

# Curriculum Vitae

Institute for Research in Fundamental Sciences,  
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## ALI HOSSEINZADEH

### EDUCATION

- **MS.c of Theoretical Physics (cosmology and gravity), Kharazmi University (Khu), 2022.**  
CGPA: 17.06 (out of 20)  $\approx$  85%

MS.c thesis grade: 19.50 (out of 20)  $\approx$  97%

**Study critical phenomena via holographic approach**, supervised by Dr. Ali Vahedi (Assistant Professor Astronomy and High Energy Physics, Kharazmi University, Karaj, Iran)

- **Bachelor of Science in Physics, Institute for Advanced Studies in Basic Sciences (IASBS), 2020**

CGPA: 15.11 (out of 20)  $\sim$  76%

### PUBLICATIONS

#### Paper:

- ***Negative Differential Resistivity of a Weyl Semimetal from AdS/CFT,***

Ali Hosseinzadeh (Kharazmi U and IPM), Ali Vahedi (Kharazmi U., Tehran) [in progress]

- ***Holographic Chiral Magnetic effect and Non-Equilibrium Critical Phenomena,*** Ali Hosseinzadeh (Kharazmi U and IPM), Ali Vahedi (Kharazmi U., Tehran), Navid Kazemi (University of Tehran), Mobin Shakeri (University of British Columbia) [***to be appeared soon***]

#### Conference Paper:

Ali Hosseinzadeh (Kharazmi U and IPM), Ali Vahedi (Kharazmi U., Tehran), Navid Kazemi (University of Tehran), "A Phase Transition of Holographic Chiral Magnetic Conductivity" **The 2nd International Conference on Holography and its Applications**, School of Physics - Damghan University, Iran, 25/Jan/2023

### EXPERIENCE Researcher at Institute for Research in Fundamental Sciences (IPM)

- As a researcher, I am a member of the theoretical group of the School of Particles and Accelerator, 2022-up to now, Tehran, Iran.

#### High School Physics and Mathematics Teacher(tutor)

- 2017-2020, Tehran and Zanzan, Iran.

## Teaching assistant

### ❖ Graduate

TA of Quantum Field Theory 1, Kharazmi University, Spring 2023[[homepage](#)]

TA of Electrodynamics 1, Kharazmi University, Spring 2023[[homepage](#)]

### ❖ Undergraduate

TA of Quantum Mechanics 2, Kharazmi University, Spring 2023[[homepage](#)]

TA of Computer Programming 1, IASBS, Spring 2020

TA of General Physics 1, IASBS, Fall 2019

**Member of the executive committee** of the 25th annual IASBS Physics Winter School.

- February, 2020, IASBS, Zanjan, Iran.

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## SKILLS

- Mathematical modeling
- Computer programming with **python, C/C++, Wolfram Mathematica**, and **Python - Algorithm Design**
- Working knowledge of **MATLAB, Microsoft Office, Microsoft Expression Web, LINUX, LaTeX**
- Basic Knowledge of **data analysis and machine learning**

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## PRESENTATION

- "A Phase Transition of Holographic Chiral Magnetic Conductivity" **The 2nd International Conference on Holography and its Applications**, Damghan University, Iran, 25/Jan/2023. [[See Video](#)]
- **Holographic Principle and Beyond That**, National research Day, Kharazmi University, September/2022.

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## AWARDS AND HONOURS

- Awarded **20,000,000 Iranian Rial** for "A Phase Transition of Holographic Chiral Magnetic Conductivity" in "The 2nd International Conference on Holography and its Applications, Damghan University, Iran." **as a selected paper**, Jan/2023.
- **Ranked 1** among master students of cosmology and gravity of Kha university, 2020-2022.
- MS.c thesis grade: 19.50 (out of 20)  $\approx$  97%.
- National Organization for Development of Exceptional Talents (NODET), High school, 2010-2012.

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**COURSES MSc:**

Dark Matter and Energy	Computational Physics
Cosmology	Quantum Field Theory
Gravity (general relativity)	

**BS:**

Mathematical physics (I, II, III, IV)	Astronomy
Programming (I, II)	Astrophysics
Numerical analysis	Special relativity
Scientific Writing Methods	Fluid Mechanics
Signal Processing	Information Theory
Physics of Critical Phenomena	Solid-state physics
Stochastic Processes	Superconductivity

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**INTERESTS AND  
HOBBIES**

Taekwondo (Red Belt), Fitness, and Swimming. [the #1 in the CrossFit competitions of IASBS in 2020 and 2019]  
Playing guitar and violin, reading books, Writing, watching movies, and traveling.

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**REFERENCE****Dr. Ali Vahedi**

Assistant Professor of Astronomy and High Energy Physics (Head of Astro. & HEP Dep) , Kharazmi University, Karaj, Iran.

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**Dr. Shahram Khosravi**

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**Dr. Salome Khoeini-Moghaddam**

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\* **Kharazmi University** is considered as the oldest institution of higher education in Iran. It was established in 1919 as the Central Teachers' Institute and gained university status as Tarbiat Moallem University of Tehran in 1974. It changed its name to Kharazmi University on January 31, 2012.