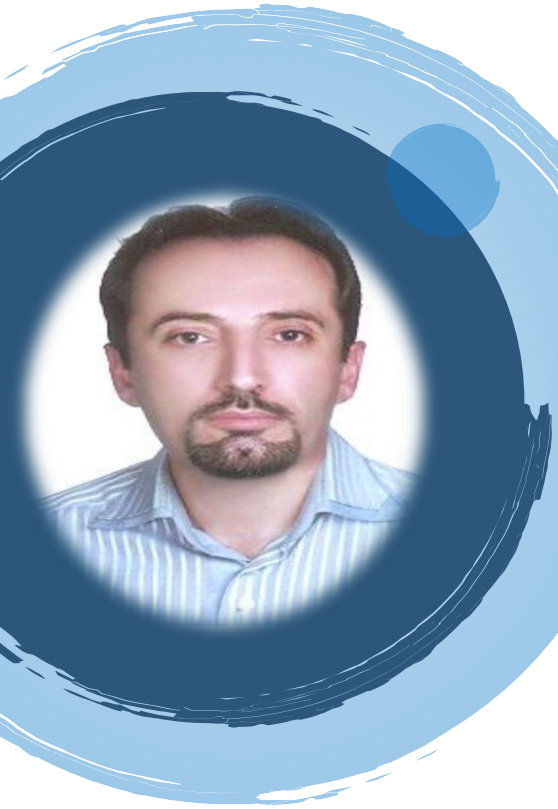


Curriculum Vitae

Personal Information:

Full Name: Gholamreza Bayat (Msc, Ph.D.)
Date of birth.: May 8, 1970, Tehran, Iran
Scientific degree: PhD in Physiology,
Position: Faculty member of Physiology; Assistant Professor
Alborz University of Medical Sciences
Marital status: Married
Tel (Home): **Work:** +982634287315 (115,133)
Email (Main): g.bayat@abzums.ac.ir
Academic Affiliation: Department of Physiology - Pharmacology and medical physics, School of Medicine, Alborz University of Medical Sciences, Karaj, Iran

Educational information:

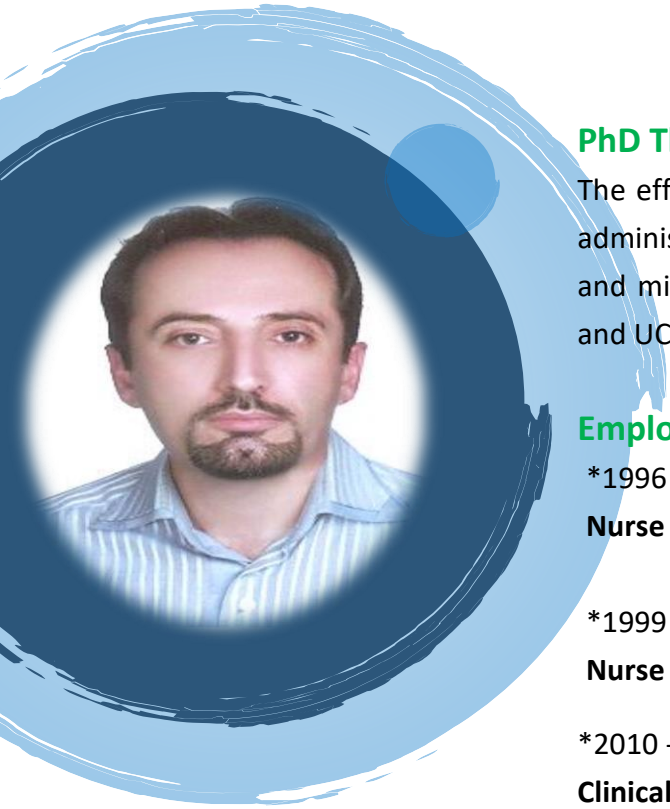
*** Bachelor of Science in Nursing**
1992–1996
Iran University of Medical Sciences

*** Master of Science in Medical Physiology**
2000–2003
Shiraz University of Medical Sciences

*** PhD in Medical Physiology**
2006–2011
Tarbiat Modares University

M.S Thesis project:

Effect of a selective adenosine A_1 receptor antagonist, **DPCPX**, on renal tissue damages and functional disturbances in early phase of ischemia/reperfusion - induced acute renal failure in anaesthetized rats.



PhD Thesis project:

The effect of exercise training and chronic anabolic androgenic steroid administration, nandrolone decanoate, on expression of sarcolemmal and mitochondrial ATP-sensitive K^+ channels and transcription of UCP_2 and UCP_3 genes in rat heart.

Employment:

*1996 -1999; Tehran, Iran

Nurse in Shaid Rejaee hospital

*1999 -2010;Tehran, Iran

Nurse in Rasoul-e- Akram hospital

*2010 -2013; Tehran, Iran

Clinical supervisor in Rasoul-e- Akram hospital

*2013 until now; Karaj, Iran

Faculty member of Alborz University of medical sciences, Department of Physiology, Pharmacology and Medical Physic

*2013-Now; Karaj, Iran

University Director of Ethical issues and Welfare of Laboratory Animal Management

*2014-2016; Karaj, Iran

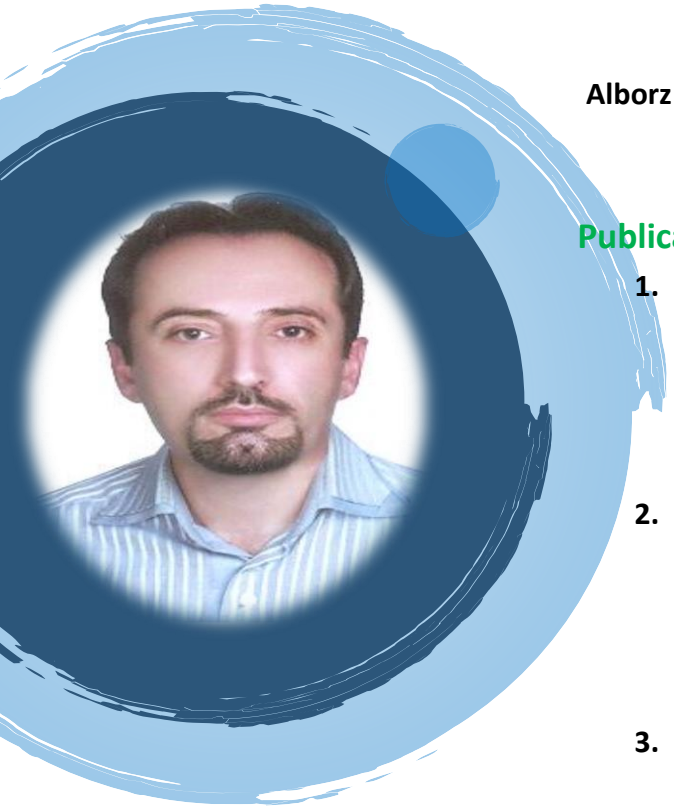
Head of Physiology - Pharmacology and Medical Physic Department of Alborz University of medical sciences

*2022-Now; Karaj, Iran

Deputy of logistical affairs of medical school

*2022-Now; Karaj, Iran

Head of Physiology - Pharmacology and Medical Physic Department of



Publications:

1. Zahmatkesh, M., Kadkhodaee, M., Ghaznavi, R., Shams, S., **Bayat, Gh. Amelioration of rat renal ischemia-reperfusion injury by MnTBAP (a SOD-mimetic) in an in vivo model.** Yakhteh, 2005; 7(27), pp. 200+200i-200vi.

2. Moosavi SMS, **Bayat G**, Owji SM and Panjehshahin MR. **Early renal post-ischaemic tissue damage and dysfunction with contribution of A1-adenosine receptor activation in rat.** Nephrology, 2009; 14: 179 -188.

3. Fatemeh Safari, Sohrab Hajizadeh , Shahnaz Shekarforush, Mehdi Forouzandeh, Mohsen Foadoddini, **Gholamreza Bayat,** Bita Houshmand, Ali Khoshbaten. **Effects of pretreatment with non-hypotensive dose of ramiprilat and losartan on myocardial ischemia-reperfusion induced arrhythmias and infarct size in rats.** Physiology and Pharmacology, 2011; 15(1): 116-123.

4. **Gholamreza Bayat,** Sohrab Hajizadeh , Mohammad Javan, Mahdi Forouzandeh Moghaddam, Fatemeh Safari, Hossein Azizi, Roham Mazloom. **Decreased uncoupling protein 2 and 3 (UCP2 and UCP3) mRNA expression by endurance exercise training with and without chronic administration of nandrolone in rat heart.** Physiology and Pharmacology, 2011; 15(3): 330-340.

5. **Gh. Bayat,** S. Hajizadeh, M. Javan, F. Safari, M. Goudarzvand, S. Shokri, Kh. Pourkhalili, F. Alavian. **Effect of exercise and chronic administration of nandrolone decanoate on expression of rat heart sarcolemmal ATP- sensitive potassium channels.** Feyz, Journal of Kashan University of Medical Sciences, 2012; Vol. 16, No 2, 102-111.

6. F. Safari, S. Hajizadeh, S. Shekarforoush, **Gholamreza Bayat**, M. Foadoddini, A. Khoshbaten. **Influence of ramiprilat and losartan on ischemia reperfusion injury in rat hearts.** Journal of the Renin Angiotensin Aldosterone System, 2011; 13(1): 29-35.

7. Mazloom, R., Hajizadeh, S., Semnanian, S., Pourkhalili, K., **Bayat, G. R.**, Alavian, F., Safari, F. **The Effects of Preconditioning with Normobaric Hyperoxia on Tissue Damage, Mechanical Performance and Arrhythmias Induced by Ischemia-Reperfusion in Isolated Heart of Morphine Dependent Rat.** Journal of Research on Addiction**, 2012**; 6(21), 65-80.

8. Alavian, F., Hajizadeh, S., Bigdeli, M.R., **Bayat, G.R.**, Javan, M. **Evaluation of UCP2 expression in the phenomenon of ischemic resistance induced by alternating normobaric hyperoxia in a rat model of stroke.** Physiology and Pharmacology, 2012; 16(1), pp. 54-61.

9. Safari Fatemeh, Bayat Gholamreza, Moshtaghion Seyed Hosein, Shekarforoush Shahnaz, Fekri Asefeh, Forouzandeh Moghadam Mahdi, Hajizadeh Sohrab. **Increase of uncoupling protein-2 expression in the ischemic rat heart.** Physiology and Pharmacology, 2013; 17(2), pp. 148-155.

10. S. Shokri, M. Hemadi, G. Bayat, M. Bahmanzadeh, I. Jafari-Anarkooli and B. Mashkani. **Combination of running exercise and high dose of anabolic androgenic steroid, nandrolone decanoate, increases protamine deficiency and DNA damage in rat spermatozoa.** Andrologia, 2014; 46, 184-190.

11. Safari F., Bayat G., Shekarforoush S., Hekmatimoghaddam S, Anvari Z., Forouzandeh Moghadam M., and Hajizadeh S. **Expressional profile of cardiac uncoupling protein-2 following myocardial ischemia reperfusion in losartan- and ramiprilat-treated rats. Journal of Renin-Angiotensin-Aldosterone System**, 2014; 15 (3) 209-217.

12. Safari F., Anvari Z., Moshtaghioun S., Javan M., Bayat G., Shekar Forosh S., Hekmatimoghaddam S. **Differential expression of cardiac uncoupling proteins 2 and 3 in response to myocardial ischemia-reperfusion in rats.** Life Sciences, 2014; 98 (2) 68–74.

13. Z. Akbari, E. Avarand, M. Shariati, S. Akbarzadeh, M. Esmaili Dehaj, Gh. Bayat, K. Pourkhalili. **Effects of anabolic steroid nandrolone decanoate on ischemic preconditioning in isolated heart of sedentary rats.** Iranian South Medical Journal, 2014; 17(5): 798-814.

14. Bayat G, Javan M, Safari F, Khalili A, Shokri S, Goudarzvand M, Salimi M, Hajizadeh S. **Nandrolone decanoate negatively reverses the beneficial effects of exercise on cardiac muscle via sarcolemmal, but not mitochondrial KATP channel.** Canadian Journal of Physiology & Pharmacology, 2016; 94(3):324-31.

15. **Gholamreza Bayat,** Mohammad Javan, Azadeh Khalili, Fatemeh Safari, Saeed Shokri and Sohrab Hajizadeh. **Chronic endurance exercise antagonizes the cardiac UCP2 and UCP3 protein up-regulation induced by nandrolone decanoate.** Journal of basic & clinical physiology & pharmacology, 2017; 28(6):609-614.

16. Azadeh Khalili, Shohreh Alipour, Mohammad Fathalipour, Azar Purkhosrow, Elaheh Mashghoolozekr, **Gholamreza Bayat,** Ali Akbar Nekooeian. **Liposomal and Non-Liposomal Formulations of Vitamin C: Comparison of the Antihypertensive and Vascular Modifying Activity in Renovascular Hypertensive Rats.** Iranian Journal of Medical Sciences, 2020; 45(1), pp. 41-49.

17. N Elahimehr, B Tavakoli-far, **G Bayat,** H Sadri, R Arjmand. **Prevalence of Acute Intoxication in Children Visiting Shahid Bahonar Hospital in Karaj, Iran, 2014-2015.** Alborz University Medical Journal, 2020; 9(2); PP 209 -218.

18. Azadeh Khalili, Hosein Karim, **Gholamreza Bayat. Theoretical assessment of therapeutic effects of angiotensin receptor blockers and angiotensin-converting enzyme inhibitors on covid-19.** Iranian Journal of Medical Sciences, 2021; 46(4), pp. 312-316.

19. Mahnaz Bayat, Kristi A. Kohlmeier, Masoud Haghani, Afshin Borhani Haghighi, Azadeh Khalili, **Gholamreza Bayat,** Etrat Hooshmandi & Mohammad Shabani. **Co-treatment of vitamin D supplementation with enriched environment improves synaptic plasticity and spatial learning and memory in aged rats.** Psychopharmacology, 2021; 238(8), pp. 2297-2312.

20. A. Khalili, P. Fallah, S. Hashemi, M. Ahmadian-Attari, V. Jamshidi, Roham Mazloom, Leila Beikzadeh, ***Gholamreza Bayat. New mechanistic insights into hepatoprotective activity of milk thistle and chicory quantified extract: The role of hepatic Farnesoid-X activated receptors.** Avicenna Journal of Phytomedicine, 2021; 11(4): 367-379.

21. Vahid Jamshidi, Seyed Ali Hashemi, Azadeh Khalili, Parviz Fallah, Mohammad Mahdi Ahmadian-Attari, Leila Beikzadeh, Roham Mazloom, Parvaneh Najafizadeh, **Gholamreza Bayat. Saffron offers hepatoprotection via up-regulation of hepatic farnesoid-X-activated receptors in a rat model of acetaminophen-induced hepatotoxicity.** Avicenna Journal of Phytomedicine, 2021; 11(6): 622-623.

22. **Gholamreza Bayat**, Seyed Ali Hashemi, Hosein Karim, Parviz Fallah, Keshvad Hedayatyanfard, Mahnaz Bayat, Azadeh Khalili. **Biliary cirrhosis-induced cardiac abnormality in the rat: interaction between Farnesoid-X-activated receptors and the cardiac Uncoupling proteins 2 and 3.** Iranian Journal of Basic Medical Sciences, 2022; 25(1), 126-133.

23. Sadrollah Motamed, Rohollah Bakhshi, Keshvad hedayatyanfard, Nazgol-Sadat Haddadi, Azadeh Khalili,

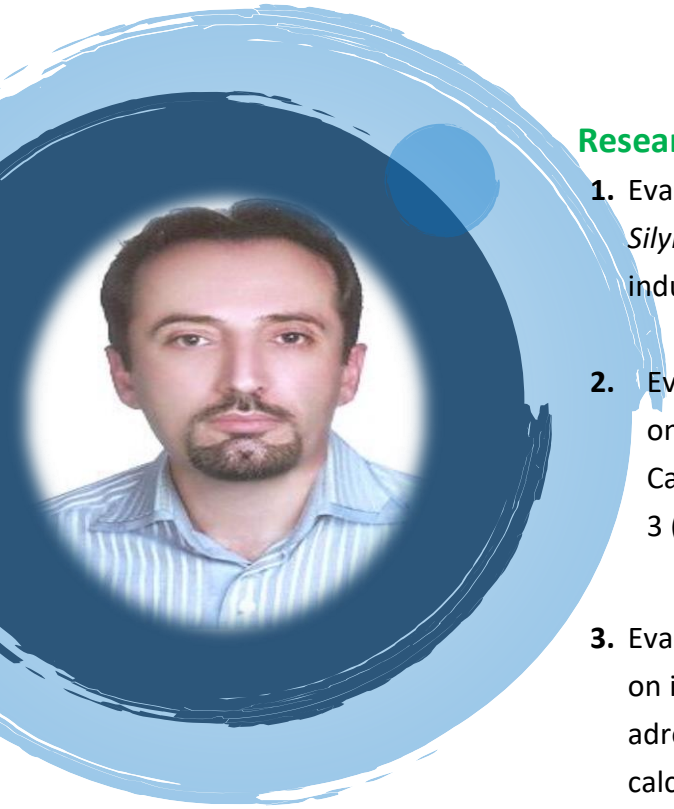
Gholamreza Bayat, Bahareh Tavakoli-Far, Abdolreza Roeintan. **Early post-operative use of Botulinum toxin type A in prevention of scar after mammoplasty and abdominoplasty.** Australasian Journal of Dermatology, 2022; 63(1): 111-113.

24. Mahnaz Bayat, Azadeh Khalili, **Gholamreza Bayat**, Somayeh Akbari, Amirhossein Yousefi Nejad, Afshin Borhani Haghighi, Masoud Haghani. **Effects of platelet-rich plasma on the memory impairment, apoptosis, and hippocampal synaptic plasticity in a rat model of hepatic encephalopathy.** Brain and Behavior, 2022; In press

25. Gholamreza Bayat, Roham Mazloom, Seyed Ali Hashemi, Khalil Pourkhalili, Parviz Fallah, Alireza Shams, Parvaneh Esmaeili, Azadeh Khalili. **Silymarin administration attenuates Cirrhotic-induced cardiac abnormality in rat: a possible role of β1-adrenergic receptors and L-type voltage-dependent calcium channels.** Iranian Journal of Medical Sciences, 2022; 47 (4): 367-378.

26. Amin Alizadegan, Maryam Akbarzadeh, Mohammad Sadegh Soltani-Zangbar, Roshanak Sambrani, Kobra Hamdi, Alieh Ghasemzadeh, Parvin Hakimi, Behnam Vahabzadeh, Hassan Dianat-Moghadam, Amir Mehdizadeh, Sina Mohammadinejad, Sanam Dolati, Sina Baharaghdam, **Gholamreza Bayat**, Mohammad Nouri and Mehdi Yousefi. **Isolation of cfDNA from spent culture media and its association with implantation rate and maternal immunomodulation.** BMC Research Notes, 2022; 15:259

27. Mohammad Farajli Abbasi, Nahid Davoodian, Hesamaddin Shirzad-Aski, **Gholamreza Bayat**, Gholamreza Hooshmand, Hossein Kargar Jahromi, Seyedeh Mahsa Poormoosavi, Sayyed Alireza Talaei, Masoomeh Dadkhah, Bahman Khalvati, Seyed Esmaeil Khoshnam, Maedeh Ghasemi, Maryam Maleki, Tahereh Safari, Shahram Darabi, Mohammad Amin Behmanesh, Ehsan Sharif Paghaleh, Siavash Ahmadi-Noorbakhsh. **Anesthesia and Analgesia for common research models of adult mice.** Laboratory animal research, 2022; In Press



Research Projects:

1. Evaluating the hepatoprotective activity *of Cichorium intybus* and *Silybum marianum* mechanism in rat model of acetaminophen-induced hepatotoxicity: the role of hepatic nuclear receptors; **2017**.

2. Evaluating the cardiac hemodynamic effects of *Silybum marianum* on isolated hearts in rat model of biliary cirrhosis: the role of Cardiac Farnesoid-X activated receptors, uncoupling protein 2 and 3 (UCP2 and UCP3); **2017**.

3. Evaluating the cardiac hemodynamic effects of *Silybum marianum* on isolated hearts in rat model of biliary cirrhosis: the role of cardiac adrenergic receptor (β1), cholinergic receptor (μ2) and L-type calcium channel; **2017**.

4. Evaluating the interaction between simultaneous administration of Valproic acid and hydroalcoholic extract of saffron regarding anticonvulsant and hepatoprotective effect in mice model of seizures a pharmacological pathological and molecular assessment; **2019**.

5. Evaluating of the effect of cannabidiol on the expression of the FXR, Nrf2, SOD, CBR1 and CBR2 gens in Gentamicin-induced renal failure in the rat; **2021**.

Supervised/consulted thesis:

1. Evaluating the effects of Crocus Sativus hydro-alcoholic extract on hepatic expression of Farnesoid receptors (FXR) in Wistar albino rat model of acetaminophen-induced hepatotoxicity; Master of Toxicology thesis; Islamic Azad University, Tehran, **2018**.

2. Evaluating of the time-course pattern of hepatic gene expression of Farnesoid receptors (FXR) and glutathione S-transferase (α-GST) in valproic acid-induced hepatotoxicity in mice; Master of Toxicology thesis; Islamic Azad University, Tehran, **2020**.

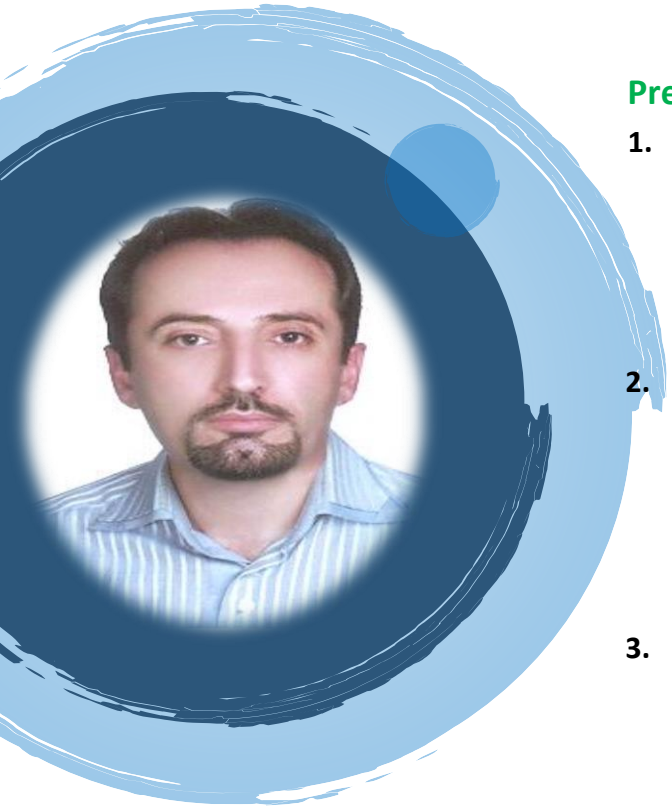
3. Investigating the effect of nicotine on heart rate variability in cecal ligation and puncture-induced inflammation in rats; Pharm-D thesis (Pharmacy); Islamic Azad University, Tehran, **2021**.

4. Investigating the effects of nicotine on heart rate variability in ulcerative colitis in rats; Pharm-D thesis (Pharmacy); Islamic Azad University, Tehran, **2021**.

5. Evaluating the time-course pattern of the Farnesoid-X- receptor and associated genes with glutathione antioxidant pathway in the rat model of Gentamicin-induced renal failure; Master of Physiology thesis; Arak University of Medical Sciences; **2021**.

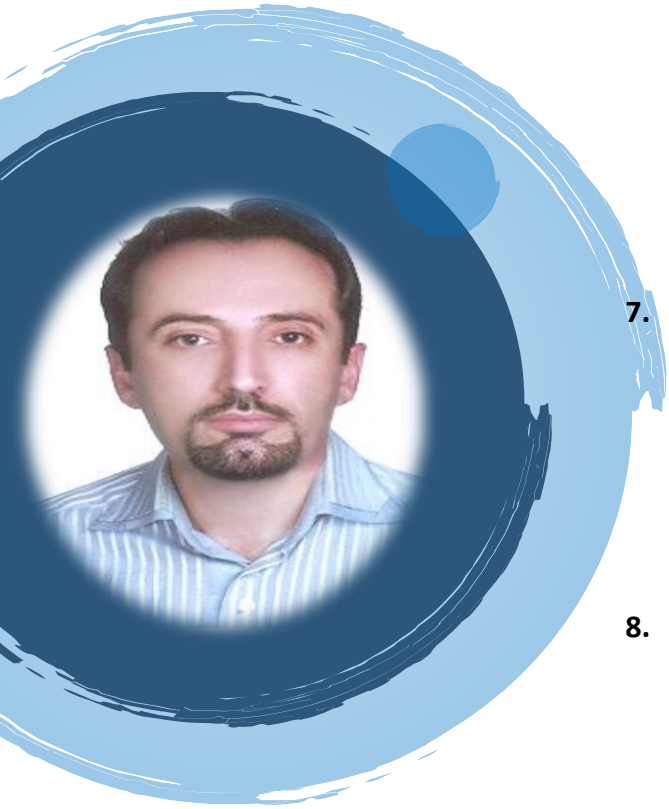
6. Evaluating of the effect of cannabidiol on the expression of the FXR, Nrf_2, SOD, CB_1 and CB_2 gens in Gentamicin-induced renal failure in the rat kidney; Master of Physiology thesis; Arak University of Medical Sciences; **2022**.

7. Evaluating the time-course pattern of changes in cardiac Ang (1-7) and ACE_2 gene expression in rat model of cirrhosis; General medicine thesis; Alborz University of Medical Sciences; **ongoing**.



Presentation in academic congress:

1. **Oral:** **Bayat G,** Moosavi SMS, Owji SM and Panjehshahin MR. Effects of a selective Adenosin A_1-receptor antagonist on renal function in ischemic acute renal failure in rat. **16th Iranian Congress of Physiology & Pharmacology 9-13, May 2003, Tehran-Iran.**
2. **Oral:** Moosavi SMS, **Bayat G**, Owji SM and Panjehshahin MR. Effects of a selective Adenosin A_1-receptor antagonist on renal tissue damages in ischemic acute renal failure in rat. **16th Iranian Congress of Physiology & Pharmacology 9-13 May, 2003, Tehran-Iran.**
3. **Oral:** Moosavi SMS, Owji SM, **Bayat G** and Panjehshahin MR. Role of Adenosin A_1-receptor antagonist in the pathophysiology of ischemia/reperfusion-induced acute renal failure in rat: An electron microscopy study. **17th International Congress of Geographic Medicine Rrenal Diseases&Hypertension, 23-25 November, 2004, Shiraz-Iran.**
4. **Oral:** R. Mazloom, S. Hajizadeh, S. Semnanian, Kh. Pourkhalili, B. Hooshmand Fini, **Gh. Bayat**, F. Safari, F. Alavian. Effects of morphine induced preconditioning on arrhythmias during reperfusion period in isolated rat heart. **20th Iranian Congress of Physiology & Pharmacology, 10-14 October, 2011, Hamedan-Iran.**
5. **Oral:** F. Alavian, S. Hajizadeh, MR. Bigdeli, M. Javan, A R. Mani, F0 Mohagheghi, **Gh. Bayat**, R. Mazloom. Studying the possible role of PKC in protective effect of preconditioning with intermittent hyperoxia on rat-brain stroke model**20th Iranian Congress of Physiology & Pharmacology, 10-14 October, 2011, Hamedan-Iran.**
6. **Oral:** F. Safari, S. Hajizadeh, **Gh. Bayat**, M. Forouzandeh, R. Mazloom, Sh. Shekarforoush, M. Foadoddini, A. Khoshbaten.



Investigation of Cardiac UCP2 and UCP3 transcription and expression following myocardial ischemia reperfusion. **20th Iranian Congress of Physiology & Pharmacology, 10-14 October, 2011, Hamedan-Iran.**

7. **Oral:** **Gh. Bayat**, S. Hajizadeh, M. Javan, M. Forouzandeh Moghadam, F. Safari, R. Mazloom, F.Alavian, H. Azizi .Reduction of Uncoupling Protein 2 and 3 by endurance exercise with and without chronic administration of Nandrolone in rat heart. **20th Iranian Congress of Physiology & Pharmacology, 10-14 October, 2011, Hamedan-Iran.**

8. **Poster:** F. Alavian, S. Hajizadeh, M. Javan, M. Bigdeli, A. Mani, **Gh. Bayat** and R. mazloom. Evaluation of HIF1α expression of ischemic tolerance-induced by intermittent normobaric hyperoxia in the rat model of stroke. **21th Iranian Congress of Physiology & Pharmacology, 23-27 August, 2013, Tabriz-Iran.**

9. **Oral:** **Gh. Bayat**, F. Safari, M. Javan, M. Goudarzvand, S. Shokri, F. Alavian, S. Hajizadeh. Effect of exercise and chronic administration of Nandrolone Decanoate on expression of rat heart sarcolemmal and mitochondrial ATP- sensitive potassium channels. **21th Iranian Congress of Physiology & Pharmacology, 23-27 August, 2013, Tabriz-Iran.**

10. **Poster:** Roham Mazloom, **Gholamreza Bayat**, Mahdi Goudarzvand, Azadeh Khalili. Heart rate variability in sinus bradycardia: a case study. **National Congress on Clinical Case Reports, December 26-27, 2018, Karaj-Iran**

11. **Poster:** Vahid Jamshidi, **Gholamreza Bayat**, Azadeh Khalili, Parviz Fallah, Mohammad Mahdi Ahmadian-Attari, Seyed Ali Hashemi, Roham Mazloom, Parvaneh Najafizadeh. Evaluating the effects of Crocus sativus hydro-alcoholic extract on hepatic gene expression of Farnesoid receptors (FXR) in rat model of acetaminophen-induced hepatotoxicity. **8th National Congress**

on Medicinal Plants, 24-25 April, 2019, Tehran-Iran.

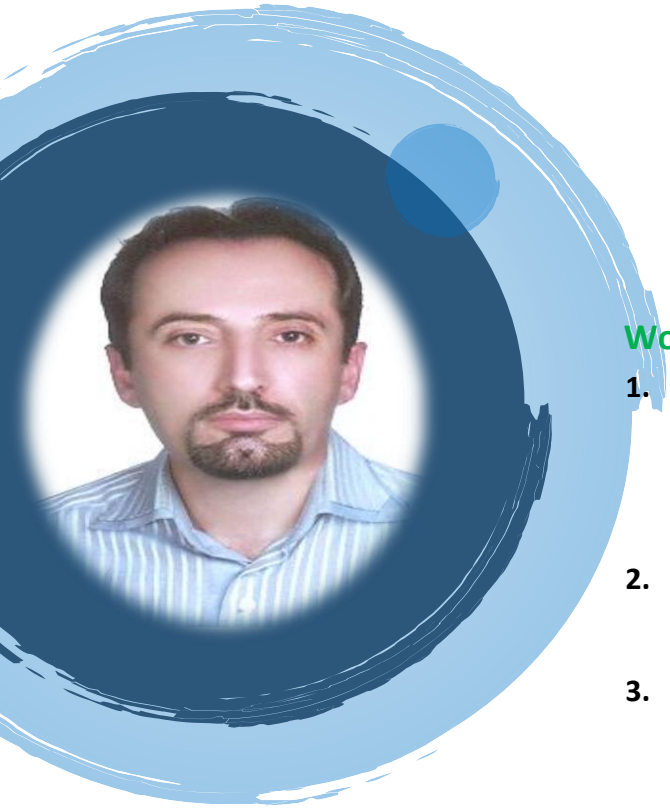
12. **Poster:** **Gholamreza Bayat**, Roham Mazloom, Azadeh Khalili, Seyed Ali Hashemi, Parviz Fallah, Leila Beikzadeh,Mohammad Mahdi Ahmadian-Attari, Vahid Jamshidi. Evaluating the effects of *Silybum marianum* on cardiac expression of Farnesoid-X activated receptor (FXR), uncoupling protein 2 and 3 (UCP2 and UCP3) genes in the rat model of cirrhosis. **24th Iranian & International Congress of Physiology & Pharmacology, Shahed University, 30 October-01 November, 2013, Tehran-Iran.**

13. **Poster:** Azadeh Khalili, **Gholamreza Bayat**, Vahid Jamshidi, Roham Mazloom, Parviz Fallah, Mohammad Mahdi Ahmadian-Attari, Seyed Ali Hashemi, Leila Beikzadeh. Evaluating the effect of *Silybum marianum* seed Cichorium intybus root extracts on hepatic gene expression of Farnesoid-X activated receptor (FXR), in rat model of acetaminophen-induced hepatotoxicity. **24th Iranian & International Congress of Physiology & Pharmacology, Shahed University, 30 October-01 November, 2013, Tehran-Iran.**

14. **Poster:** Roham Mazloom, **Gholamreza Bayat**, Azadeh Khalili. A case report of fractal dynamic analysis of electrogastrogram interval variation in a physiologic human. **3rd National Congress on Clinical Case Reports, December 25-26, 2019, Karaj-Iran.**

15. **Oral:** Roham Mazloom, Diba Sadat Miraghaee, Milad Nazari, Zahra Mousavi, **Gholamreza Bayat**, Azadeh Khalili. Investigating the effects of acute nicotine on heart rate variability in rat model of ulcerative colitis. **4th International and 25th Iranian Congress of Physiology & Pharmacology, October 20-22, 2021, Tehran University Medical Sciences, Tehran, Iran.**

16. **Oral:** Mahsa Asadi, Milad Nazari, Hamed Shafaroodi, Azadeh Khalili, **Gholamreza Bayat**, Roham Mazloom. Investigating the effect of nicotine on heart rate variability in cecal ligation and



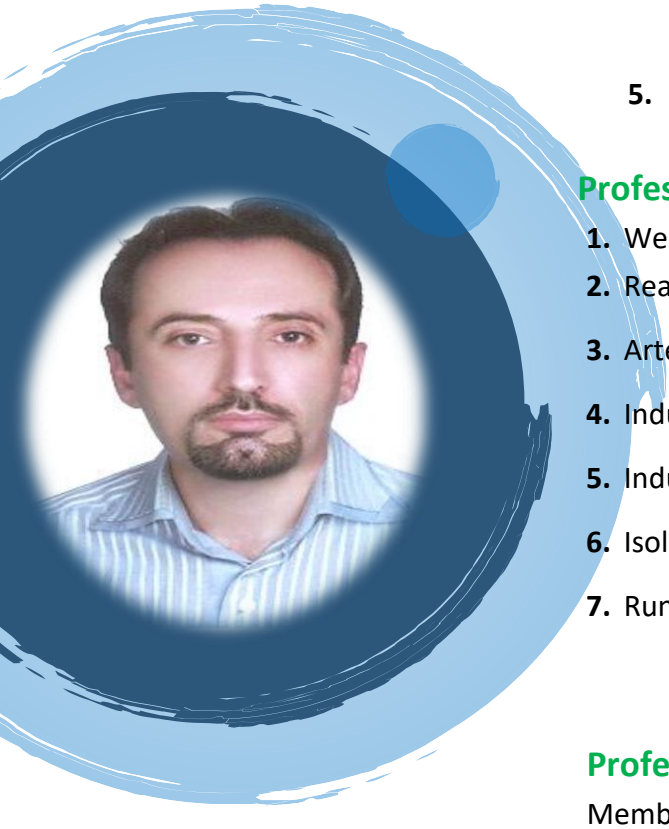
puncture-induced inflammation in rats. **4th International and 25th Iranian Congress of Physiology & Pharmacology, October 20-22, 2021, Tehran University Medical Sciences, Tehran, Iran.**

Workshop instructed:

1. **Western Blot Workshop** in International Brain Research Organization, 3rd Tehran IBRO School of Neuroscience, Molecular, Electrophysiological and Behavioural Approaches, 26 October - 6 November, 2013.
2. **Workshop on Laboratory Animal Management and Ethics**, Alborz University of Medical Sciences, 12 November, 2014.
3. **Western Blot Workshop** in International Brain Research Organization, 4th Tehran IBRO School of Neuroscience, Basic Approaches in Neurological Diseases, 17-28 October , 2014.
4. **A National workshop on Power Lab Data Acquisition System**, Alborz University of Medical Sciences, 12 September, 2017.
5. **Workshop on Surgical Methods of Measuring Invasive Arterial Blood Pressure in Rat**, 23rd Iranian & International Congress of Physiology & Pharmacology, Iran University of Medical Sciences, September, 2017.
6. **Workshop on Laboratory Animal Management and Ethics**, Alborz University of Medical Sciences, 25 April, 2018.
7. **Workshop on Laboratory Animal Management and Ethics**, Alborz University of Medical Sciences, 20 November, 2019.

Teaching interests:

1. General Physiology
2. Circulation Physiology
3. Renal Physiology
4. Blood Physiology



5. Ethics in animal experimental research

Professional skills:

1. Western blot technique
2. Real time RT- PCR technique
3. Artery and vein cannulation and tracheostomy
4. Induction of animal model of ischemia-induced acute renal failure
5. Induction of animal model of ischemia-reperfusion in rat heart
6. Isolated heart technique (Longerdorff set up)
7. Running treadmill in rats (exercise training)

Professional Memberships:

Member of "Iranian Society of physiology and pharmacology