

## CURRICULUM VITAE

**Name:** Shahin

**Surname:** Mammadov (Mamedov)

**Father's name:** Alisattar

**Date of birth:** 06.12.1962

**Place of birth:** Baku city, Shuvelan settlement.

### **Affiliations:**

1) Baku State University, Institute of Physics Problems, Theoretical Physics Department

Position: Leading scientific researcher

2) Khazar University, Center for Theoretical Physics

Position: director

3) Physics Institute of Ministry of Science and Education, Laboratory of Nuclear and High Energy Researches

Position: Leading scientific researcher

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### **Education:**

1970-1978 pupil at the school No. 156

1978-1980 pupil at the physics-mathematics oriented school No. 1

1980-1985 student at the Physics Department of Baku State University

1988-1991 Ph.D. student at the Physics Department of M.V. Lomonosov Moscow State University

**Scientific degree and title:**

Ph.D. in physics and mathematics (1992), associate professor

**Work experience**

1985-1988 an engineer at the Institute of Space Research of Natural Resources of the Azerbaijan National Aerospace Agency

1986-1988 intern-researcher at the Physics Department of MSU.

1993-1999 "Takamul" company.

1999-2007 leading engineer in the Laboratory of High Energy Physics of BSU

2007-2011 leading researcher in the Laboratory of High Energy Physics of BSU

2011-present leading researcher in the Institute for Physical Problems of BSU

2016 -2019 part-time associate professor at the Theoretical Physics Department of BSU.

2015-present, part-time leading researcher in the Laboratory of Nuclear and High Energy Physics of Institute of Physics under Ministry of Science and Education

2023- director and adjunct professor in Center for Theoretical Physics at the Khazar university

**Teaching experience**

**M.S. courses:**

Classical Field Theory, Gauge Field Theory, Introduction to Superstring Theory, Group Theory in Physics, Quantum Chromodynamics, Quantum Electrodynamics, Introduction to General Relativity

**B.S. courses:**

Classical Mechanics, Quantum Mechanics, Electrodynamics, Introduction to Elementary Particles Physics, Statistical Physics

## **Research interests**

Holographic QCD application to the phenomenology of particle physics, Holographic quark-gluon plasma, AdS/CFT Correspondence, Worldline formalism, Supersymmetry and entanglement in Quantum Mechanics, Quantum gravity

## **Grants**

2014 2221 Konuk Bilim Insani Destekleme Programi (TUBITAK, Turkey)

2013 Mobility Grant -2of Science Development Foundation under the President of Republic of Azerbaijan

2013 2221 Konuk Bilim Insani Destekleme Programi (TUBITAK, Turkey) 2010 2221 Konuk Bilim Insani Destekleme Programi (TUBITAK, Turkey)

2008 2221 Konuk Bilim Insani Destekleme Programi (TUBITAK, Turkey)

2000 German Academic Exchange Service (DAAD) research grant

## **Scientific visits**

05.06.2017-04.09.2017, Bogolubov Laboratory of Theoretical Physics, JINR, Dubna, Russia

01.09.2014-30.08.2015, Physics Department, Gazi University, Ankara (Turkey)

30.09.2013-30.12.2013, Center for Quantum SpaceTime, Sogang University, Seoul, Korea

04.03.2013- 04.08.2013, Department of Physics, Mimar Sinan Fine Arts University, Istanbul, (Turkey)

19.04.2012 -11.07.2012, Center for Quantum SpaceTime, Sogang University, Seoul, Korea

01.03.2010- 28.09.2010, Physical Engineering Department, Ankara University, (Turkey)

03.03.2008- 03.03.2009, Department of Physics, Ankara University, (Turkey)

01.09.2003- 01.06.2004, Institute for Studies in Theoretical Physics and Mathematics (IPM) (Tehran, Iran)

01.05.2003- 30.05.2003, Institute for Studies in Theoretical Physics and Mathematics (IPM) (Tehran, Iran)

01.12.2000-30.01.2001, Physics Department, Kaiserslautern University (Germany)

01.02. 2001, Theoretical Physics Department, Moscow State University

### **Conferences, workshops and schools**

05.09.18-09.09.18 Turkish Physical Society, 34-th International Physics Congress, Bodrum, Turkey,

2018 05.11.17-12.11.17, Russian Language Teachers Program, CERN, Switzerland

16-24.03.17, ICTP Spring School on Superstring Theory and Related Topics, Italy

14.06-23.06.2016, International School of Subnuclear Physics, 54-th Course Erice, Italy

29.09.2015 – 02.10.2015, International Workshop “Particles, Fields and Strings” Baku, Azerbaijan

21.09.2015-27.09.2015, "Selected Topics in Theoretical High Energy Physics" Tbilisi, Georgia

24.06.2015-03.07.2015, International School of Subnuclear Physics, 53-rd Course Erice, Italy

2012, June, “Finite-size effects in AdS/CFT correspondence. CQUeST-IEU Focus Program”, Seoul, Korea

26.09. 2011-"Recent Advances in Quantum Field and String Theory" Tbilisi, Georgia

2009 “International Summer School and Conference on High Energy Physics: Standard Model and Beyond” (Mugla, Turkey)

2009 IARS 2009 Mathematical Physics and Integrable Systems, Feza Gursev Institute, Istanbul (Turkey)

2009 "IPM String School and Workshop" (Tehran, Iran)

2008 IARS 2008 Mathematical Physics and Integrable Systems, Feza Gursev Institute, Istanbul (Turkey)

2008 "International Summer School and Conference on High Energy Physics: Standard Model and Beyond" (Mugla, Turkey)

2007 "International Summer School and Conference on High Energy Physics: Standard Model and Beyond" (Mugla, Turkey)

2007 "IPM String School and Workshop" (Tehran, Iran)

2006 International Summer School on High Energy Physics: "Standard Model and Beyond" (Mugla, Turkey)

2006 "IPM String School and Workshop" (Tehran, Iran)

2005 "International Workshop on Physics Beyond Standard Model" (Mugla, Turkey)

2005 "IPM String School and Workshop " (Qeshm, Iran),

2004 11-th Regional Conference on Mathematical Physics (Tehran, Iran)

2004 1-st workshop on particle physics and phenomenological aspects of QCD (Tehran, Iran)

2004 3 rd International workshop "Quantum particles, fields and strings" (Baku)

2003 IPM String School and Workshop (Anzali, Iran)

2002 IPM "String School and Workshop " (Shiraz, Iran)

2002 International workshop "Quantum particles, fields and strings" (Baku) 1989 Second conference of Nuclear Physics section of AS of USSR (Particles and nucleus at high energies, ITEP, Moscow)

1987 Problems of Weak and Strong Interactions and Gravity (FIAN, Moscow)

### **Papers in SCI referred journals**

1. Shahin Mamedov, Zeynab Hashimli, and Shahriyar Jafarzade, Tensor meson couplings in AdS/QCD, *Phys. Rev. D* 108, 114032 (2023)
2. Mamedov, S., Akbarova, N. & Allahverdiyeva, M. The Deuteron Charge Radius  $RC$  in the Framework of the Hard-Wall AdS/QCD Model. *Phys. Part. Nuclei Lett.* **20**, 1477–1479 (2023).
3. Shahin Mamedov, Narmin Nasibova, “Axial-vector form factor of nucleons at finite temperature from the AdS/QCD soft-wall model” *Int.Jour. Mod. Phys. A* (2023)
4. Ibrahim Atayev and Shahin Mamedov Axial-vector form factor of nucleons in the isospin medium from the hard-wall AdS/QCD model, *Int. J. Theor. Phys.* 61 (2022) 10, 250
5. Narmin Huseynova, Shahin Mamedov, Jannat Samadov, Deuteron electromagnetic form factors and tensor polarization observables in the framework of the hard-wall AdS/QCD model, *Chin. Phys. C* 47 (2023) 013104
6. Minaya Allahverdiyeva, Shahin Mamedov, Vector Meson Gravitational Form Factors and Generalized Parton Distributions at finite temperature within the soft-wall AdS/QCD Model, *Eur.Phys.J.C* 83 (2023) 5, 447
7. I. I. Ataev and Sh. A. Mamedov, Axial-vector form factor of nucleons in the AdS/QCD models, *Russian Physics Journal*, Vol. 64, No. 12, April, 2022 (Russian Original No. 12, December, 2021)
8. Shahin Mamedov, Shahnaz Taghiyeva, "a1 meson-nucleon coupling constant at finite temperature from the soft-wall AdS/QCD model" *Eur.Phys.J.C* 81 (2021) 12, 1080
9. Shahin Mamedov, Narmin Nasibova, "Temperature dependence of  $\rho$  meson-nucleon coupling constant from the AdS/QCD soft-wall model", *Phys.Rev.D* 104 (2021) 3, 036010
10. Narmin Huseynova, Shahin Mamedov, "a1 meson-baryon coupling constants in the framework of soft-wall and hard-wall AdS/QCD models" *Int.J.Mod.Phys.A* 34 ;(2020) 35, 1950240

11. Shahin Mamedov, Shahnaz Taghiyeva, "Contributions of magnetic type interactions to the vector meson-nucleon coupling in the bottom-up approach" COIA 2018, Proceedings of the 6th international conference on control and optimization with industrial applications, vol. 1, 11-13 July, Baku, Azerbaijan
12. Shahin Mamedov, Berin Belma Sirvanli, Ibrahim Atayev, Narmin Huseynova "Nucleon's axial-vector form factor in the hard-wall AdS/QCD model" Int.J.Theor.Phys. 56, 1861-1874 (2017), arXiv:1609.00167
13. Shahin Mamedov, "Meson effective mass in the isospin medium in hard-wall AdS/QCD model " Eur .Phys. J. C76 (2016) no.2,83, arXiv:1504.05687
14. Narmin Huseynova, Shahin Mamedov, "ρ meson-nucleon coupling constant from the soft-wall AdS/QCD model" Int.J.Theor.Phys. 54 (2015) no.10, 3799-3810 arXiv:1408.5496
15. Bum-Hoon Lee, Shahin Mamedov, Chanyong Park, "Nucleon mass splitting in the isospin medium" Int.J.Mod.Phys. A29 (2014) no.29, 1450170 , arXiv:1402.6061
16. Bum-Hoon Lee, Shahin Mamedov, Siyoung Nam, Chanyong Park "Holographic meson mass splitting in the Nuclear Matter" JHEP 1308 (2013) 045, arXiv:1305.7281
17. Sh. Mamedov, Douglas Singleton and Shemsettin Turkoz " Energy spectrum for chromoelectric flux tube in the glasma" Int.Jour. Theor. Phys. 50 ( 2011) 1819 hep-th/ 0908.0059
18. Shemsettin Turkoz, Shahin Mamedov and Abbas K. Ciftci "Colored scalar in a chromomagnetic field" Cent. Eur. J. Phys. B(3) 2010, 378
19. Sh. Mamedov "Worldline formalism and it's application to AdS/CFT correspondence" in " The Standard Model and Beyond" Proceedings of the 2nd International Summer School in High Energy Physics, Mugla, 25-30 September 2006, Springer Proceedings in Physics 118 (2008) p 111-137
20. Shahin Mamedov and Shahrokh Parvizi, "AdS/CFT correspondence via R-current correlation functions revisited" Int. Jour. Mod. Phys. A23, 3721 (2008); hep- th/0505162

21. Sh. Mamedov "Energy states of colored particle in a chromomagnetic field", Eur. Phys. Jour. C 49, 983 (2007), hep-th/0608142
22. Sh. Mamedov "The constant background bag model of the hadron", Eur. Phys. Jour. C 33, 537 (2004), hep-ph/0310273
23. Sh. Mamedov "Motion of colored particle in a chromomagnetic field", Eur. Phys. Jour. C 30, 583 (2003), hep-ph/0306179
24. Sh. Mamedov "Photon polarization operator and quantum transitions in QCD vacuum" Eur. Phys. Jour. C 18, 523 (2001)
25. Sh. Mamedov, Jian-zu Zhang and V. Zhukovskii "Supersymmetry in Quantum Mechanics of colored particles" Mod. Phys. Lett. A 19, No 13, 845 (2001), hep-th/0101083
26. V.C. Zhukovsky, Sh.A. Mamedov, F.S. Sadykhov "Analytical properties of the polarization operator and dispersion relations for a photon in an external nonAbelian field", Russ.Phys.J. 43 (2000) 449-454, Izv.Vuz.Fiz. 2000N6 (2000) 11-16
27. V.Ch. Zhukovskii, Sh. A. Mamedov, P.A. Eminov "Mass operator of scalar electron in SQED in an external constant field". JETP, v 100, N7, 88 (1991)
28. V.Ch. Zhukovskii, Sh.A. Mamedov, A.A. Nunes "Dispersion rules for photon polarization operator in an external non-abelian field". Soviet Physics Journal, N1, 80 (1991)
29. V.Ch. Zhukovskii, Sh. A. Mamedov "Non-relativistic photon polarization operator in an external non-abelian field magnetic type". Soviet Physics Journal, N10, 23 (1990)
30. V.Ch. Zhukovskii, Sh. A. Mamedov " Vacuum degeneratation in the quasiclassical approach in non-abelian quantum theory". Soviet Physics Journal, N1, 106 (1990)