



Dr. Aftab Ahmad

Curriculum Vitae

Education

1997–1999 **Bachelor of Sciences B.Sc.**, *Gomal University*, D. I. Khan, K. P. K, Pakistan.

2000–2002 **Master of Sciences in Physics M.Sc.**, *Gomal University*, D. I. Khan, K. P. K, Pakistan.

First Class Honours and distinction

2003–2005 **Master of Philosophy in Physics M.Phil/MS.**, *CHEP-University of the Punjab*, Lahore, Punjab, Pakistan.

First Class Honours

Specialized in the area of High Energy Physics

2012–2016 **Doctor of Sciences in the area of Physics Ph. D/D. Phil**, *IFM-Universidad Michoacana de San Nicolás de Hidalgo*, Morelia, Michoacan, Mexico.

First Class Honours

Specialized in the area of Quantum Chromodynamics-High Energy Physics

M. Phil/M.S Thesis

Title *Non-perturbative Gluon Propagator*

Supervisor Professor Dr. Bilal Masud

Description This thesis based on the review of different models for the gluon propagator and their uses in hadron physics.

Ph. D Thesis

Title *QCD Phase Diagram from Constant Quark Masses*

Supervisor Professor Dr. Alfredo Raya

Description This thesis explore the QCD (Quantum Chromodynamics) phase diagram at finite temperature and density through the constant quark masses using Schwinger-Dyson equations/ confining NJL model approaches. The effect of magnetic field on the phase transitions has been studied which is of current interest and future plan to study in the World laboratory like LHC, RHIC and FAIR etc.

Current: *Institute of Physics and Mathematics (UMSNH), Morelia Mexico (IFM-UMSNH)*

Permanent: *Department of Physics, Gomal University, K. P. K., Pakistan*

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Teaching/Research Experience

- 2006–2008 **Lecturer**, DEPARTMENT OF PHYSICS, GOVT. DEGREE COLLEGE NO.1, D. I.Khan, Pakistan.
Courses taught: Under- graduate level of fundamental physics
- 2008–Present **Lecturer**, DEPARTMENT OF PHYSICS, GOMAL UNIVERSITY, D. I.Khan, Pakistan.
Courses taught at Master/MS Level:
- Particle Physics A-1
 - Electromagnetic Theory 2
 - Quantum Mechanics 1 and 2
- 2012–Present **Researcher**, IFM-UMSNH, Morelia, Mexico.
Research area:
- QCD phase diagram from Schwinger–Dyson Equations
 - QCD Phase diagram from confining NJL Model
 - Effect of magnetic field on the QCD phase transitions.

Publications

- 2013 A. Ahmad, A. Raya, *J. Phys.: Conf. Ser.* **468**, 012009
- 2014 E. Gutiérrez, A. Ahmad, A. Ayala, A. Bashir and A. Raya, *J. Phys. G: Nucl. Part. Phys.* **41**, 075002 (Impact factor= 2.78)
- 2015 F. Marquez, A. Ahmad, M. Buballa and A. Raya, *Phys. Lett. B* **747**, 529–535 (Impact factor= 6.131)
- 2015 A. Ahmad, A. Ayala, A. Bashir, E. Gutiérrez and A. Raya, *J. Phys.: Conf. Ser.* **651**, 012018
- 2016 A. Ahmad, A. Raya, *J. Phys. G: Nucl. Part. Phys.* **43**, 065002 (Impact factor=2.78)
- 2016 A. Ahmad, J.J. Cobos–Martínez , Y. Concha–Sánchez , A. Raya, *Phys. Rev. D* **93**, 094035 (Impact factor= 4.64)

Awards and Scholarships

- 2003 Orient Dr. A.Q. Khan Science Award, Islamabad, Pakistan
- 2004 Gold Medal in M.Sc. Physics awarded by Governor of K.P.K. Pakistan
- 2010 Award of Ph. D fellowship from March- 2012 to Feb.- 2016: Awarded by CONACyT Mexico

Computer skills

Basic MATHEMATICA, L^AT_EX, MICROSOFT-OFFICE, PYTHON ETC.

Talks given and Poster presentation in Conferences, Workshops and Schools

- 2012 Poster presented with Title “Solution of QCD Gap Equation with Lattice Inspired Gluon propagator Models” XV Mexican School on Particles and Fields, Sep 05–15, 2012, Puebla Mexico.

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- 2012 Talk given with title "Solution of QCD Gap Equation with Lattice Inspired Gluon propagator Models" in the LV Congreso Nacional de Física Morelia, Michoacán, del 8 al 12 de Octubre de 2012
- 2013 Talk given with the title "Quark condensate at finite temperature from the Schwinger-Dyson Equations" in the 4th International Workshop on Non Perturbative Aspects of Field Theory, UMSNH, Morelia, Michoacán, 2013, Mexico
- 2013 Talk given with title "Quark condensate in QCD at finite temperature" School on Spinning Particles in Quantum Field Theory, World Line Formalism, Higher Spins and Conformal Geometry, 5–9 November 2013, San Cristobal de las casas, Chiapas, México.
- 2013 Talk given with title "QCD Phase Diagram and the Constant Mass Approximation" in the XIV Mexican Workshop on Particles and Fields, Dec. 25–29, 2013 , Oaxaca de Juarez, Oax, Mexico.
- 2014 Talk given with title "QCD Phase diagram from vector-vector contact interaction" in 7th International Meeting on particles and Fields, Apr. 01–04, 2014 Lahore, Pakistan.
- 2015 Talk given in WNPAFT 2015 Morelia, Mexico. May 4–8, 2015.
- 2015 Talk given in the Workshop on "mini-simposio" on QCD, Oct. 14-16, 2015 IFM–UMSNH, Morelia Mexico.

Workshops, Schools and conferences attended

- 2005 4th Particle Physics workshop held on November, 14-19, 2005 at National Centre for physics, Quaid-e-Azam University, Islamabad, Pakistan.
- 2006 5th Particle Physics workshop held on November, 20-25, 2006, National Centre for physics, Quaid-e-Azam University, Islamabad, Pakistan.
- 2009 Scientific Thinking, Creativity and Society on February 28, 2009 at National Centre for Physics, Islamabad Pakistan.
- 2009 First NCP Scientific Spring on April 6–9, 2009, National Centre for Physics, Islamabad, Pakistan.
- 2009 Training Course on RS and GIS Applications in Natural resources Management, Nov. 17-20, 2009 SUPARCO Islamabad Pakistan.
- 2009 First School on LHC Physics on October 12–30, 2009 at National Centre for Physics, Islamabad, Pakistan.
- 2010 Conference on General Relativity and Gravitation on February 11-13, 2010, Department of Mathematics, University Of the Punjab, Lahore, Pakistan.
- 2010 International Scientific Spring, March 01–06, 2010, National Centre for Physics, Islamabad, Pakistan.
- 2014 VIII Escuela de Fisica Fundamental 5 al 9 de agosto de 2013, Hermosillo, Sonora, Mexico.
- 2014 BCVSPIN-MSPF-Mitchell, Advanced School in Particle Physics and Cosmology, December 8-13, 2014 Manzanillo, Mexico.

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Languages

Sariki **Mother-tongue**
Pashto **Provincial tongue**
Urdu **National-tongue**
English **International**
Spanish **International**

National-official tongue
Intermediate, Conversationally fluent

Interests

- Cricket, football, Running, Hiking
- Classical music, Sufi music, Pop music, Rock music

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