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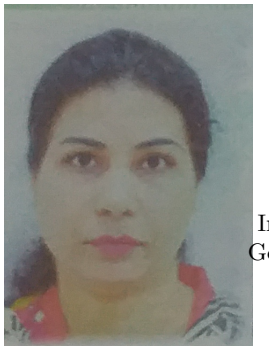

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Dr. Uzma Tabassam

I am a Tenured Associate Professor in the Department of Physics at COMSATS University Islamabad, where I have been serving since November 2012. I completed my PhD in Experimental Nuclear Astrophysics in 2012 from the University of Camerino, Italy.

At COMSATS, I am a physicist and team leader under the ALICE Experiment collaboration at CERN, Switzerland. I teach both graduate and undergraduate courses. Additionally, my research focuses on Experimental High Energy Physics, particularly in the areas of charged particle jet physics analysis, hadron physics, quark-gluon plasma, Monte Carlo simulations, and the minimum bias study of charged and strange particles.

My interests also include detector simulation, fabrication, and construction of particle detectors. I study thermal freeze-out parameters using non-extensive Tsallis statistics and the Hagedorn function.

Research Interest: Experimental nuclear-Astrophysics, Experimental nuclear physics, Experimental high energy physics, Particle detector fabrication and construction, GEANT4 Simulation, Phenomenology in high energy physics and particles spectroscopy.

1 Career Summary

- **19 May, 2019 - Present**

  Tenured Associate Professor

  COMSATS University Islamabad Campus, Islamabad Pakistan

- **21 November 2012 – 19 May, 2019**

  Assistant Professor

  COMSATS University Islamabad Campus, Islamabad Pakistan

  Key responsibilities: Teaching Research and Student Supervision.

- **August 2015 - November 2015 and August 2016**

  Worked as a physicist in the ALICE experiment, contributing to commissioning, data taking, and physics analysis at CERN, Switzerland.

- **2006-2007**

  Visiting physics faculty

  Federal Urdu University of Science, Art and Technology, Islamabad Pakistan.

2 Education

PhD (2009-2012):

Specialization: Experimental Nuclear Astrophysics

University: University of Camerino, Italy

MS Physics (2006-2008):

Specialization: Quantum computation and nano-science

University: COMSATS Institute of Information Technology, Islamabad Pakistan

MSc Physics (2003-2006):

Physics subject

University: Quaid-i-Azam University Islamabad Pakistan

BSc (2001-2003):

Physics

University: Islamabad College for Girls, F-6/2, Pakistan

3 Research Publications: Impact factor = 109.807, citations = 150

Sr. No.	Publication details	Impact Factor	Web link
1	Analysis of p_T spectra for $\phi(1020)^0$ mesons in Cu–Au collisions at 200 GeV, using PYTHIA and Tsallis function A. Khan, U. Tabassam, Y. Ali, A. Zaman, Chinese Journal of Physics 89 (2024) 227–235	**5**	https://authors.elsevier.com/sd/article/S0577-9073(24)00091-1
2	Irfan Siddique and Uzma Tabassam, Effect of electric and chiral magnetic conductivities on azimuthally fluctuating electromagnetic fields and observables in isobar collisions, Phys. Rev. C 109, 034905 – Published 8 March 2024	**3.1**	https://journals.aps.org/prc/abstract/10.1103/PhysRevC.109.034905
3	Zain Ul Abidin and Uzma Tabassam, Monte Carlo Predictions for the Production of Primary and Strange Hadrons at LHC Energies and Study of Thermal Properties of System, Eur. Phys. J. Plus (2024) 139:546	**3.1**	https://doi.org/10.1140/epjp/s13360-024-05309-6.

4	Alamgir Khan, Uzma Tabassam, Zain ul abidin and Naseeb Ullah, Tsallis fits of $K^*(892)^0$ and $\phi(1020)^0$ mesons in pPb collisions, Eur. Phys. J. Plus (2024) 139:88.	**3.1**	https://doi.org/10.1140/epjp/s13360-023-04851-z
5	Zain Ul Abidin, Uzma Tabassam and Muhammad Ali, Determination of Tsallis parameters for $K(892)^*$ mesons in inelastic pp, pPb and PbPb collisions, Modern Physics Letters A (2023) 2350148 (12 pages)	**3.1**	DOI: 10.1142/S0217732323501481
6	Alamgir Khan, Taimoor Khurshid, Yasir Ali, Uzma Tabassam, Qasim Ali, Monte Carlo predictions for $K(892)^0$ and $\phi(1020)^0$ mesons production in pp and Pb–Pb collisions at LHC energies, Eur. Phys. J. Plus (2023) 138:680.	**3.1**	https://doi.org/10.1140/epjp/s13360-023-04324-3
7	M. Waqas , G. X. Peng, A. M. Khubrani, M. Ajaz, U. Tabassam, Pei-Pin Yang, Pseudorapidity, transverse momentum and multiplicity distributions of charged particles in pp collisions at 13 TeV, Eur. Phys. J. Plus (2023) 138:450.	**3.1**	https://doi.org/10.1140/epjp/s13360-023-04016-y
8	Uzma Tabassam, Muhammad Awais, Khusniddin K. Olimov, Muhammad Majid, Analysis of properties of the charged-particle jets in pp collisions at 13 TeV using non-extensive Tsallis statistics, Eur. Phys. J. Plus (2023) 138:394	**3.1**	https://doi.org/10.1140/epjp/s13360-023-04002-4

9	Uzma Tabassam, Yasir Ali, Khusniddin K. Olimov, Study of Multiplicity Dependence in Charmed Hadrons Production in pp Collisions at LHC Energies, Eur. Phys. J. Plus (2023) 138:367	**IF: 3.1**	https://link.springer.com/ article/10.1140/epjp/ s13360-023-03976-5
10	Zain ul abidin and Uzma Tabassam, Optimizing the Parton Showers in PYTHIA8 for Xe-Xe collision at 5.44 TeV, Modern Physics Letters A, Vol. 38, No. 4 (2023) 2350023 (11 pages)	**3.1**	https://dx.doi.org/ 10.1142/S0217732323500232
11	Ajaz M., Haj Ismail A.A.K., Ullah Mian M., Khan R,. Shehzadi R., Adil Khan M., AbdelKader A., Waqas M., Dawi E.A., Tabassam U., Charged Particles Transverse Momentum and Pseudorapidity Distribution in Hadronic Collisions at LHC Energies. Entropy 2023, 25, 452	**3.1**	https://doi.org/10.3390/e25030452
12	Zain Ul Abidin, Uzma Tabassam, Muhammad Ali, To study the strange particles production at RHIC energies, Eur. Phys. J. A (2023) 59:38	**3.1**	https://doi.org/10.1140/epja/s10050-023-00943-7
13	Muhammad Ali, Uzma Tabassam, Zain Ul Abidin, Muhammad Ajaz, Mais Suleymanov, Ahmed M. Khubrani, Muhammad Waqas and Muhammad Waqas, Elucidating the jet cross-section in pp and pPb collisions at $\sqrt{s}_{NN} = 5.02$ TeV, International Journal of Modern Physics E, Vol. 31, Nos. 10 and 11 (2022) 2250102 (9 pages)	**3.1**	DOI: 10.1142/S0218301322501026

14	Uzma Tabassam et.al., Elucidating the neutral mesons productions at Large Hadron Collider energies in two centrality classes, Eur. Phys. J. Plus ,137:1008 (2022).	**3.1**	https://doi.org/10.1140/epjp /s13360-022-03231-3
15	Irfan Siddique, Shanshan Cao, Uzma Tabassam, Mohsin Saeed, and Muhammad Waqas, Electromagnetic anomaly in the presence of electric and chiral magnetic conductivities in relativistic heavy-ion collisions, Phys. Rev. C 105, 054909 – Published 19 May (2022)	**3.1**	DOI:https://doi.org/10.1103 /PhysRevC.105.054909
16	Muhammad Ajaz, Muhammad Waqas, Li-Li Li, abd Al Karim Haj Ismail, Uzma Tabassam and Mais Suleymanov, Bulk properties of the medium in comparison to models' predictions in pp collisions at 13 TeV, Eur. Phys. J. Plus (2022) 137:592	**3.1**	https://doi.org/10.1140/epjp /s13360-022-02805-5
17	Uzma Tabassam, Mujtaba Ali, Irfan siddique, Zain Ul abidin and Yasir Ali, The Production of ϕ Mesons at SPS, RHIC and LHC Energies, The European Physical Journal Plus, Eur. Phys. J. Plus (2022) 137:255	**3.1**	https://link.springer.com/article /10.1140/epjp/s13360-022-02489-x
18	Y. Ali, H. Zeenat, A. Arif, A. Kainat and U. Tabassam, Study of charm λ_c++ baryon production in pp and p-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV, Eur. Phys. J. Plus (2022) 137:209	**3.1**	https://link.springer.com/article /10.1140/epjp/s13360-022-02375-6

19	Zain Ul Abidin and Uzma Tabassam, PYTHIA8 and HIJING2 Predictions for the Xe Xe Collisions at $\sqrt{s_{NN}} = 5.44$ TeV, Eur. Phys. J. Plus (2022) 137:115	**3.1**	https://doi.org/10.1140/epjp/s13360-021-02333-8
20	Uzma Tabassam et al., Strange Particles Production in pp and pPb collision at 7 TeV, Eur. Phys. J. Plus (2021) 136:793	**3.1**	https://doi.org/10.1140/epjp/s13360-021-01698-0
21	U. TABASSAM, S. ABBAS et al., Study of Average Transverse Sphericity in pp collision at LHC Energies, Turk J Phys (2021) 45: 212-217 © TÜBİTAK.	**3.1**	https://journals.tubitak.gov.tr /physics/vol45/iss4/5/
22	YASIR ALI, UZMA TABASSAM, SYED UZAIR AHMED SHAH, ATIF ARIF, MAIS SULEYMANOV, ZAIN UL ABIDIN, $\psi(2S)$ and J/ψ Production in pp Collisions at $\sqrt{NN} = 7$, 8 and 13 TeV, Turk J Phys, 45, (2021), 90-104	**IF: 3.1**	https://journals.tubitak.gov.tr /physics/vol45/iss2/3/
23	A. Arif, Y. Ali , M. Haseeb, Q. Ali, U. Tabassam, M. Ahmed, M. Suleymanov, Study of transverse momentum and nuclear modification factors distribution of the charged particles produced in pp, and Pb-Pb collisions at 2.76 TeV and 5.02 TeV, International Journal of Modern Physics E, Vol. 30, No. 8 (2021) 2150068 (12 pages).	**3.1**	https://doi.org/10.1142 /S0218301321500683

24	Y. Ali, M. Ahmed, A. Arif, Q. Ali, U. Tabassam, U. Rubab and M. Suleymanov, Study of $K^*(892)^0$ and $\phi(1020)$ meson production in proton–proton and Pb–Pb collisions at $\sqrt{NN}$ = 2.76 TeV, Commun. Theor. Phys. 73 (2021) 025202 (7pp)	**IF: 3.1**	https://iopscience.iop.org/article /10.1088/1572-9494/abd0e7
25	Q. Ali, Y. Ali, U. Tabassam, M. Haseeb and M. Ikram, Distribution of strange particles transverse momentum and rapidity in high energy proton–proton collisions at $\sqrt{NN}$= 0.9 TeV at LHC, Modern Physics Letters A, Vol. 35, No. 05, 2050006 (2020)	**3.1**	https://www.worldscientific.com/doi /abs/10.1142/S0217732320500066
26	Y. Ali, Q. Ali, M. Haseeb, M. Ajaz and U. Tabassam, Study of Pseudorapidity and Transverse-Momentum Distributions of Charged Particles in pp Interactions at $\sqrt{NN}$ =13 TeV Using Hadron Production Models, Int. J. Theor. Phys. (2019)	**3.1**	DOI:10.1007/s10773-018-3985-y. https://link.springer.com/article /10.1007/s10773-018-3985-y
27	Q. Ali, Y. Ali , M. Haseeb and U. Tabassam, Study of transverse momentum distributions in pP b interactions at 0.9 TeV and 5.02 TeV, Modern Physics Letters A, Vol. 33, No. 31 (2018) 1850179 (7 pages)	**3.1**	https://www.worldscientific.com /doi/abs/10.1142/S0217732318501791
28	S. Ullah, Y. Ali, M. Ajaz, U. Tabassam, and Q. Ali, ±, K±, protons and antiprotons production in proton–carbon interactions at 31 GeV/c using hadron production models, International Journal of Modern Physics A, June 2018, Vol. 33, No. 17	**3.1**	https://doi.org/10.1142 /S0217751X18501087

29	U. Tabassam et al., The production of $\pi\pm$, $K\pm$, p and $\bar{p}$in pPb collisions at sNN= 5.02 TeV, Modern Physics Letters A ,Vol. 33, No. 17 (2018) 1850094 (7 pages).	**3.1**	https://doi.org/10.1142/S0217732318500943
30	U. Tabassam et al., Observation of universality for high p_T distribution at LHC energies, International Journal of Modern Physics E, Vol. 27, No. 4, 1850036 (5 pages)(2018)	**1.1**	https://www.worldscientific.com/doi/abs/10.1142/S0218301318500362?src=recsys and journalCode=ijmpe
31	M. Ajaz, et.al, U. Tabassam, Comparison of different hadron production models for the study of $\pi^{\pm}$, $K^{\pm}$, protons and antiprotons production in proton-carbon interactions at 90 GeV /c, Modern Physics Letters A, Vol. 33, No. 14, 1850079 (13 pages)	**1.594**	DOI: 10.1142/S0217732318500797 (2018).
32	Y. Ali, U. Tabassam, M. Suleymanov, and A. S. Bhatti, Comparison study of the p_T distributions of the charged particles in p -Pb interactions at LHC energies, Modern Physics Letters A, Vol. 32, No. 31, 1750167 (9 pages) (2017)	**1.594**	https://www.worldscientific.com/doi/abs/10.1142/S021773231750167X?journalCode=mpla
33	Y. Ali, N. Ullah Jan, U. Tabassam, M. Suleymanov and A. S. Bhatti, "Transverse momentum distribution of primary charged particles in p–Pb interactions at forward pseudorapidity at LHC energies", International Journal of Modern Physics E, Vol. 26 (2017) 1750021 (9 pages)	**1.1**	https://www.worldscientific.com/doi/abs/10.1142/S0218301317500215

34	U. Tabassam et al., Transverse momentum distribution of primary charged particles in the p-Pb interactions using HIJING 1.0, International Journal of Modern Physics A, Vol. 31, No. 24 (2016) 1650136 (8 pages)	**1.6**	https://www.worldscientific.com/doi/abs/10.1142/S0217751X16501360
35	U. Tabassam, K. Mehboob, Discussion of importance of e+e- pair emission in 12C(a,g)16O capture reaction below 1.9 MeV energy, PROBLEMS OF ATOMIC SCIENCE AND TECHNOLOGY, Series: Nuclear Physics investigations, 64, p.44-48 (2015)	**0.36**	https://vant.kipt.kharkov.ua/ARTICLE/VANT$_2$015$_3$/$article_2$015$_3$4.*pdf*
36	Lubna Tabassam, Uzma Tabassam and Umair Manzoor, Recent Progress in Structural and Electrochemical Properties of LiFePO4 for Composite Based Batteries, J. New Mat.Electrochem.Systems,8(4),193-205,(2015)	**1.316**	http://new-mat.org/ejournal/index.php/jnmes/article/view/348
37	L. Guerro, A. Saltarelli, U. Tabassam, et al.,"A Pair Spectrometer for Nuclear Astrophysics Applications" Eur. Phys. J. A 50, 11, 171 (2014)	**3.043**	https://doi.org/10.1140/epja/i2014-14171-1
38	Khurram Mehboob, Majid Ali, Raheel Ahmed and Uzma Tabassam Thermal neutron albedo measurements for multilithic reflectors, Annals of nuclear energy, vol. 62, pp: 1-7, (2013)	**3.036**	https://www.sciencedirect.com/science/article/pii/S0306454913002971?via3Dihub

39	Sohail Ahmad, Muhammad Ajaz, Yasir Ali, Hannan Younis, Kamal Hussain Kha, Uzma Tabassum, MEASUREMENT OF INDOOR RADON CONCENTRATION INDISTRICT MARDAN, KHYBER PAKHTUNKHWA, PAKISTAN, journal of nuclear physics and atomic energy, ISSN 1818-331X NUCLEAR PHYSICS AND ATOMIC ENERGY 2018 Vol.19 No.2	**0.264**	https://doi.org/10.15407/ jnpae2018.02.190

4 PUBLICATIONS Under ALICE COLLABORATION

Web Link:https://scholar.google.com/citations?hl=en user=8

Citations: 20998

Number of Publications: 422.

5 Funded Research Projects

Project Title	PI/Co-PI	Amount	Agency	Duration	Status: Submitted/ Approved/ Completed

Design and construction of HPXe (High Pressure Xenon) detector	PI	0.5 million	Higher Education Commission of Pakistan	2 years	Completed
Fabrication of Silicon Surface Barrier Detector	PI	0.2 million	COMSATS University	2 years	Completed
Study of the effects of C-12 targets in the interactions with intense antiproton and ion beamsr	Co-PI	0.45 million	Higher Education Commission of Pakistan	2 years	Completed
Kinetic Study of Fission products/activation product Activity under reactor Transient Conditions	Co-PI	0.5 million	Higher Education Commission of Pakistan	2 years	Completed

6 Courses Taught

Courses	Course Title	Credit hour	PhD/MS/BS	Session
1	Nuclear Physics	3	MS	Fall 23, Spring 23, Fall 22, Spring 21, Fall 20, Spring 20, Fall 19, Spring 2018, Fall 2018
2	Radiation Detection Measurement	3	MS	Fall 17
3	Heavy Ion Physics	3	MS	Fall 22, Spring 22, Fall 21, Spring 21, Fall 20
4	Graduate Lab	3	MS	Spring 2014
5	Environmental Radiation dosimetry	3	MS	Spring 15
6	Applied physics for Engineers	3	BS	Fall 2013
7	Modern Physics Concepts	3	BS	Spring 2014
8	Theory of Error and Research Methodology	3	BS	Spring 16
9	Quantum Mechanics	3	BS	Spring 16
10	Nuclear Physics	3	BS	Fall 16
11	Heat and Thermodynamics	3	BS	Spring 24
12	Atomic and Molecular Physics	3	BS	Fall 19
13	Fundamentals of Physics	3	BS	
14	High Energy Physics	3	BS	Fall 21, Fall 23, Spring 23
15	Mechanics and Thermodynamics	3	BS	Fall 2018
16	Electric and Magnetic Fields	3	BS	Fall 2019
17	Waves and Oscillations	3	BS	Fall 2023

7 Teaching Labs

1. **Radiation Physics Lab: Session (Fall 17, Spring 19), Credit hour: 1** :

   Experiment 1: Geiger Muller counter

   Experiment 2: To determine the operating voltage of GM counter

   Experiment 3: Prove the inverse square law

   Experiment 4: NaI(Tl) detector calibration and resolution tests

   Experiment 5: Neutron attenuation study using BF_3 detector

   Experiment 6: Use of different moderators for attenuation study

   Experiment 7: Use of electron microscope

   Experiment 8: Tracking detectors (CR-38 and CR-39). Experiment 9: Etching and calibration of tracking detectors (CR-38 and CR-39). Experiment 10: Radon measurement in sand samples using tracking detectors (CR-38 and CR-39).

2. **Experiments of Mechanics: Session (Fall 18), Credit hour: 1** :

   Experiment 1:Instantaneous vs average velocity using air track apparatus

   Experiment 2: Kinematics on an inclined plane using air track apparatus

   Experiment 3: Projectile motion

   Experiment 4: Newton's second law of motion using air track apparatus

   Experiment 5: The force of gravity using air track apparatus

   Experiment 6: Conservation of mechanical energy using air track apparatus

   Experiment 7: Pendulum motion using photogate timers

   Experiment 8: Specific gravity of solids and liquids using Archimede's apparatus

   Experiment 9: Coefficient of viscosity by Stoke's method

   Experiment 10: Value of "g" by compound pendulum

   Experiment 11: Moment of inertia of flywheel

   Experiment 12: Elastic forces and Hooke,s law

   Experiment 13: Centripetal force

Experiment 14: Value of "G" gravitational constant using torsion balance apparatus

8 Research Thesis Supervision:

No.	Student Name	Thesis Title	MS/PhD	Supervisor/Co-Supervisor	Status: Registered/Completed
1	Mr. Zain Ul Abidin	Inclusive Invariant Differential Cross Section of Primary and Strange Hadrons in Xe-Xe Interaction at 5.44 TeV	PhD	Supervisor	Completed: Fall 2023
2	Mr. Muhammad Moosa	Statistical Modeling and Physics Data Analysis: Unraveling the Mysteries of Physics in ALICE Experiment	PhD	Co-Supervisor	Registered
3	Mr. Rao Nadeem Akhtar	ALICE Physics data analysis of RUN3 data	MS	Supervisor	Registered
4	Mr. Danish Altaf	Thermal freeze out parameters study at LHC energies	MS	Supervisor	Completed:Fall 2023

5	Mr. Asif Ali	Feasibility study of dark matter searches with leptoquarks and missing transverse energy	MS	Supervisor	Completed:Spring 2023
6	Mr. Muhammad Awais	To study the Freeze Out Stages at High Energy	MS	Supervisor	Completed:Fall 2022
7	Mr. Majid	Multiplicity study of charged particles in pp collision at LHC	MS	Supervisor	Completed:fall 2022
8	Ambreena Zareef	To study the cold nuclear matter effect in p-Au collisions	MS	Supervisor	Completed:fall 2022
9	Lariab Akhtar	Production of Neutral Pions and eta Mesons at Mid-Rapidity in Pb-Pb Collisions	MS	Supervisor	Completed:Fall 2021
10	Zafar Ullah	Pseudorapidity and Energy Dependence of charged particles at LHC Energies.	MS	Supervisor	Completed:Spring 2022
11	Mujtaba Ali	To Observe the Production of ϕ Mesons at SPS and LHC Energies	MS	Supervisor	Completed:Spring 2021
10	Muhammad Ali	Jets Cross Section in pp Collision at 5.02 TeV	MS	Supervisor	Completed:Fall 2020

13	Muhammad Waqas	GEANT4 Simulation of Prototype ALPIDE Chip for ALICE ITS	MS	Supervisor	Completed:Fall 2020
14	Mr. Zain Ullah Khan	Study of the Behavior of the Nuclear Modification Factor as a Function of Transverse Momentum for the Charged Particles Production in pPb Collision at LHC Energies	MS	Supervisor	Completed:Fall 2020
15	Safdar Abbas	The Study of Transverse Sphericity in pp Collision at LHC Energies	MS	Supervisor	Completed:Spring 2020
16	Muhammad Anns Saif	Charged Particle Multiplicity Density in Xe-Xe Collision at 5.44 TeV	MS	Supervisor	Completed:Spring 2020
17	Syeda Saira	Study of Transverse Momentum Distribution in pp collision at 13 TeV	MS	Supervisor	Completed: Fall 2019
18	Muhammad Rizwan	The study of the Transverse Momentum Spectra in PbPb Collisions at LHC Energies	MS	Supervisor	Completed:Fall 2019

19	Muhammad Usman	Centrality Dependence of the Charged-Particle Multiplicity Density in pPb Collisions at sNN = 8.16 TeV	MS	Supervisor	Completed:Fall 2019
20	Mrs. Anum Arsalan	Study of Strange Particles Production in pp and pPb collisions at LHC Energies	MS	Supervisor	Completed:Spring 2019
21	Ms Aneera Kainat	Study of D-mesons Production in p-p and p-Pb Collisions at LHC Energies	MS	Co-Supervisor	Completed:Fall 2021
22	Miss Hifza Zeenat	Study of Lambda(c) Baryon Production in pp and p-Pb Collisions at LHC Energies	MS	Co-Supervisor	Completed:Fall 2021
23	Mr Qamer Haroon	Study of Strange Particle Production in Pb-Pb and pp Collisions at LHC Energies	MS	Co-Supervisor	Completed:Fall 2020
24	Ms Umm-e-Rubab	Study of the D-meson production in pp collisions at LHC energies	MS	Co-Supervisor	Completed: Spring 2020

25	Mr Mukhtar Ahmed	Study of the Charmed and Strange meson production in Pb-Pb Collisions at the LHC energies	MS	Co-Supervisor	Completed:Spring 2020
26	Mr. Naveed Jan	Study of jet production at LHC energies	MS	Co-Supervisor	Completed:Fall 2019

9 Additional Duties

1. Mentoring a PhD scholar, Mr. Alamgir Khan, in his research work from Islamic International University Islamabad, Pakistan since 2022.

2. Mentored/Supervisory Committee: "Study of Inclusive Characteristics of Secondary Charged Particles Production in Hadron Nucleus Collision at LHC Energies", Mr. Qasim Ali, COMSATS University Islamabad. (Completed)

9.1 Undergraduate Supervision

1. Supervising Ms. Khadija Akhtar, undergraduate student under project titled "To study the Thermal Freeze-out Parameters in pp Collision", 2024.

2. Supervised Ms. Aqsa Faheem, undergraduate student under project titled "Study of ϕ mesons production using PYTHIA8 at LHC". Fall 2023.

3. Supervising 1 undergraduate work under project titled "Investigating the thermal freeze out properties of charged particles in ALICE at LHC". Spring 2023.

4. Supervised 1 undergraduate work under project titled "Probing the quark gloun plasma using the jet analysis at LHC energies". Spring 2018.

5. Supervised 2 undergraduate students under the research project titled, " To study the pT distribution using the real data of ALICE Experiment", Spring 2019.

6. Supervised 1 undergraduate student under the research project titled, "Production of Charged Particles using HERWIG Event Generator", Spring 2019.

7. Supervised 1 undergraduate student under the research project titled, "Hadron Production using Geant4", Spring 2019.

8. Supervised 2 undergraduate students under project title, "High multiplicity pp events to investigate the collectivity", Spring 2017.

9. Supervised 3 undergraduate students under project titled, "Performance of charmed baryons in ITS under angular correlation". Fall 2014. (2013-2014).

10. Supervised 2 undergraduate students under project titled, "Transverse momentum distribution of charged jet in pp collision at 2.76 TeV and 5.02 TeV, Fall 2016.

10 Graduate Courses Revision

- Revision of 17 courses of "High energy Physics" in fall 2023.
- Revision of elective courses of "Radiation physics/Medical physics" in fall 2018.

11 Awards

- The best poster award (second position) titled "study of collectivity of high multiplicity in pp events at 14 TeV" in "International scientific school under the collaboration of ICTP Italy and NCP" held in NCP Islamabad Pakistan from 13-17 March, 2017.

- Research productivity award 2016, 2017 by COMSATS University Islamabad Campus, Islamabad Pakistan, September 2016 and 2017.
- Research productivity award 2014 COMSATS University Islamabad Campus, Islamabad Pakistan, 22nd March 2014.

12 Graduate Fellowship

Name of Award: INFN Fellowship, Italy

Award giving Institution name: University of Camerino, Italy

Award annual value: 13000 Euros Per annum

Award start and end date: 26/02/2009 to 26/02/2012

Research: "A Pair Spectrometer for Nuclear Astrophysics Applications".

13 Skills and Competences

* O2 software for the Physics data analysis of ALICE experiment.
* AliRoot for the Physics data analysis of ALICE experiment.
* Monte Carlo event generators:
  HIJING2.0
  PYTHIA8
  UrQMD
  EPOS-LHC
  EPOS-1.99
  QGSJETII-04
  Sibyll2.3
  and HERWIG++
* ROOT data analysis framework
* GEANT4 simulations
* C++ language
* Fabrication (UHV) and construction of particle detectors

* Microsoft Word, Latex, Linux, overleaf
* Origion for data analysis
* Operating the Electron Microscope
* Working on NaI(Tl), HPGe, SSBD and BF3 detectors for particles spectroscopy
* Front end electronics of α, β and γ spectroscopy

14 Participation in the International Experiments

1. Team Leader of ALICE experiment under collaboration with COMSATS University Islamabad Campus, Pakistan.
2. Member of PWG Jet and PWG MM for Physics data analysis in ALICE experiment at CERN Switzerland.
3. ALICE DATA taking RUN2 in 2015 - Performed Shift Leader duties at ALICE site CERN Switzerland.
4. ALICE DATA taking RUN2 in 2016 - Performed Shift Leader duties at ALICE site CERN Switzerland.
5. 2009-2012 - Performed experiments, commissioning, and data taking for the European Recoil Separator for Nuclear Astrophysics (ERNA) experiment at the National Institute for Nuclear Physics (INFN) laboratory in Catania, Italy, and the INFN laboratory in Caserta, Naples, Italy.

15 Conferences/Seminars/Workshop

1. Principle organizer of one day Workshop on "CERN @ 70: Inspiring the Future", on 9 May, 2024 at COMSATS University Islamabad Campus, Islamabad Pakistan.
2. Participated in 48th international Nathiagali summer college on physics and contemporary needs, 10th - 22nd July 2023.

3. **Plenary talk as invited speaker** at VII International conference "Modern Trends in Physics 2021" on December 15-17, 2021 at BAKU state university, Azerbaijan.

4. Participation in the 10th School on LHC Physics organized by NCP, Islamabad Pakistan from August 23-27, 2021 virtually.

5. **Invited speaker** at Pakistan Institute of Nuclear Science and Technology, Islamabad, Symposium on "Data Analysis for High Energy Physics", November 27-28, 2018.

6. **Invited speaker** at PRESTON University Islamabad Pakistan on 18th April, 2018; title of talk "A Journey to the beginning of Universe".

7. Participated in Workshop on "Prospects of Collaborative Research with CERN", National centre for Physics, Islamabad Pakistan. (2015)

8. Two days seminar on Pakistan's Collaborations with CERN and SESAME; 14-15, (2016) in Pakistan Institute of Nuclear Science and Technology (PINSTECH), Islamabad Pakistan.

9. Poster presentation on first "Science Day" at Camerino University, Italy 2012.

10. Participation in the 6th European summer school in Santa Tecla, Catania (Italy), on Experimental Nuclear Astrophysics from 19th Sept, 2011 to 27th Sept, 2011.

11. Participation in seminar on "Radiation Protection" on 07/2009 at University of Perugia, Italy.

12. Attended the seminar on "Simulation to Material Science" on 18th April, 2011, Camerino University, Italy.

13. Attended the Seminar on "Dark Energy and Dark Matter in the Curvature of Earth" on 11th May, 2011.

14. Participation in the workshop on Nuclear Astrophysics "GIANTS 2010" in Catania (Italy) from 29th April, 2010 to 31st April, 2010.

15. Participation in the Enrico Fermi School in Varenna (Italy), on Nuclear Physics and Nuclear Astrophysics from 19th July, 2010 to 24th July, 2010.

16. Participation in the School on "Nuclear Shell model" in Legnaro (Italy) from 21st October, 2010 to 26th October, 2010.

16 Departmental Administrative Duties

1. **January 17, 2024 - to date**
   Member of the Liaison group for the collaboration program with CERN

2. **January, 2023 - to date**
   Incharge Graduate Program of Physics

3. **January, 2023 -to date**
   Member of the departmental advisory committee

4. **January, 2023- to date**
   Deputy Convener of graduate admission committee

5. Deputy convener of Departmental Academic Regulatory Committee

6. **Since 2015**
   Program Team Member for Self-Assessment of Graduate Programs of Physics

7. **September, 2021 - to date**
   Batch counsellor BS level

8. **September, 2022 - 2023**
   Deputy convener of the undergraduate final year project committee

9. **2022 - 2023**
   Female representative of physics department

10. **September, 2023 - to date**
    Member of departmental administrative affairs committee

17 Event Organization

1. Organized the 1^{st} poster presentation of graduating students in department of physics, COMSATS university Islamabad Campus, on 11^{th} December, 2023.
2. Organized a seminar by Joao Antunes Pequenao, Titled "United we (Under)Stand" from CERN Medialab Geneva Switzerland on 3^{rd} November 2023.

18 Trainings

Faculty training organized by Faculty development Academy,COMSTEC HQ, Islamabad Pakistan from December 2012 - January 2013.

19 Research Journal Reviewer

- Journal name: Arabian Journal for Science and Engineering.
  Reviewed: Surface Engineering Using Slow Highly Charged Ions.
- Journal name: Arabian Journal for Science and Engineering.
  Reviewed: Langmuir wave Assisted Two Photon Decay of an Amplitude-Modulated Gaussian Laser Beam in Rippled Density Plasma.
- Journal name: Arabian Journal for Science and Engineering.
  Reviewed: Support Vector Machine Based Tagged Neutron Method for Explosives Detection.
- Journal name: Frontiers in Physics, section Radiation Detectors and Imaging Article
  Reviewed: Searches for Long-Lived Particles at the Future FCC-ee.

20 Thesis Evaluation

Thesis evaluation of M.Phil students of Abdul Wali Khan University Mardan, Pakistan.

21 References

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