)
- Stereotaxic Surgery
- Electrophysiology techniques
- Behavioral Testing
- Histology (Dissection and Embedding, Sectioning, General Staining, Special Staining (Congo Red, Golgi-Cox))
- Scientific writing
- Statistical Analysis
- Statistical Software and Programming Environments (GraphPad Prism, SPSS, MATLAB, Python)
- Adobe Illustrator
- Adobe Photoshop
- Adobe premiere