
M. Jamil Aslam

Department of Physics
Quaid-i-Azam University
45320, Islamabad, Pakistan

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An active teacher and researcher with 12+ years of experience teaching undergraduate and graduate courses. The research interests include flavor physics in and beyond standard model, exotic states in quark sector and the bound state problems in QED.

DATE OF BIRTH	November 28, 1977	
EDUCATION	Quaid-i-Azam University, Department of Physics PhD in Theoretical High Energy Physics Thesis Supervisor: <i>Prof. Riazuddin</i>	2002-2007
	Quaid-i-Azam University, Department of Physics M. Phil. in Physics	2000 - 2002
PROFESSIONAL APPOINTMENTS	Quaid-i-Azam University, Islamabad Professor of Physics	March 2021-Present
	Quaid-i-Azam University, Islamabad Associate Professor (Tenured) of Physics	October 2016-March 2021
	University of Alberta, Edmonton Visiting Professor	since July 2018-June 2020
	Ctr. for Future HEP, CAS, Beijing Visiting Scientist/Professor	July 14– August 25, 2017
	Quaid-i-Azam University, Islamabad Assistant Professor of Physics	August 2009–October 2016
	University of Alberta, Edmonton Post Doctoral Fellow	November 2011–December 2012
	DESY, Hamburg Visiting Scientist	May–August 2009
	Ctr. for Adv. Math. and Phys., Islamabad Assistant Professor	October 2008–June 2009
	Inst. of High Energy Phys. CAS, Beijing Post Doctoral Fellow	Dec. 2007– Sept. 2008

FELLOWSHIPS	<p>Chinese Academy of Sciences Post Doctorate Fellowship 2007</p> <p>NSERC Post Doctorate Fellowship, University of Alberta 2011</p> <p>World Laboratory Fellowship in PhD 2003– 2005</p>
TEACHING EXPERIENCE	<p>Graduate Courses Quantum Field Theory Advanced Classical Mechanics Advanced Quantum Mechanics Particle Physics Standard Model and Beyond Electrodynamics Methods of Mathematical Physics</p> <p>Undergraduate Courses Basic Mechanics (Freshmen course) Waves and Optics Thermal Physics Lab. Courses for Mechanics, Waves, Electricity and Magnetism Classical Mechanics Quantum Mechanics Particle Physics Atomic and Molecular Physics Statistical Mechanics</p>
BS-PHYSICS PROGRAM AT QAU	<p><i>Member of a team that designed recent BS Program at the Quaid-i-Azam University. We have also prepared the outlines for the theoretical and experimental physics courses for this program.</i></p>
NATIONAL LEVEL INITIATIVES	<p>Worked in a team that initiated an idea of refresher course for physics teachers in Pakistan. Designed the courses and participated as a teacher trainer.</p>
RESEARCH INTERESTS	<p><i>Flavor Physics in and Beyond Standard Model Physics, Exotic States in quarks and leptons</i></p>
COLLABO- RATIONS	<p>Prof. Ahmed Ali, DESY, Hamburg, Germany Prof. A. Prus Czarnecki, UAlberta, Edmonton, Canada Prof. Cai-Dian Lu, IHEP, Beijing, China Prof. Adnan Bashir, IFM-UMSNH, Michoacan, Mexico Dr. Ishtiaq Ahmed, Natl. Centre for Physics, Islamabad</p>
PUBLICATIONS JOURNALS AND ARXIV	<p>Rare decays of the positronium ion and molecule, $Ps^- \rightarrow e^- \gamma$ and $Ps_2 \rightarrow e^+ e^- \gamma, \gamma \gamma, e^+ e^-$</p>

M. Jamil Aslam, Wen Chen, Andrzej Czarnecki, Samiur Rahman Mir, M. Mubasher
arXiv:2108.06785

Radiative B to axial-vector meson decays at NLO in Soft-Collinear Effective Theory

Arslan Sikandar, M. Jamil Aslam, Ishtiaq Ahmed and Saba Shafaq
J. Phys. G **48**, no.4, 045005 (2021)

Radiative Baryonic Decay $\mathcal{B}^* \left(\frac{3}{2}\right) \rightarrow \mathcal{B} \left(\frac{1}{2}\right) + \gamma$ in Constituent Quark Model: A Tutorial

Fayyazuddin, M. Jamil Aslam
arXiv:2011.06750 [hep-ph].

Probing new physics effects in $\Lambda_b \rightarrow \Lambda(\rightarrow p\pi)\ell^+\ell^-$ Decay via model independent approach

Aqsa Narullah, Ishtiaq Ahmed, M. Jamil Aslam, Zaheer Asghar and Saba Shafaq
Physics Scripta (Accepted)

Decay of a bound muon into a bound electron

M. Jamil Aslam, Andrzej Czarnecki, Guangpeng Zhang, Anna Morozova
Phys. Rev. D **102**, no.7, 073001 (2020)

Decay of a bound muon to a bound electron

M. J. Aslam, A. Czarnecki, A. Morozova and G. Zhang,
PoS LeptonPhoton **2019** (2019) 148.

Vertex renormalization and hard scattering symmetry breaking corrections to B to axial vector meson form factors at large recoil

A. Sikandar, M. J. Aslam, I. Ahmed and S. Shafaq,
[arXiv:1909.04384 [hep-ph]]
Phys. Rev. D **100** (2019) no.5, 056013.

Mass spectrum of the hidden-charm pentaquarks in the compact diquark model

A. Ali, I. Ahmed, M. J. Aslam, A. Y. Parkhomenko and A. Rehman,
[arXiv:1907.06507 [hep-ph]]
JHEP **1910** (2019) 256.

Symmetry-breaking corrections to the form factors for heavy-to-heavy B-meson at large recoil

S. Shafaq, I. Ahmed and M. J. Aslam.
Int. J. Mod. Phys. A **34**, no. 08, 1950046 (2019).

New Look at Hidden Charm Tetra and Pentaquark States

A. Ali, L. Maiani, A. V. Borisov, I. Ahmed, M. J. Aslam, A. Y. Parkhomenko, A. D. Polosa and A. Rehman.
Acta Phys. Polon. B **49**, 1315 (2018).

The $\Lambda_b \rightarrow \Lambda(\rightarrow p\pi^-)\mu^+\mu^-$ decay in the RS_c model

A. Nasrullah, F. M. Bhutta and M. J. Aslam.
arXiv:1805.01393 [hep-ph]
J. Phys. G **45**, no. 9, 095007 (2018).

Lepton Flavor Violating Decays of B and K Measons in Models with Ex-

tended Gauge Group

Fayyazuddin, M. Jamil. Aslam and C. D. Lu.
Intl. J. Mod. Phys. A **33** (2018) no.14n15, 1850087.
arXiv:1805.00177 [hep-ph]

A New Look at the Y Tetraquarks and Ω_c Baryons in the Diquark Model

A. Ali, L. Maiani, A. V. Borisov, I. Ahmed, M. J. Aslam, A. Y. Parkhomenko, A. D. Polosa
and A. Rehman.
arXiv:1708.04650 [hep-ph]
Eur. Phys. J. C **78** (2018) no.1, 29.

Analysis of angular observables of $\Lambda_b \rightarrow \Lambda(\rightarrow p\pi)\mu^+\mu^-$ decay in the SM and Z' model

Aqsa Nasrullah, M. J. Aslam and Saba Shafaq
PTEP 2018 (2018) no. 4, 043B08.

Hadronic Weak Decay $\mathcal{B}_b(\frac{1}{2}^+) \rightarrow \mathcal{B}(\frac{1}{2}^+, \frac{3}{2}^+) + V$

Fayyazuddin and M. J. Aslam.
Phys. Rev. D **95** (2017) no.11, 113002.
arXiv: 1705.05106 [hep-ph]

Mass spectrum of spin-1/2 pentaquarks with a $c\bar{c}$ component and their anticipated discovery modes in b -baryon decays

A. Ali, I. Ahmed, M. J. Aslam and A. Rehman.
arXiv:1704.05419 [hep-ph]
DESY-17-057.

Constraints on Two Higgs Doublet Model Parameters in the light of rare B -Decays

M. Hussain, M. Usman, M. A. Paracha and M. J. Aslam.
Phys. Rev. D **95**, no. 7, 075009 (2017)
arXiv:1703.10845 [hep-ph]

Heavy quark symmetry and weak decays of the b -baryons in pentaquarks with a $c\bar{c}$ component

A. Ali, I. Ahmed, M. J. Aslam and A. Rehman.
Phys. Rev. D **94**, no.5, 054001(2016)
arXiv:1607.00987 [hep-ph]

Asymmetries in $B \rightarrow K^*\ell^+\ell^-$ Decays and Two Higgs Doublet Model

I. Ahmed, M. J. Aslam and M. A. Paracha.
arXiv:1602.02400 [hep-ph]

Local Gauge Transformation for the Quark Propagator in an $SU(N)$ Gauge Theory

M. J. Aslam, A. Bashir and L. X. Gutierrez-Guerrero.
Phys. Rev. D **93**, no. 7, 076001 (2016)
arXiv:1505.02645 [hep-th]

Analysis of forward backward and lepton polarization asymmetries in $B \rightarrow K_1\ell^+\ell^-$ decays in the two-Higgs-doublet model

N. Ahmed, I. Ahmed and M. J. Aslam.
PTEP **2015**, no. 11, 113B06 (2015)
arXiv:1509.08113 [hep-ph]

Analysis of Forward-Backward and Lepton Polarization Asymmetries in $B \rightarrow K_1 \ell^+ \ell^-$ Decays in the Two-Higgs-doublet Model

N. Ahmed, I. Ahmed and M. J. Aslam.

PTEP 2015 (2015) 11, 113B06

arXiv:1509.08113 [hep-ph]

Ward identities, $B \rightarrow V$ transition form factors and applications

M. A. Paracha, B. El-Bennich, M. J. Aslam and I. Ahmed.

J. Phys. Conf. Ser. **630**, no. 1, 012050 (2015)

arXiv:1412.0870 [hep-ph]

Imprints of CP violation asymmetries in rare $\Lambda_b \rightarrow \Lambda \ell^+ \ell^-$ decay in family non-universal Z' model

M. A. Paracha, I. Ahmed and M. J. Aslam.

PTEP **2015**, no. 3, 033B04 (2015)

arXiv:1408.4318 [hep-ph]

Effects of neutral Z' boson in $B_s \rightarrow \phi \ell^+ \ell^-$ decay with polarized ϕ and the unpolarized and polarized CP violation asymmetry

I. Ahmed, M. J. Aslam and M. A. Paracha.

Phys. Rev. D **89**, 015006 (2014)

arXiv:1401.2162 [hep-ph]

Lepton Polarization Asymmetries of $H \rightarrow \gamma \ell^+ \ell^-$ Decays in Standard Model

Rabia Akbar, Ishtiaq Ahmed and M. J. Aslam.

PTEP **2014**, no. 9, 093B03 (2014)

Impact of Z' and UED parameters on different asymmetries in $B_s \rightarrow \phi \ell^+ \ell^-$ decays

I. Ahmed, M. J. Aslam and M. Ali Paracha

Phys. Rev. D **88**, no. 1, 014019 (2013)

Complete study of the semileptonic $B \rightarrow K_2^*(1430)$ decays in the standard model with fourth generation

M. Junaid, M. J. Aslam and I. Ahmed.

Int. J. Mod. Phys. A **27**, 1250149 (2012).

Model independent analysis of $B \rightarrow K_{(2)}^*(1430) \mu^+ \mu^-$ decay

I. Ahmed, M. J. Aslam, M. Junaid and S. Shafaq.

JHEP **1202**, 045 (2012).

Fourth-generation SM imprints in $B \rightarrow K^* l^+ l^-$ decays with polarized K^*

A. Ahmed, I. Ahmed, M. J. Aslam, M. Junaid, M. A. Paracha and A. Rehman

arXiv:1110.4259 [hep-ph]

Comparative Study of $B_c \rightarrow D_s^* l^+ l^-$ Decays in Standard Model and Supersymmetric Models

A. Ahmed, I. Ahmed, M. A. Paracha, M. Junaid, A. Rehman and M. J. Aslam

arXiv:1108.1058 [hep-ph]

Analysis of $B_c \rightarrow D - s^* l^+ l^-$ in the Standard Model Beyond Third Generation

I. Ahmed, M. A. Paracha, M. Junaid, A. Ahmed, A. Rehman and M. J. Aslam

arXiv:1107.5694 [hep-ph]

Complementarity of Semileptonic B to $K_2^*(1430)$ and $K^*(892)$ Decays in the Standard Model with Fourth Generation

M. Junaid and M. J. Aslam
arXiv:1103.3934 [hep-ph]

Semileptonic charmed B meson decays in Universal Extra Dimension Model

M. A. Paracha, I. Ahmed and M. J. Aslam
Phys. Rev. D **84**, 035003 (2011) [arXiv:1101.2323 [hep-ph]]

Semileptonic B to Scalar meson Decays in the Standard Model with Fourth Generation

M. J. Aslam
Phys. Rev. D **83**, 035017 (2011) [arXiv:1007.4865 [hep-ph]]

Model Independent Analysis of the Forward-Backward Asymmetry for the $B \rightarrow K_1\mu^+\mu^-$ Decay

I. Ahmed, M. A. Paracha and M. J. Aslam
Eur. Phys. J. C **71**, 1521 (2011)
arXiv:1002.3860 [hep-ph]

Tetraquark interpretation of the BELLE data on the anomalous $\Upsilon(1S)\pi^+\pi^-$ and $\Upsilon(2S)\pi^+\pi^-$ production near the $\Upsilon(5S)$ resonance

A. Ali, C. Hambroek and M. J. Aslam
Phys. Rev. Lett. **104**, 162001 (2010) [arXiv:0912.5016 [hep-ph]]

A case for hidden $b\bar{b}$ tetraquarks based on $e^+e^- \rightarrow b\bar{b}$ cross section between $\sqrt{s} = 10.54$ and 11.20 GeV

A. Ali, C. Hambroek, I. Ahmed and M. J. Aslam
Phys. Lett. B **684**, 28 (2010) [arXiv:0911.2787 [hep-ph]]

$B \rightarrow K_0^*(1430)l^+l^-$ decays in supersymmetric theories

M. J. Aslam, C. D. Lu and Y. M. Wang
Phys. Rev. D **79**, 074007 (2009) [arXiv:0902.0432 [hep-ph]]

Rare decays of $\Lambda_b \rightarrow \Lambda\gamma$ and $\Lambda_b \rightarrow \Lambda l^+l^-$ in universal extra dimension model

Y. M. Wang, M. J. Aslam and C. D. Lu
Eur. Phys. J. C **59**, 847 (2009) [arXiv:0810.0609 [hep-ph]]

Exclusive semileptonic decays of $\Lambda_b \rightarrow \Lambda l^+l^-$ in supersymmetric theories

M. J. Aslam, Y. M. Wang and C. D. Lu
Phys. Rev. D **78**, 114032 (2008) [arXiv:0808.2113 [hep-ph]]

Ward identities and radiative rare leptonic B-decays(Conference Paper)

M. J. Aslam, A. Hussain Shah Gilani, M. S. Khan and Riazuddin
*In *Islamabad 2006, Mathematical physics* 136-146*

Scalar mesons in weak semileptonic decays of $B_{(s)}$

Y. M. Wang, M. J. Aslam and C. D. Lu
Phys. Rev. D **78**, 014006 (2008) [arXiv:0804.2204 [hep-ph]]

Lepton polarization asymmetry and forward backward asymmetry in exclusive $B \rightarrow K_1\tau^+\tau^-$ decay in universal extra dimension scenario

A. Saddique, M. J. Aslam and C. D. Lu
Eur. Phys. J. C **56**, 267 (2008) [arXiv:0803.0192 [hep-ph]]

Exclusive $B \rightarrow K_1 l^+ l^-$ decay in model with single universal extra dimension

I. Ahmed, M. A. Paracha and M. J. Aslam

Eur. Phys. J. C **54**, 591 (2008) [arXiv:0802.0740 [hep-ph]]

$B \rightarrow 0^+(1^+) +$ missing energy in Unparticle Physics

M. J. Aslam and C. D. Lu

Chin. Phys. C **33**, 332 (2009) [arXiv:0802.0739 [hep-ph]]

Form factors, branching ratio and forward-backward asymmetry in $B \rightarrow K_1 l^+ l^-$ decays

M. A. Paracha, I. Ahmed and M. J. Aslam

Eur. Phys. J. C **52**, 967 (2007) [arXiv:0707.0733 [hep-ph]]

Branching ratio and CP-asymmetry for $B \rightarrow 1^1 P_1 \gamma$ decays

M. Jamil Aslam and Riazuddin

Phys. Rev. D **75**, 034004 (2007) [arXiv:hep-ph/0607114]

Annihilation contributions in $B \rightarrow K_1 \gamma$ decay in next-to-leading order in LEET and CP-asymmetry

M. J. Aslam

Eur. Phys. J. C **49**, 651 (2007) [arXiv:hep-ph/0604025]

Branching ratio for $B \rightarrow K_1 \gamma$ decay in next-to-leading order in LEET

M. Jamil Aslam and Riazuddin

Phys. Rev. D **72**, 094019 (2005) [arXiv:hep-ph/0509082]

Form factors and branching ratio for the $B \rightarrow l \nu \gamma$ decay

M. Saleh Khan, M. Jamil Aslam, A. H. S. Gilani and Riazuddin

Eur. Phys. J. C **49**, 665 (2007) [arXiv:hep-ph/0410060]

Role of lepton flavor violating (LFV) muon decay in seesaw model and LSND

M. J. Aslam and Riazuddin

Phys. Rev. D **66**, 096005 (2002) [arXiv:hep-ph/0209106]

EDITORIAL
JOBS/BOOKS

Memoirs of Riazuddin

Oxford University Press

Fayyazuddin and M. Jamil Aslam

2020

Proceedings of 14th Regional Conference on Mathematical Physics

World Scientific, Singapore

M. J. Aslam and K. Saifullah

DOI:10.1142/10569

2017

A Monograph on Theory of Relativity

World Scientific Singapore

Fayyazuddin, Riazuddin (deceased), M. Jamil Aslam

2015

Proceedings of International Symposium on Contemporary Physics

World Scientific Singapore

M. Jamil Aslam, Faheem Hussain and Riazuddin

2008

Proceedings of 12th Regional Conference on Mathematical Physics
World Scientific, Singapore 2007
M. Jamil Aslam, Faheem Hussain, Asghar Qadir, Riazuddin and Hamid Saleem

SELECTED
INVITED
SEMINARS/
TALKS

Decay of a bound muon to bound electron Feb. 16, 2020
WNPPC, Banff, Alberta, Canada.

Decay of a bound muon to bound electron (Poster) August 5 - 10, 2019
29th International symposium on Leptons and photon Interactions at High Energy,
Toronto, Canada

Role of Heavy Quark Symmetry in Pentaquark Production 16 August, 2017
Institute of Theoretical Physics, CAS, Beijing, China.

LKF transformations in QCD July, 2016
QFT at the limits: from strong fields to heavy quarks, Dubna, Russia

Beauty and Beyond October, 2015
Symposium on Physics Beyond SM, Islamabad

Beauty: In and Beyond the Standard Model March, 2015
7th Winter Meeting on Particles and Fields, Lahore

Asymmetries in Standard Model Higgs Decays April, 2014
6th Winter Meeting on Particles and Fields, Islamabad

Beauty: In and Beyond Standard Model March, 2013
International Scientific Spring, Islamabad

The Decay of Unconventional Atoms April, 2013
Colloquium at National Centre for Physics, Islamabad

The Decay of a Bound Muon March, 2013
5th Winter Meeting on Particles and Fields, Lahore

Flavor Physics: A tool to search for New Physics March, 2011
International Scientific Spring, Islamabad

Exotic States in Particle Physics Feb., 2011
Frontiers of Physics, Lahore

Indirect Searches of New Physics through $B_{(s)}$ Decays December, 2010
Third Winter Meeting on Particles and Fields, Islamabad

Exotica October, 2009
First School on LHC Physics, Islamabad

Light Cone Sum Rules in B Meson Decays(Contributed) December, 2008
Physics of LHC Era, ASICTP, Trieste

Light Cone Sum Rules for B to Scalar Meson Decays June 27, 2008
32nd International Nathiagali Summer College, Islamabad

B to P Wave Decays at NLO in LEET April 23, 2008
Nanjing University, Nanjing

Radiative Rare B Decays at NLO March 18, 2008
Institute of High Energy Physics, CAS, Beijing

Ward Identities and Radiative Rare B Decays March 27-April 1, 2006
12th Regional Conference on Mathematical Physics, Islamabad

Radiative Rare Semileptonic B Decays June, 2005
Helmholtz International Summer School on Heavy Quark Physics, Dubna

PROFESSIONAL
ACTIVITIES

Intl. Participant
QFT at the limits: from strong fields to heavy quarks, Dubna, Russia July 2016

School on LHC Era
ICTP, Trieste, Italy December 7-14, 2009

Summer School on LHC, Expecting LHC
ICTP, Trieste, Italy September 11-16, 2006

Helmholtz Summer School on Heavy Quark Physics
JINR, Dubna, Russia June 2005

Summer School on Astrophysics and Cosmology
ICTP, Trieste, Italy June 28-July 11, 2004

Summer School on Recent Development on Supersymmetric Gauge Theories
ICTP, Trieste, Italy June 14-25, 2004

Summer School on Neutrino Physics and Astrophysics (NUPAST)
ICTP, Trieste, Italy October 2002

Organizer
Workshop on Heavy Quark Physics

NCP, Quaid-i-Azam University, Islamabad, Pakistan	August, 2019
<i>14th Regional Conference on Mathematical Physics</i> Quaid-i-Azam University, Islamabad, Pakistan	November 09 -14, 2016
<i>Sixth Winter Meeting on Particles and Fields</i> Natl. Ctr. for Physics, Islamabad, Pakistan	April 14-18, 2014
<i>Third National Winter Meeting on Particles and Fields</i> Natl. Ctr. for Physics, Islamabad, Pakistan	December 28-31, 2010
<i>Second National Winter Meeting on Particles and Fields</i> Natl. Ctr. for Physics, Islamabad, Pakistan	December 28-30, 2009
<i>First National Winter Meeting on Particles and Fields</i> Natl. Ctr. for Physics, Islamabad, Pakistan	December 22-25, 2008
<i>International Symposium on Contemporary Physics</i> Natl. Ctr. for Physics, Islamabad, Pakistan	March 26-30, 2007
<i>5th Workshop on Particle Physics</i> Natl. Ctr. for Physics, Islamabad, Pakistan	November 21-26, 2007
<i>12th Regional Conference on Mathematical Physics</i> Natl. Ctr. for Physics, Islamabad, Pakistan	March 27-April 1, 2006
<i>Fourth International Workshop on Particle Physics</i> Natl. Ctr. for Physics, Islamabad, Pakistan	November 14-19, 2005
<i>International Workshop on Physics at LHC</i> Natl. Ctr. for Physics, Islamabad, Pakistan	December 2004
<i>Third International Workshop on Particle Physics</i> Ntl. Ctr. for Physics, Islamabad, Pakistan	March 08-13, 2004

EXTRA-
CURRICULAR
ACTIVITIES

One of Script Writers of Israr-e-Jehan
A Popular science series of 13 programs made by Prof. Pervez A. Hoodbhoy for Pakistan
Television 2002

COMPUTATIONAL Mathematics
SKILLS Fortran