



# Soroosh Mozaffaritbar

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## ABOUT ME

As a passionate PhD student and research assistant at the Hungarian University of Physical Sports Science, I specialize in investigating the molecular mechanisms of exercise and their profound impact on the human body. My research focuses on unravelling the intricate relationship between exercise, biochemistry, and human performance. I have developed a deep understanding of the molecular changes that occur during exercise, particularly through the mastery of the western blotting technique for analyzing protein expressions in various tissues. Driven by an insatiable curiosity, I am dedicated to contributing to the field of exercise science, aiming to advance our understanding of these processes and their implications for human health and performance.

## EDUCATION AND TRAINING

01/09/2020 – CURRENT Budapest, Hungary

**P.H .D SCHOLARSHIP AWARDED BY TEMPUS FOUNDATION** Hungarian University of sport Science

**Website** [tf.hu](http://tf.hu) | **Field of study** Molecular sport science |

**Thesis** PGC-1α overexpression immitates exercise-induced fatty acid mobilization and cell signaling in the skeletal muscle of mice

01/09/2014 – 01/01/2017 Zanjan, Iran

**MASTER OF SCIENCE- SPORT PHYSIOLOGY AND NUTRITION** Zanjan Azad University

**Field of study** sport and exercise Physiology in the orientation of Nutrition | **Final grade** 18.53 out of 20 |

**Thesis** The Effects of Four Weeks of Magnesium Oxide Supplementation on Performance and plasma marker of Fatigue in Junior Elite Male Water Polo Players

Zanjan, Iran

**SWIMMING TEACHER** Zanjan University

Zanjan, Iran

**UNIVERSITY TEACHER** Roozbeh University

01/01/2018 – 01/09/2021 Zanjan, Iran

**TEACHER FOR SPORT PHYSIOLOGY AND NUTRITION COACHES** Iranian Ministry of Sport and youth Zanjan Branch

teaching for Participants in Coaching preparation courses to get their coaching degree including Sport Physiology and Nutrition

01/04/2012 – 01/09/2020 Zanjan, Iran

**WATERPOLO COACH**

Water Polo coach and trainer for both children and adolescents at the professional level for preparation for national team training camps and international competitions

**Address** Budapest, Alkotás utca 42-48. Phone: +36-1-487-9200 info@tf.hu, 1123, Budapest, Hungary | **Website** [tf.hu](http://tf.hu) |

**Thesis** The role of PGC1 $\alpha$  on intermuscular Lipid metabolism

## ● PUBLICATIONS

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2024  
[\*\*PGC-1 \$\alpha\$  activation boosts exercise-dependent cellular response in the skeletal muscle\*\*](#)

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2024  
[\*\*Long-term iron supplementation combined with vitamin B6 enhances maximal oxygen uptake and promotes skeletal muscle-specific mitochondrial biogenesis in rats\*\*](#)

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2024  
[\*\*The effects of long-term lactate and high-intensity interval training \(HIIT\) on brain neuroplasticity of aged mice\*\*](#)

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2024  
[\*\*Epigenetic and “redoxogenetic” adaptation to physical exercise\*\*](#)

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Free Radical Biology and Medicine. volume 210,

**Link** <https://www.sciencedirect.com/science/article/pii/S0891584923010985?via%3Dihub>

2024  
[\*\*Mitochondrial malfunctions in alpha-ketoglutarate dehydrogenase heterozygous knock-out mice are associated with minor behavioural abnormalities and decreased performance on fatigue test\*\*](#)

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2023  
[\*\*Voluntary exercise does not increase gastrointestinal motility but increases spatial memory, intestinal eNOS, Akt levels, and Bifidobacteria abundance in the microbiome\*\*](#)

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## ● PROJECTS

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17/03/2021 – 07/02/2023  
**The role of PGC1- $\alpha$  in intermuscular lipid metabolism in exercised mice**

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This was my PhD thesis project involving overexpression of muscular PGC1- $\alpha$  in mice compared to wild-type mice, investigating exercise effects. Utilized Western blot techniques to analyze lipid metabolism and mitochondrial markers. I am currently awaiting the final review of the resubmitted paper in the Journal of Physiology and Biochemistry.

07/07/2021 – CURRENT  
**DNA methylation-based aging clocks of Hungarian Olympic Champions: Are they younger or older than their chronological age**

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20/12/2022 – 07/06/2023  
**Long-Term Synthesittm Iron Supplementation, in combination with vitamin b6, Induces Elevation in VO2max and Skeletal Muscle-Specific Mitochondrial Biogenesis in Rats**

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My role was to Conduct Vo2max test data and perform Western blot analysis on the hippocampus and skeletal muscle samples.

01/07/2022 – 01/02/2023  
**Neuroplasticity in Aging Mice: Long-Term Effects of Lactate and HIIT Training**

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Participated in team-based animal sacrifice procedures, conducted Western blot analysis, and contributed to article review

10/04/2021 – 05/02/2023

### **Exploring Rat Gastrointestinal Motility and Brain Function through Voluntary Exercise**

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Participated in team-based animal sacrifice procedures, conducted Western blot analysis, and contributed to article review

01/02/2022 – CURRENT

### **Investigating the Influence of Yearly Training Programs on Epigenetic, Physiological, Anthropometric, and Biochemical Changes in Sedentary Individuals aged 50 to 70: Perspectives from the DNA Methylation Clock DNAmFitAge.**

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As a lab member, performed training sessions for the participants and monitored their daily heart rate markers

01/09/2023 – 01/11/2023

### **Age-Related Brain and Muscle Responses to HIIT Training, Lactate Administration, and Muscular Overexpression of PGC1- $\alpha$**

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06/06/2023 – CURRENT

### **Understanding Epigenetic Regulation and Mitochondrial Dynamics in Heterozygous $\alpha$ -Ketoglutarate Dehydrogenase Knock-Out Mice**

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02/12/2021 – 12/08/2022

### **Associations between cardiorespiratory fitness and epigenetic aging in multiple organs in rats**

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Participated in team-based animal sacrifice procedures

## **WORK EXPERIENCE**

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01/07/2023 – CURRENT Budapest, Hungary

### **RESEARCH FELOW ASSISTANT RESEARCH CENTER FOR MOLECULAR EXERCISE SCIENCE**

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1. Exercise Physiology Research:  
an advanced study on how exercise impacts human physiology.
2. Molecular Analysis with Western Blotting:  
Analyzing protein expressions to understand molecular changes from exercise
3. Animal Exercise Techniques:  
Using animal exercise techniques to connect lab findings to human physiology.
4. Human Studies and Experiment Design:  
actively participating in studies exploring how exercise affects the human body.
5. Conference Presentations and Academic Exchange:  
Presenting research findings and contributing to academic discussions.
6. Supervision and Mentorship:  
Guiding junior researchers and students, fostering collaboration.

01/09/2021 – CURRENT Budapest, Hungary

### **STUDENTS MENTORSHIP HUNGARIAN UNIVERSITY OF SPORTS SCIENCE**

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Supervision and Mentorship:  
Guiding junior researchers and students, fostering collaboration.

01/09/2018 – 01/09/2020 Zanjan, Iran

### **UNIVERSITY LECTURER ZANJAN AZAD UNIVERSITY**

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Teaching General Physical Education courses and swimming courses according to having swimming and water polo coaching certificate  
(20 hours/week)

01/09/2016 – 01/02/2017 Zanjan, Iran

**UNIVERSITY LECTURER ZANJAN UNIVERSITY**

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Teaching Swimming Course for Physical Education Students

## ● **CONFERENCES AND SEMINARS**

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26/06/2024 – 27/06/2024 Budapest

### **IX Ph.D. Symposium in Sports Science, Budapest Hungary**

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As a New National Excellence Program scholarship winner I presented some part of my research on the Liver tissue of Rats with different running capacity entitle as:

COMPARISON OF THE EFFECTS OF VOLUNTARY PHYSICAL ACTIVITY ON MITOCHONDRIAL FUNCTION AND LIPID BREAKDOWN MARKERS IN THE LIVER OF AGED RATS WITH DIFFERENT RUNNING CAPACITIES

#### **Link**

[https://tf.hu/files/docs/doktori-iskola/phd-szimpozium/IX\\_Sporttudományi\\_PhD\\_Szimpozium\\_-\\_program-\\_és\\_absztraktfüzet.pdf](https://tf.hu/files/docs/doktori-iskola/phd-szimpozium/IX_Sporttudományi_PhD_Szimpozium_-_program-_és_absztraktfüzet.pdf)

24/04/2024 – 28/04/2024 Budapest

### **The 24th International Scientific Students' Conference was a great success**

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The event was held for the 24th time between 24-26 April. This year's the conference attracted a total of 176 registered participants and a large number of additional visitors. In the 11 sections, 72 high-quality presentations were given, and the three-day event was also enriched by a plenary session and two invited keynote presentations as part of the opening ceremony.

in the nutrition and metabolism section I was chosen as the 2<sup>nd</sup> place best presentation and abstract

11/04/2024 – 13/04/2024 Novi Sad, Serbia

### **6th International Scientific Conference on Exercise and Quality of Life**

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The Conference covered wide range of topics: Sustainability, Management, Medicine, Rehabilitation, Health, Psychology, Biomechanics, Physical education, Motor control, Performance, Exercise and Tourism.

**Link** <https://bmcproc.biomedcentral.com/articles/10.1186/s12919-024-00297-y>

20/10/2023 – 21/10/2023 Gdansk

### **FREE RADICALS IN BIOLOGY, MEDICINE, SPORT AND NUTRITION**

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**Link** <https://www.freeradicalsconference.com/>

29/07/2023 – 30/07/2023

### **VIII.Ph.D. Symposium in Sports Science, Budapest Hungary**

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27/07/2022 – 28/07/2022 Budapest

### **VII.Ph.D. Symposium in Sports Science, Budapest Hungary**

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09/07/2021 – 10/07/2021 Budapest

### **VI. Ph.D. Symposium in Sports Science, Budapest Hungary**

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16/11/2017 – 17/11/2017 Tehran

### **Second International Conference on Applied Research in Physical Education, Sport and Athletic Science**

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Presentation of the result of the research, The Effect of Four Weeks of Magnesium Oxide Supplementation on Performance and Plasma Markers of fatigue in Junior Elite Men Water Polo Players

## ● LANGUAGE SKILLS

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Mother tongue(s): **AZERBAIJANI** | **PERSIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	B2	B2	B2	C1	B2
<b>HUNGARIAN</b>	A2	A2	A2	B1	A1

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## ● DIGITAL SKILLS

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ACDL | Microsoft Office (Outlook, Excel, Word, PowerPoint) | Google meet, Microsoft powerpoint