



# CURRICULUM VITAE

Name: **Soraya**

Family name: **Mehrabi**

Title: **Assistant Professor**

Place of birth: **Tehran-Iran**

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## Education

Tehran University of Medical Sciences Department of Physiology Tehran-Iran	M.Sc. in Medical Physiology	2008- 2011
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Tehrani University of Medical sciences Department of Neurosciences Tehran-Iran	Ph.D. in Neuroscience	2012-2017
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Iran University of medical sciences ,cellular and molecular research center, Tehran, Iran.	Postdoctoral Fellow	2018-2019
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Neuroscience Research Center ,	Research Scholarship in	
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Neurochlore, INMED ,Marseille France. Electrophysiology and  
Neuro reconstruction

## Present Position

**Position:** Assistant Professor & Research Director (Principal Investigator)

**Institution:** Department of Neuroscience, Faculty of Medicine,  
Iran University of Medical Sciences,  
P.O.Box : 19615- 1178 | Tehran-Iran

## Academic Promotions

Assistant Professor	2019- present
Instructor (Lecturer)	2017 - 2019

## Research Experiences

### Electrophysiological techniques:

*Whole cell patch clamp recording in vitro*

*In vivo and In vitro Field Potential Recording (FPR)*

### Molecular/Cellular techniques:

*Confocal laser scanning microscopy*

*Immunohistochemistry (IHC)*

*Western Blotting*

*Real time PCR*

### Behavioral techniques:

*Epilepsy, spinal cord injury, Autism and Schizophrenia models in animals*

*Addictive behavioral tests in animals: Tolerance and Dependence tests;*

*Conditioning Place Preference (CPP) test*

*Pain models in animals: Tail-Flick test; Hot-Plate test; Formalin test*

*Stress models in animals: Forced Swim Stress; Restraint Stress*

**Drug Microinjection technique (Brain Local application),**

**Statistics**

*Biological Data Analysis (GraphPad Prism®)*

**Professional Activities**

- Head of growth and innovation center of Faculty of Modern Medical Technology, Iran University of Medical Sciences , **(2020 - Present)**
- Member of the Champion Review Committee of the International Brain Bee (IBB) World Championship **(2019 - Present)**
- Associate Member of the Cellular and molecular Research Center, Iran University of Medical Sciences, Tehran, Iran **(2018 - Present)**
- Member of the Steering Committee of the Education, Human Resources and Promotion, Cognitive Sciences and Technologies Council (CSTC), Iranian Science and Technology Vice-Presidency, Iran **(2018 - Present)**
- Board Member of Research Committee of the Neuroscience Research Center, Iran University of Medical Sciences **(2018 - Present)**

**Academic/Administrative Activities**

- Scientific and Executive Committee member of the 13<sup>th</sup> Annual International Addiction Science Congress, Tehran, Iran, 21-23 August 2019.
- Scientific Committee member of the 8<sup>th</sup> Annual International Addiction Science Congress, Tehran, Iran, 21-23 August 2019.
- Scientific Committee member of the 10<sup>th</sup> Basic and Clinical Neuroscience Congress, Tehran, Iran, 12-14 December 2021.

- Scientific Committee member of the 7<sup>th</sup> Basic and Clinical Neuroscience Congress, Tehran, Iran, 12-14 December 2018.
- Scientific Committee member of the 6<sup>th</sup> Basic and Clinical Neuroscience Congress, Tehran, Iran, 20-22 December 2017.
- Executive secretary of the 1st Iranian IBRO/APRC School of Cognitive Neuroscience “Human Brain Mapping”, Tehran, Iran, 23 Sep - 4 October 2016.
- Scientific Committee member of the 4<sup>th</sup> Basic and Clinical Neuroscience Congress, Tehran, Iran, 23-25 December 2015.
- Executive secretary of the 1<sup>st</sup> IBRO/APRC Iranian Associate School of Cognitive Neuroscience “Functional Human Brain Mapping”, Tehran, Iran, 22-28 May 2015.
- Faculty member and organizer of the 9<sup>th</sup> Workshop on Introducing the International Neuroscience Societies and Organizations and their funding opportunities, Tehran, Iran, 7 August 2014.
- cofounder and organizer of first neuroscience startup in Iran (**Neuroweekend**), Tehran, Iran, 2013.

## Scholarships and Awards

- Recipient of Top Researcher Award (**2018**) in Basic Medical Sciences, Tehran University of Medical Sciences, Tehran, Iran.
- Recipient of Young investigator award (**2015**) in International Congress of Physiology and Pharmacology, Tehran, Iran.
- Recipient of Scholarship for six months (**2017**) by the Iranian Ministry of Health and Medical Education to continue education abroad towards the PhD completion.

## List of Publications

- 1: Poustchi F, Amani H, Ahmadian Z, Niknezhad SV, Mehrabi S, Santos HA, Shahbazi MA. Combination Therapy of Killing Diseases by Injectable Hydrogels: From Concept to Medical Applications. *Adv Healthc Mater.* 2021 Feb;10(3):e2001571. doi: 10.1002/adhm.202001571. Epub 2020 Dec 4. PMID: 33274841.
- 2: Pourhamzeh M, Moravej FG, Arabi M, Shahriari E, Mehrabi S, Ward R, Ahadi R, Joghataei MT. The Roles of Serotonin in Neuropsychiatric Disorders. *Cell Mol Neurobiol.* 2022 Aug;42(6):1671-1692. doi: 10.1007/s10571-021-01064-9. Epub 2021 Mar 2. PMID: 33651238.
- 3: Mehrabi S, Eftekhari S, Moradi F, Delaviz H, Pourheidar B, Azizi M, Zendeheel A, Shahbazi A, Joghataei MT. Cell therapy in spinal cord injury: a mini- review. *Basic Clin Neurosci.* 2013 Spring;4(2):172-6. PMID: 25337345; PMCID: PMC4202537.
- 4: Jamali-Raeufy N, Alizadeh F, Mehrabi Z, Mehrabi S, Goudarzi M. Acetyl-L-carnitine confers neuroprotection against lipopolysaccharide (LPS) -induced neuroinflammation by targeting TLR4/NFκB, autophagy, inflammation and oxidative stress. *Metab Brain Dis.* 2021 Aug;36(6):1391-1401. doi: 10.1007/s11011-021-00715-6. Epub 2021 Mar 12. Erratum in: *Metab Brain Dis.* 2021 Mar 31;: PMID: 33710529.
- 5: Atefimanash P, Pourhamzeh M, Susanabadi A, Arabi M, Jamali-Raeufy N, Mehrabi S. Hippocampal chloride transporter KCC2 contributes to excitatory GABA dysregulation in the developmental rat model of schizophrenia. *J Chem Neuroanat.* 2021 Dec;118:102040. doi: 10.1016/j.jchemneu.2021.102040. Epub 2021 Oct 22. PMID: 34695562.
- 6: Kowsari G, Mehrabi S, Soleimani Asl S, Pourhamzeh M, Mousavizadeh K, Mehdizadeh M. Nicotine and modafinil combination protects against the neurotoxicity induced by 3,4-Methylenedioxymethamphetamine in hippocampal neurons of male rats. *J Chem Neuroanat.* 2021 Oct;116:101986. doi: 10.1016/j.jchemneu.2021.101986. Epub 2021 Jun 10. PMID: 34119664.
- 7: Goudarzi M, Nahavandi A, Mehrabi S, Eslami M, Shahbazi A, Barati M. Valproic acid administration exerts protective effects against stress-related anhedonia in rats. *J Chem Neuroanat.* 2020 Apr;105:101768. doi: 10.1016/j.jchemneu.2020.101768. Epub 2020 Feb 13. PMID: 32061998.
- 8: Pourhamzeh M, Joghataei MT, Mehrabi S, Ahadi R, Hojjati SMM, Fazli N, Nabavi SM, Pakdaman H, Shahpasand K. The Interplay of Tau Protein and β-Amyloid: While Tauopathy Spreads More Profoundly Than Amyloidopathy, Both Processes Are Almost Equally Pathogenic. *Cell Mol Neurobiol.* 2021 Aug;41(6):1339-1354. doi: 10.1007/s10571-020-00906-2. Epub 2020 Jul 22. PMID: 32696288.
- 9: Jamali-Raeufy N, Alizadeh F, Mehrabi Z, Mehrabi S, Goudarzi M. Correction to: Acetyl-L-carnitine confers neuroprotection against lipopolysaccharide (LPS) -induced neuroinflammation by targeting TLR4/NFκB, autophagy, inflammation and oxidative stress. *Metab Brain Dis.* 2021 Aug;36(6):1403. doi: 10.1007/s11011-021-00721-8. Erratum for: *Metab Brain Dis.* 2021 Aug;36(6):1391-1401. PMID: 33788081.
- 10: Haghani S, Jamali-Raeufy N, Zeinivand M, Mehrabi S, Aryan L, Fahanik-Babaei J. Hepatocyte Growth Factor Attenuates the Severity of Status Epilepticus in

Kainic Acid-induced Model of Temporal Lobe Epilepsy by Targeting Apoptosis and Astrogliosis. *Basic Clin Neurosci*. 2021 Nov-Dec;12(6):805-816. doi: 10.32598/bcn.12.5.1944.1. Epub 2021 Nov 1. PMID: 35693152; PMCID: PMC9168821.

11: Barati S, Ragerdi Kashani I, Moradi F, Tahmasebi F, Mehrabi S, Barati M, Joghataei MT. Mesenchymal stem cell mediated effects on microglial phenotype in cuprizone-induced demyelination model. *J Cell Biochem*. 2019 Aug;120(8):13952-13964. doi: 10.1002/jcb.28670. Epub 2019 Apr 8. PMID: 30963634.

12: Mehrabi S, Nasirinezhad F, Barati M, Abutaleb N, Barati S, Dereshky BT, Amini N, Milan PB, Jahanmahin A, Sarveazad A, Samadikuchaksaraei A, Mozafari M. The Effect of Alpha-Tocopherol on Morphine Tolerance-induced Expression of c-fos Proto-oncogene from a Biotechnological Perspective. *Recent Pat Biotechnol*. 2019;13(2):137-148. doi: 10.2174/1872208312666181120105333. PMID: 30973107.

13: Aliakbar Ahovan Z, Khosravimelal S, Eftekhari BS, Mehrabi S, Hashemi A, Eftekhari S, Brouki Milan P, Mobaraki M, Seifalian AM, Gholipourmalekabadi M. Thermo-responsive chitosan hydrogel for healing of full-thickness wounds infected with XDR bacteria isolated from burn patients: In vitro and in vivo animal model. *Int J Biol Macromol*. 2020 Dec 1;164:4475-4486. doi: 10.1016/j.ijbiomac.2020.08.239. Epub 2020 Sep 1. PMID: 32888993.

14: Barati S, Kashani IR, Tahmasebi F, Mehrabi S, Joghataei MT. Effect of mesenchymal stem cells on glial cells population in cuprizone induced demyelination model. *Neuropeptides*. 2019 Jun;75:75-84. doi: 10.1016/j.npep.2019.04.001. Epub 2019 Apr 13. PMID: 31030907.

15: Rahmanzadeh R, Mehrabi S, Barati M, Ahmadi M, Golab F, Kazmi S, Joghataei MT, Seifi M, Gholipourmalekabadi M. Effect of Co-administration of Bumetanide and Phenobarbital on Seizure Attacks in Temporal Lobe Epilepsy. *Basic Clin Neurosci*. 2018 Nov-Dec;9(6):408-416. doi: 10.32598/bcn.9.6.408. Epub 2018 Nov 1. PMID: 30719255; PMCID: PMC6359685.

16: Mehrabi S, Sanadgol N, Barati M, Shahbazi A, Vahabzadeh G, Barzroudi M, Seifi M, Gholipourmalekabadi M, Golab F. Evaluation of metformin effects in the chronic phase of spontaneous seizures in pilocarpine model of temporal lobe epilepsy. *Metab Brain Dis*. 2018 Feb;33(1):107-114. doi: 10.1007/s11011-017-0132-z. Epub 2017 Oct 27. PMID: 29080083.

17: Mehrabi S, Janahamdi M, Joghataie MT, Barati M, Marzban M, Hadjighassem M, Farahmandfar M. Blockade of p75 Neurotrophin Receptor Reverses Irritability and Anxiety-Related Behaviors in a Rat Model of Status Epilepticus. *Iran Biomed J*. 2018 Jul;22(4):264-74. doi: 10.22034/ibj.22.4.264. Epub 2017 Nov 7. PMID: 29108398; PMCID: PMC5949129.

18: Amini N, Vousooghi N, Alizade A, Ramezani S, Joghataei MT, Milan PB, Mehrabi S, Ababzadeh S, Sefat F, Mozafari M. Transplantation of Adipose Tissue-Derived Stem Cells into Brain Through Cerebrospinal Fluid in Rat Models: Protocol Development and Initial Outcome Data. *Curr Stem Cell Res Ther*. 2019;14(2):191-195. doi: 10.2174/1574888X13666180720112322. PMID: 30027854.

19: Rahmanzadeh R, Eftekhari S, Shahbazi A, Khodaei Ardakani MR, Rahmanzade R, Mehrabi S, Barati M, Joghataei MT. Effect of bumetanide, a selective NKCC1 inhibitor, on hallucinations of schizophrenic patients; a double-blind

randomized clinical trial. *Schizophr Res.* 2017 Jun;184:145-146. doi: 10.1016/j.schres.2016.12.002. Epub 2016 Dec 9. PMID: 27956008.

20: Rahmanzadeh R, Shahbazi A, Ardakani MK, Mehrabi S, Rahmanzade R, Joghataei MT. Lack of the effect of bumetanide, a selective NKCC1 inhibitor, in patients with schizophrenia: A double-blind randomized trial. *Psychiatry Clin Neurosci.* 2017 Jan;71(1):72-73. doi: 10.1111/pcn.12475. Epub 2016 Dec 21. PMID: 27800670.

21: Eftekhari S, Mehrabi S, Karimzadeh F, Joghataei MT, Khaksarian M, Hadjighassem MR, Katebi M, Soleimani M. Brain Derived Neurotrophic Factor Modification of Epileptiform Burst Discharges in a Temporal Lobe Epilepsy Model. *Basic Clin Neurosci.* 2016 Apr;7(2):115-20. doi: 10.15412/J.BCN.03070205. PMID: 27303606; PMCID: PMC4892316.

22: Eftekhari S, Mehrabi S, Soleimani M, Hassanzadeh G, Shahrokhi A, Mostafavi H, Hayat P, Barati M, Mehdizadeh H, Rahmanzadeh R, Hadjighassem MR, Joghataei MT. BDNF modifies hippocampal KCC2 and NKCC1 expression in a temporal lobe epilepsy model. *Acta Neurobiol Exp (Wars).* 2014;74(3):276-87. PMID: 25231847.

23: Nohesara S, Ghadirivasfi M, Barati M, Ghasemzadeh MR, Narimani S, Mousavi-Behbahani Z, Joghataei M, Soleimani M, Taban M, Mehrabi S, Thiagalingam S, Abdolmaleky HM. Methamphetamine-induced psychosis is associated with DNA hypomethylation and increased expression of AKT1 and key dopaminergic genes. *Am J Med Genet B Neuropsychiatr Genet.* 2016 Dec;171(8):1180-1189. doi: 10.1002/ajmg.b.32506. Epub 2016 Oct 18. PMID: 27753212; PMCID: PMC7115129.

24: Zendedel A, Johann S, Mehrabi S, Joghataei MT, Hassanzadeh G, Kipp M, Beyer C. Activation and Regulation of NLRP3 Inflammasome by Intrathecal Application of SDF-1a in a Spinal Cord Injury Model. *Mol Neurobiol.* 2016 Jul;53(5):3063-3075. doi: 10.1007/s12035-015-9203-5. Epub 2015 May 14. PMID: 25972240.

25: Abbaszadeh F, Jorjani M, Joghataei MT, Mehrabi S. Astaxanthin Modulates Autophagy, Apoptosis, and Neuronal Oxidative Stress in a Rat Model of Compression Spinal Cord Injury. *Neurochem Res.* 2022 Jul;47(7):2043-2051. doi: 10.1007/s11064-022-03593-1. Epub 2022 Apr 18. PMID: 35435619.

26: Soleimani M, Jameie SB, Mehdizadeh M, Keradi M, Masoumpoor M, Mehrabi S. Vitamin D3 influence the Th1/Th2 ratio in C57BL/6 induced model of experimental autoimmune encephalomyelitis. *Iran J Basic Med Sci.* 2014 Oct;17(10):785-92. PMID: 25729548; PMCID: PMC4340987.

27: Gilanchi S, Esmailzade B, Eidi A, Barati M, Mehrabi S, Moghani Ghoroghi F, Nobakht M. Neuronal differentiation of rat hair follicle stem cells: the involvement of the neuroprotective factor Seladin-1 (DHCR24). *Iran Biomed J.* 2014 Jul;18(3):136-42. doi: 10.6091/ibj.1284.2014. PMID: 24842139; PMCID: PMC4048477.

28: Bakhtiary M, Marzban M, Mehdizadeh M, Joghataei MT, Khoei S, Tondar M, Mahabadi VP, Laribi B, Ebrahimi A, Hashemian SJ, Modiry N, Mehrabi S. Combination of stem cell mobilized by granulocyte-colony stimulating factor and human umbilical cord matrix stem cell: therapy of traumatic brain injury in rats. *Iran J Basic Med Sci.* 2011 Jul;14(4):327-39. PMID: 23492840; PMCID: PMC3586827.



## Grants – International/National Research Projects

- 8<sup>th</sup> Elite Researcher Grant. Biopolymeric micro-implants for the treatment of autoimmune. **Mohammadtaghi Joghataei\*** and Soraya Mehrai Grant No. 987783 (\$1600) by the National Institutes for Medical Research Development (*NIMAD*), Ministry of Health and Medical Education of Iran, 27 April 2020.
- Hypothermia for Neuroprotection in Convulsive Status Epilepticus with related cognitive impairment . seizure\_ **Soraya Mehrabi**, Grant No. 121 (\$48000) by Cognitive Sciences and Technologies Council (*CSTC*), Iranian Science and Technology Vice-Presidency, 15 March 2019.
- Methamphetamine-induced psychosis is associated with DNA hypomethylation and increased expression of AKT1 and key dopaminergic genes. Shabnam Nohesara 1, Mohammad Ghadirivasfi 1, Mahmood Barati 2, Mohammad-Reza Ghasemzadeh 1, Samira Narimani 1, Zohreh Mousavi-Behbahani 1, Mohammadtaghi Joghataei 3, Mansoureh Soleimani 3, Mozghan Taban 1, Soraya Mehrabi 4, Sam Thiagalingam 5 6, Hamid Mostafavi Abdolmaleky 5 Grant No. 92024199 by **NIH**, 12 February 2016.

## Book Publications

### Translated Books

(1): photobiomodulation in the brain ,Translated by Soraya Mehrabi, Alireza susanabadi, Publishing Co., Tehran, Iran; 2022.

### Authored Books:

(2) : An Approach to Human Biomaterials in Tissue Engineering , Authored by Mohammadamin Hramshahi , Noorahmad Latifi, Soraya Mehrabi, Publishing Co, Tehran, Iran:2021.

(3) : Approaches to healthy Aging , Saeed alehashemi, Soraya Mehrabi, Publishing Co, Tehran, Iran; 2019.

## Book Chapters

(4) : Reactive Astrocyte Gliosis: Production of Inhibitory Molecules By  
Mohammad Taghi Joghataei, Fereshteh Azedi and Soraya Mehrabi

Submitted: November 2nd 2018 Reviewed: March 1st 2019 Published: May 24th  
2019.

(5) : The Neuroscience of Depression, Axonal transport proteins: What they are  
and how they relate to depressive behaviors, *Arezo Nahavandi and Soraya  
Mehrabi* , 1st Edition - March 5, 2021.

## Oral and Poster Presentations (Selected Abstracts)

### Lectures

- *The Role of Brain Orexinergic System in the Reward and Decision-Making processes.* IBRO-APRC Nepal Associate School on Neurophysiology of Pain: Mechanism to Medicine, Nepalgunj Banke-Nepal, 31 August - 5 September 2021.
- *Functional Interactions of the Opioid, Cannabinoid and Orexin systems in Reward.* 2<sup>nd</sup> INSF-CAS Joint Workshop; Addiction Science: Building the bridge between basic and clinical research, Virtual Meeting, 26-28 August 2021.
- *Application of Optogenetic in Neural Network Studies.* 2<sup>nd</sup> International and 23<sup>rd</sup> Iranian Congress and Congress of Physiology and Pharmacology, Chabahar-Iran, 15-18 February 2018.
- Soraya Mehrabi. “The 1st national congress on electrophysiology” Tehran- Iran. 20-22 May 2015
- Soraya Mehrabi. Brain development and disorders ,5 – 8 September 2014 | La Ciotat, France
- Soraya Mehrabi. “The 8th International Association of Neurorestoratology and 12th GCNN,Congress“, Tehran-Iran. 27-29 April 2015

- Soraya Mehrabi. " Recapitulation of Developmental Programs in Temporal Lobe Epilepsy",International Congress on Pediatrics, Mahshad University of Medical Sciences is a medical school in Iran,Mashhad,Iran (Oral Presentation)
- Soraya Mehrabi . "Computational Model for the Effects of Phenobarbital and the NKCC1 Inhibitor,Bumetanide in the Pilocarpine Model of Temporal Lobe Epilepsy" ,The 2nd International, Neurotrauma Congress & the 4th International Roads Safety Congress,Shefa Neuroscience (Poster Presentation)
- Soraya Mehrabi. ""Effect of alpha- tocopherol on morphine tolerance-induced expression of c-fos gene", Basic and Clinical Neuroscience Congress 2012, Tehran, Iran, 7-9 November, 2012 (oral Presentation)
- Soraya Mehrabi. "Study the effect of high fat diet and antioxidants on long term potentiation of dentate gyrus synapses of the rat hippocampus." " 20th Iranian congress of physiology and pharmacology,Tehran University of Medical Sciences, Tehran, Iran, 10-14 October, 2011 (oral Presentation).
- Workshop of "Scientific Writing", Tehran University of Medical Sciences, Tehran, Iran (2012)
- Workshop of "Whole Cell Patch Clamp Recording (WCPCR) ", Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (2011)
- Workshop of " Sharp Intracellular Recording", Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (2011)
- Workshop of "Electrophysiology", Tarbiat Modarres University, Tehran, Iran, (2011)
- Workshop of" The Virtual Cell Rel", Molecular and Cellular Research Center of Iran university, Tehran,Iran(2013).

## **Direction of Dissertation/Thesis**

### **MSc and PhD Supervisor, Advisor**

(1) : Effects of Nesfatin-1 on behavioral functions and inflammatory responses in a rat model of autism induced by prenatal exposure to Valproic Acid in the offspring

(2): Evaluating the role of Sertraline on expression of NLRP3 gene and permeability of the gut and blood brain barrier in male rat model of Unpredictable-Chronic Mild Stress (UCMS)-induced depression

(3): Study of kolaviron effect on tau protein hyperphosphorylation induced disorder in male rat the behavioral, electrophysiological, histological and biochemical study

(4): Comparison of cortical lesions changes in multiple sclerosis patients with primary progressive form with neurolymitis optica and effect of these changes on cognitive tests

(5): Evaluating the effect of human olfactory mucous membrane derived neural stem cell (NSC) application on stress – induced male rat model of depression

(6): Study of Edaravone and Flurbiprofen coadministration effects on autistic model induced by valproic acid in male rat

(7): Study of olfactory mocus ectomesenchymal cells effect in valproic acid induced autistic model in male rat.

