Masoud

Seddighfar

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Place of birth: Tehran

Nationality: Iranian

Phone: +98-9192970353

Marital Status: Maried

EDUCATION

PhD in Neuroscience **2021-2025**
Neuroscience Research Center, School of Medicine
Shahid Beheshti University of Medical Sciences,
Tehran, Iran

MSc, Animal Physiology: Neuroscience **2014-2016**
School of Biology, College of Science,
University of Tehran, Iran

BSc, Biology: Animal Biology **2010-2014**
School of Biology, College of Science,
University of Guilan, Iran

PRESENT POSITION

Assistant professor

Neuroscience Research Center, School of Medicine

Shahid Beheshti University of Medical Sciences

Evin St. | Shahid Chamran Express-way

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HONORS

- **Ranked 1st in Animal physiology in the nationwide universities entrance exam for graduate studies(M.Sc. program) in biology**
- **2014 Winning 4th grade in 19th Nation-Wide Scientific Student Olympiad of Biology, Tehran, Iran**
- **2014-present Member of National Elite Foundation of Iran**
- **Graduated Ranked 1st in M.Sc. studies, 2016**
- **Graduated Ranked 2st in B.Sc. 2014**

PUBLICATIONS

- **Seddighfar M**, Bahmani Z, Haghparast A. Infralimbic deep brain stimulation: The impact of frequency and timing on extinction and reinstatement of morphine-seeking behaviors in male rats. Progress in Neuro-Psychopharmacology and Biological Psychiatry. 2025 Apr 24:111383.
- Vazifeshenas A, **Seddighfar M**, Haghparast A. Interaction of opioid and D2-like dopamine receptors in the nucleus accumbens modulate acute pain-related behaviors. Behavioural Brain Research. 2025 Apr 30:115614.
- Omidiani SE, Mohammadi M, **Seddighfar M**, Azizbeigi R, Haghparast A. Cannabidiol mechanism of action on modulating extinction and reinstatement of methamphetamine-seeking behavior: Targeting D2-like dopamine receptors in the hippocampus. Journal of Psychiatric Research. 2025 Jun 11.
- Khodagholi F, Mousavi MA, Ghaedi Y, Salarvandian S, Vosoughian F, Javadi M, Khodagholi F, Khalifeh S, Karimi R, **Seddighfar M**, Barzin S. Looking at Philosophy for Children and Its Outcomes Through a Neuroscience Lens. Basic and Clinical Neuroscience. 2025 May 10;16(3):551-68.
- Ghasemzadeh Z, **Seddighfar M**, Alijanpour S, Rezayof A. Ventral tegmental area serotonin 5-HT1A receptors and corticolimbic cFos/BDNF/GFAP signaling pathways mediate dextromethorphan/morphine anti-allodynia. Physiology & Behavior. 2021 Oct 1;239:113522.
- Sardari M, **Seddighfar M**, Sardari S. Dopamine receptors in the anterior cingulate cortex implicate in nicotine enhanced morphine analgesia. Psychopharmacology. 2021 Nov;238(11):3311-23.
- **Seddighfar M**, Mirghazanfari SM, Dadpay M. Analgesic and anti-inflammatory properties of hydroalcoholic extracts of Malva sylvestris, Carum carvi or Medicago sativa, and their combination in a rat model. Journal of integrative medicine. 2020 Mar 1;18(2):181-8.

- **Seddighfar M**, Ghasemzadeh Z, Rezayof A. The blockade of 5-HT1A receptors in the ventral tegmental area inhibited morphine/dextromethorphan-induced analgesia in pain rat models. Brain Research. 2019 Jul 15;1715:27-34.

UNDER REVIEW

- Farrokhi AM, Moshrefi F, Karimian-Sani-Varjovi H, **Seddighfar M**, Liang J, Li Y, Haghparast A. Neural dynamics of addiction memory retrieval: Prelimbic-VTA local field potential power and coherence during morphine seeking reinstatement. Available at SSRN 5504204.

- Samadi F, **Seddighfar M**, Haghparast A. Infralimbic deep brain stimulation during abstinence prevents drug- and stress-induced morphine reinstatement Progress in Neuro-Psychopharmacology and Biological Psychiatry. (Under Review)

- Abbasi M, **Seddighfar M**, Karimian-Sani-Varjovi H, Haghparast A. Neural Connectivity and Oscillatory Markers of Morphine Reward in Prefrontal–Mesolimbic and Prefrontal–Hippocampal Pathways Neurobiology of Learning and Memory. (Under Review)

CONFERENCE

- **Seddighfar M**, Bahmani Z, Haghparast A. "Suppressing Morphine Reinstatement with Infralimbic Deep Brain Stimulation: A Critical Role for Application Timing and Frequency" 14th Basic and Clinical Neuroscience Congress, 2025 December 10-12; Tehran, Iran

- **Seddighfar M**, Bahmani Z, Haghparast A. "Modulation of Pathological Limbic Network Oscillations by Infralimbic Cortex Stimulation Correlates with Suppression of Opioid-Seeking Behavior" the 9th Iranian International Congress on Brain Mapping, January 2026; Tehran, Iran

- **Seddighfar M**, Rezayof A, Sardari M. "Blockade of ventral tegmental area 5-HT1A receptors attenuated Morphine/Dextromethorphan-induced analgesia." The 10th FENS Forum of Neuroscience; 2016 July 2-6; Copenhagen, Denmark

- **Seddighfar M**, Rezayof A. "Functional interaction between NMDA and 5-HT1A receptors in morphine-induced analgesia: the involvement of the ventral tegmental area" The 5th Basic and Clinical Neuroscience Congress; 2016 December 7-9; Tehran, Iran

EXPERIENCE

RESEARCH EXPERIENCE

2023 – 2025 Research Assistance: Neuroscience Research Center, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Projects:

- Investigating the potential effects of deep brain stimulation of medial prefrontal cortex on the neural activity of mesolimbic areas following the extinction and reinstatement of morphine-seeking behavior in the rat
- Cannabidiol mechanism of action on modulating extinction and reinstatement of methamphetamine-seeking behavior
- Investigating the interaction between opioidergic and dopamine receptors on pain-related behaviors in the animal model of pain
- Investigating the potential effects of Infralimbic deep brain stimulation during abstinence prevents drug- and stress-induced morphine reinstatement

Supervisor: Prof. Abbas Haghparast, Neuroscience Research Center, Institute of Neuroscience and Cognition, Shahid Beheshti University of Medical Sciences, Tehran, Iran

2015 – 2017 Research Assistance: MSc thesis, School of Biology, University of Tehran, Iran.

Project: Involvement of the ventral tegmental area serotonin 5-HT1A receptor in analgesia induced by co-administration of morphine and dextromethorphan.

Supervisor: Dr. Ameneh Rezayof, School of Biology, University of Tehran, Iran

2017-2019 Research Assistance: Departments of Physiology and Persian Medicine, AJA University of Medical Science

Project: Evaluation of the effects of *Medicago sativa*, *Carum carvi*, and *Malva Sylvestris* extracts on pain and inflammation in the male rats.

Supervisor: Dr. Sayid Mahdi Mirghazanfari, Departments of Physiology and Persian Medicine, AJA University of Medical Science

TEACHING EXPERIENCE

2024 Lecturer and Organizer at the 2nd Iranian Associate School of Cognitive Neuroscience for Addiction Prevention

2014 – 2024 Teacher, Advanced biology and Nation-Wide Scientific Student Olympiad of Biology, Several high schools, Tehran, Iran

LAB TEACHING ASSISTANCE

2015 – 2016 Lab assistant, Neuroscience laboratory, School of Biology, University of Tehran, Iran

2013 – 2014 Lab assistant, Animal Physiology Laboratory, School of Biology, University of Guilan, Iran

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SKILLS & TECHNICS

- Local Field Potentials (LFP) recording
- Signal processing
- Deep Brain Stimulation (DBS)
- Western blotting
- Animal handling
- Animal surgery

  Stereotaxic / Neuropathic pain / Perfusion / Stroke

- Behavioral tests

  Tail Flick/ Formalin Test/ Neuropathic pain models/ Conditioned place preference (CPP)/ Passive avoidance learning/ Elevated plus-maze/ Hole-Board Test/ Swimming stress/ Restraint Stress

- Animal dissection (Invertebrates and vertebrates)
- Cell culture
- Spectrophotometry

WORKSHOP

2024: Lecturer and Participant, 2nd Iranian Associate School of Cognitive Neuroscience for Addiction Prevention and Treatment Development, Tehran, Iran.

2023: Participation in the School of Neural Data Analysis, Cognitive Sciences and Technologies Council (CSCT) and IPM Center, Tehran, Iran.

2023: Symposium on Career Opportunities in Neuroscience, Shiraz University of Medical Sciences, Iran.

2021: Participant, Tehran Patch-Clamp Workshop 2021, [Organized by Tarbiat Modares University, etc.], Iran.

2015 Neuropathic pain models, 22ed Iranian Congress of psychology and pharmacology, Shahid Beheshti University, Tehran, Iran

2015 Acute and chronic inflammatory pain models, 22ed Iranian Congress of psychology and pharmacology, Shahid Beheshti University, Tehran, Iran

COMPUTER SKILLS

SPSS, Image j, Sigma plot, Microsoft Office, Adobe Photoshop, EndNote, Adobe Illustrator, MATLAB, Python

LANGUAGE SKILLS

English: Proficient (reading/listening/writing: fluent, speaking: intermediate)

Persian: Mother Tongue (fluent)

REFERENCE

- Prof. Abbas Haghparast
  Shahid Beheshti University of Medical Sciences
  haghparast@sbmu.ac.ir

- Prof. Ameneh Rezayof
  University of Tehran, Tehran, Iran
  rezayof@khayam.ut.ac.ir