

Mahdieh Ebrahimi Physicist

- **Q** Tehran, Iran
- @ evrusebr@gmail.com
- **Q** eurusebr

Interests -

Quantum Mechanics, Statistical Mechanics, Many-Body Complex Systems, Stochastic Processes.

Skills -

Persian language (Native)

English language

Spanish (Basic)

Python C++

Shell Script

LATEX

Mathematica

Fortran

R

qit

Education

(2022-Now) PhD in Solid State Physics

(Technische Universität Darmstadt, Institut für Angewandte Physik), Germany

(2016-2018/12) M.Sc in Solid State Physics

Department of Physics, Shahid Beheshti University, Tehran, Iran

GPA: 16/20

Thesis: Symmetry Breaking in a Spin Network with Triple Coupling

Hamiltonian(Excellent Mark).

(2010-2014/07)B.Sc. in Applied Mathematics

Department of mathematics, Alzahra University, Tehran, Iran

GPA: 13.99/20

Professional experience

2022- Now Finding the universality class of spreading a disease, using Levy ran-

dom walk on a cubic lattice

in collaboration with Dr.M. Feshanjerdi, Tehran

2020- Now Percolation on the network of Cosmic Microwave Background (CMB)

aata

in collaboration with Dr. M.S. Movahed, SBU, Tehran

2020 Simulating the spreading of a disease, using random walk on a cubic

lattice (PhysRevE)

in collaboration with Dr.M.Feshanjerdi and Dr. Saberi, UT, Tehran

2020 Statistical features of the 2D cross section of the 3D Ising model

Project of the stochastic processes course with Dr. Saberi, UT, Tehran

2018-2020 Symmetry Breaking in a Spin Network with Triple Coupling Hamilto-

nian(My Thesis)

Under Supervision of Prof. G.R. Jafari, SBU, Tehran

2018 Exploring the magnetic features of an impure cubic lattice

Project of the Computational Physics course with Dr. M.S. Movahed,

SBU, Tehran

Publications

- Mohadeseh Feshanjerdi, Amir Ali Masoudi, Peter Grassberger, Mahdieh Ebrahimi, "Aftermath Epidemics: Percolation on the Sites Visited by Generalized Random Walks(2023)", arXiv preprint arXiv:2023.06117.
- A Kargaran, M Ebrahimi, M Riazi, A Hosseiny, GR Jafari, "Quartic Balance Theory: Global Minimum with Imbalanced Triangles(2020)", Phys. Rev. E 012310 & arXiv preprint arXiv:2001.01719.

Some Attended Workshops & Conferences

Online, PCS IBS conference series (Flatbands: symmetries, disorder, interactions

and thermalization)
August 16 - 20, 2021

7.agast 10 20, 2021

Online, PCS International Workshop Quantum Many-Body Dynamics: Thermaliza-

tion and its Violations

Watched the Videos on Youtube

May 24 - 28, 2021

Online, ICTP The Hitchhiker's Guide to Condensed Matter and Statistical Physics:

Topological Phenomena in Condensed Matter

06 May 2021 to 03 June 2021

Online, USA NERCCS 2021: Fourth Northeast Regional Conference on Complex

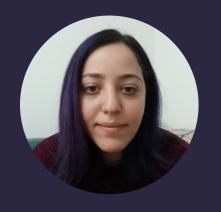
Systems

March 31–April 2, 2021

Online, ICTP Spring College on the Physics of Complex Systems

(Passed Introduction to Mathematical Economics" with grade very good (A))

22 Feb - 19 Mar 2021



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Online, Iran 11th Annual Statistical Physics Conference on Condensed Matter Physics and Complex Systems (Poster Presentation) 2021/1/20 - 2021/1/21

Online, ICTP The Hitchhiker's Guide to Condensed Matter and Statistical Physics:
Machine Learning for Condensed Matter

2021/1/13 - 2021/2/3

Tehran, Iran Workshops on Data modeling and cosmological software

2018/5/16

Tehran, Iran Tehran School on Theory and Applications of Complex Networks

2018/8/25-29

Zanjan, Iran 25th Annual IASBS Meeting on Condensed Matter Physics & School

on Complex Systems (Poster Presentation)

2019/6/13-14

Zanjan, Iran 24th Annual IASBS Meeting on Condensed Matter Physics & School

on Complex Systems 2018/6/20 - 2018/6/22

Tehran, Iran IPM Elementary Data Science Summer School

2018/6/30 - 2018/7/5

Academic Activities

Tehran, Iran Second Workshop on Two Days with Particle Physics 2018/12/12 - 13

Member of Organizing Committee

Additional Works

Online, Iran Guest Writer at a Scientific Outreach Websites (Wiki-Goonia)

2021

Online, Iran Guest Writer at a Scientific Outreach Websites (Sitpor)

2019

Tehran, Iran Vice-chair of Fundamental Physics Students Association

Shahid Beheshti University

2018 - 2019

Tehran, Iran Guest Writer at The University Mathematics Magazine: " $\sqrt{2}$ "

Alzahra University 2011 - 2014

Awards and Honors

Tehran, Iran Honorable Member at the 4th Academic Festival of Harkat in Mathe-

matics

Alzahra University 2013/05/12

Graph Theory

Selected Courses

2015

2020	Field Theory 1 (Audited)	Dr. H.Ebrahim
2020	Stochastic Processes (Audited)	Dr. A.A.Saberi
2019	Critical Phenomena (Audited)	Dr. M.S.Movahed
2019	Machine Learning in Physics (Audited)	Dr. S.Raeisi
2019	Topology (Audited)	Dr. Shojaei
2018	Computational Physics	Dr. M.S.Movahed



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Teaching Experiences

- Teaching Assistant, Virtual workshop on statistical analysis of cosmic fields at Shahid Beheshti University (2021), Dr. M.S. Movahed.
- Teaching Assistant, Mathematical Methods for Physics II at Shahid Beheshti University (2021), Dr. N.khosravi.
- Teaching Assistant, Mathematical Methods for Physics I at Shahid Beheshti University (2020), Dr. N.khosravi.
- Teaching Assistant, Classical Mechanics II at Shahid Beheshti University (2019), Dr. N.khosravi.
- Teaching Assistant, Computational Physics at Shahid Beheshti University (2019), Dr. A.Sadeghi.
- Teaching Assistant, Classical Mechanics I at Shahid Beheshti University (2019), Dr. N.khosravi.

Hobbies

- · Reading Novels
- Walking
- Movies
- Learning Languages
- coding

References

- 1. Prof. G.R. Jafari (My M.Sc. Superviser)
 - ♦ Shahid Beheshti University, Tehran, Iran
 - ☐ gjafari@gmail.com(Preferred Email), g_jafari@sbu.ac.ir
 - http://facultymembers.sbu.ac.ir/jafari/
 - · Professor of Physics, SBU
 - Head of Center for Complex Networks Social Data Science
- 2. Dr. M.S. Movahed
 - ♦ Shahid Beheshti University, Tehran, Iran

 - http://facultymembers.sbu.ac.ir/movahed/
 - · Associate Professor of Physics, SBU
 - Resident researcher, School of Physics, IPM