CURRICULUM VITAE

1.	Name	Dr. Mohd. Farooq Mir
2.	Email address	farooq_mir @ kashmiruniversity.ac.in Cell No: 09419035778
3.	Designation	Associate Professor
3.	Address for correspondence	Department of Physics University of Kashmir Sgr.
4.	Date of Birth	10 – 12 – 1968
5.	Field of Specialization	**High Energy Physics** **(Experimental Nuclear Physics**)
6.	Academic Qualification	
	i) B.Sc	University of Kashmir
	ii) M.Sc.	University of Kashmir.
	iii) Ph.D	University of Jammu.
7.	Professional experience:	16 Years Plus
	i. April,1992- Oct. 1995	Contractual lecturer (2 years plus) (A.S.College Srinagar)
	ii. May, 2000-Jun, 2003	Contractual lecturer (2.5 years) (University of Kashmir)
	iii.June, 2003-Jun. 2007	Assistant Professor. (University of Kashmir)
	iv.June, 2007- April 2010	Senior Assistant Professor. (University of Kashmir)
	v. May 2010-Till date	**Associate Professor** (University of Kashmir)
	vi. May 2012- Till date .	**Director Kashmir University Campus (Kupwara)**
8.	Research/Teaching experience	16 years (excluding Ph.D degree experience)
9.	Visiting Professor	**Jamia Millia Islami, Central University New Delhi** Under DRS-UGC Programme.
10.	International Research collaborations.	i. CBM Experiment at FAIR, GSI, Dramstadt, Germany.

		ii. WA98 Experiment at CERN-SPS, Geneva, Switzerland. iii. WA93 Experiment CERN-SPS, Genava, Switzerland.
11.	Research Publications	**50**
	i). International Journals	33 (Refer Annexure-I)
	ii) National	17 (Refer Annexure-II)
12.	Number of International/ National Conferences/ Workshops:	
	i). International	09
	ii) National	11
	iii)Workshops	06
	iv) Orientation Course	01
	v) SERC school	01
13.	Number of Students Awarded:	
	a. M.Phil	**05**
	b. Ph.D	**02**
14.	Number of Students pursuing degrees:	
	a. M.Phil	**01**
	b. Ph.D	**04**
15.	Experience of working on computational systems	**<u>System handled</u>** i). DEIL – 5100, Alpha Workstation PC's VAX Advanced network at CERN Geneva and Marburg (Germany) ii). Software a). Have installed and rigorously used various CERN and ISML library. b). Usage of MC event generators UrQmd, PLUTO, FAIRSOFT, FRITIOF, CBMROOT, VENUS and detector simulation program GEANT and PAW (Physics Analysis Workstation), developed program in fortran 77, C++ etc. c). UNIX, HG, Windows, Wordstar, MS DOS, Scientific Linux etc.
16.	National Institutions visited	i) Tata Institute of Fundamental Research, Mumbai.

ii) Variable Energy Cyclotron Centre (VECC) Calcutta.

iii) Bhabha Atomic Research Centre, Bombay.

iv) Punjab University, Chandigrah.

v) Rajasthan University, Jaipur.

vi) Saha institute of Nuclear Physics, Calcutta.

vii) Aligarh Muslim University – (A.M.U),Aligarh. (UP).

viii) Mumbai University Maharashtra.

ix) Nuclear Science Centre, Delhi. (I.U.A.C)

x) I.I.T Mumbai.

xi) Jamia Millia Islamia New Delhi.

xii) Gowhati University, Assam.

xiii) NIAS Bangalore

xiv) SMIT, Skim.

xv) Inter University Accelerator Centre.

17.	Scholar ships awarded	a). Awarded Junior Research Fellowship (JRF) from DAE/UGC. b).Awarded Senior Research Fellowship (SRF) from DAE/UGC
18.	No. of Projects as Principal Investigator	01 (DST Govt. of India funded)

Awards: Received Bharat Jyoti Award on 23rd Dec. 2013 in Delhi

Brief description of responsibilities in experiments.

Major responsibilities include:

i. Participated and presented in the two days discussion meeting on 'Indian Participation in FAIR: Science and Technology' organized at Hyderabad by DST and Electronics Corporation of India Limited (ECIL), Hyderabad during 18 -19 April, 2009 to discuss the electronic infrastructure pertaining to experiment.

ii. Participated and presented two papers in 15th Collaboration Meeting of the CBM Experiment at FAIR, at Banaras Hindu University, Varansi from 27th Dec. to 31st Dec 2009 involving physics issues of the FAIR rxperiment.

iii. Participated in CBM collaboration meeting to present the research status from 13-17 Feb.,2008, Jammu University, Jammu.

iv. Helping several University groups in the data taking and analysis of the data.

v. Actively participated in data analysis and fabrication of the WA98 experiment at VECC Kolkotta, Saha Institute of Nuclear Physics, Rajasthan University Jaipur, Punjab University Chandigarh , University of Jammu etc.

vi. Involved in CBM simulation initiative which include installation of CBM software and UrQmd and PLUTO event generators to run simulation chain pertaining to FAIR experiment.

vii. Participated in the meeting at NIAS Bangalore regarding the future funding/research activities of the FAIR(Facility for Antiproton and Ion Research) in Jan-2012.

viii. Presented the research status of the FAIR project in Gowhati university in Assam.

Major physics responsibilities in experiments till date include:

1. WA98 Experiment:

a. Multifractal analysis of Photon Multiplicity distribution.

b. Entropy content of Photon Multiplicity distribution.

c. Studies of non-statistical fluctuations.

d. Conditional entropy and Mutual information in Photon Multiplicity.

2. Compressed Baryonic Matter (CBM) at FAIR (Facility for Antiproton and Ion Research) Experiment:

A part from the collaborative assignments, following are the indiusual efforts/published papers in this International Collaborative experiment.

a. Study of Secondaries produced in Much detector of the CBM Experiment.

Contributed this work in CBM progress Report 2012, published in GSI Darmstadt, Germany. Book Pg.No:45

b. The compressed Baryonic Matter Experiment at FAIR.

Published in International Journal "Nuclear Physics A, 904-905(2013)941c-944c."

c. Optimization of the Ist absorber thickness of the MuCh (Muon Chamber) detector.

Souvenir and Abstracts (8th JK Science Congress, 2012), Pg No:365

Science, Technology and Regional Development; Opportunities and Challenges.

d. Effect of additional absorber on neutrons between Silicon Tracking Station (STS) and Muon Chamber(MuCh) dectector for the CBM experiment at FAIR.

Souvenir and Abstracts (8th JK Science Congress, 2012), Pg No:378

Science, Technology and Regional Development; Opportunities and Challenges.

e. Effect of Front absorber thickness on particle multiplicities of Muon Chamber (MuCh) for the CBM experiment at FAIR.

Souvenir and Abstracts (8th JK Science Congress, 2012), Pg No:379

Science, Technology and Regional Development; Opportunities and Challenges.

f. Fluctuations as a Signature for the QCD critical point at FAIR energies.

g. Feasibility study of Elliptic flow in CBM experiment at FAIR energies..

h. Study of Kaon to Pion ratio fluctuations at different collision energies.

i. Elliptic Flow of identified hadrons by using AMPT (A Multiphase Transport) model at GSI facility for Antiproton and Ion research (FAIR).

Annexure – I

List of Publication in International Journals

Research Papers.

1. Anisotropic Flow of Identified Hadrons by the Event Plane Method at FAIR Energies. ***International Journals of Fundamental Physical Sciences (IJFPS),* Vol 5, No 1,pp 12-17, March, 2015**.

2. Design and performance of a segmented-absorber based muon detection system for high energy heavy ion collision experiment, ***Nucl. Inst. & Meth. (NIM) A 775 (2015) 139–147.***

3. Comparison of yields of neutron-rich nuclei in proton- and photon-induced 238U fission, ***PHYSICAL REVIEW C 94, 054605 (2016)***

4. The technological concept of the Compressed Baryonic Matter (CBM) experiment ***Journal of Physics: Conference Series 426 (2013) 012020, ISSN:17426588.***

5. Challenges in QCD matter physics —The scientific programme of the Compressed Baryonic Matter experiment at FAIR, ***Eur. Phys. J. A (2017) 53: 60***

6. Measurement of rare probes with the Silicon Tracking System of the CBM experiment at FAIR, ***Nucl. Phy. A00 (2014) page 1-4.***

7. The Compressed Baryonic Matter Experiment at FAIR. ***Nucl. Phys., A 904-905 (2013) 941c-944c.***

8. Net-proton fluctuation evolution at FAIR energy, CBM Progress Report **2016**, page 186, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-4-7***

9. Status of the Compressed Baryonic Matter (CBM) experiment at FAIR, CBM Progress Report **2016**, page 1, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-4-7***

10. The CBM experiment in the international context, CBM Progress Report **2014**, page 5, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-2-3.***

11. Simulation of beam-pipe shielding for CBM-MUCH, CBM Progress Report **2014**, page 70, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-2-3.***

12. Evolution of strangeness fluctuations at FAIR energies, CBM Progress Report **2014**, page 146, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-2-3.***

13. Status of the CBM Experiment at FAIR. CBM Progress Report **2013**, page 1, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-1-6.***

14. Identification of dimuons from low-mass vector mesons with CBM at SIS-300 , CBM Progress Report **2013**, page 114, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-1-6.***

15. Efficiency of the CBM Muon Chamber system for low-mass vector mesons , CBM Progress Report **2013**, page 115, GSI, Darmstadt, Germany, ***ISBN: 978-3-9815227-1-6.***

16. Silicon Tracking System (STS) for CBM Experiment GSI Report 2013-14, ***ISSN: 0171-4546***.

17. Longitudinal Hadronic Flow at RHIC in Extended Statistical Thermal Model and Resonance Decay Effects. ***Acta Physica Polonica B Vol. 41 (11):2433-2448; 2010.***

18. Status of the CBM experiment at FAIR CBM (Compressed Baryonic Matter Experiment) Progress Report, **2010**, GSI, Darmstadt, Germany, ***ISBN: 978-3- 9811298-8-5.***

19. The CBM experiment at SIS-100, CBM Progress Report, **2011**, GSI, Darmstadt, Germany, ***ISBN: 978-3-9811298-9-2.***

20. Status of the CBM Experiment at FAIR, CBM Progress Report **2012**, page 1, GSI, Darmstadt, Germany, ***ISBN:978-3-9815227-0-9.***

21. Study of secondaries produced in the MUCH detector of the CBM Experiment, CBM Progress Report **2012**, GSI, Darmstadt, Germany, ***ISBN:978-3-9815227-0-9.***

22. Event-by-event fluctuations in particle multiplicities and transverse energy produced in 158 A GeV Pb + Pb collisions. ***Phys.Rev.C65, 054912, 2002.***

23. Transverse mass distribution of neutral pions from Lead (Pb) induced reactions at 158 A GeV. ***Eur.Phys.J.C23/2,225, 2002***.

24. Localized charged neutral fluctuations in 158 A GeV Pb-Pb collisions. ***Phys.Rev.C64:011901,2001***.

25. Scaling of Particle and Transverse Energy Production in Pb^{208} + Pb^{208} Collisions at 158 A GeV. **Euro. Phys. J. C18;651-663,2001.**

26. Three pion interferometry Results from central Pb + Pb Collisions at 158A GeV/c. ***Phys. Rev. Lett. 85 ; 2895, 2000.***

27. Central Pb + Pb Collisions at 158 A GeV/c Studied by $\pi^- \pi^-$ Interferometry. ***Eur. Phys. J. C 16: 445 – 451, 2000.***

28. Observation of Direct Photons in Central 158 a GeV Pb^{208} + Pb^{208} Collisions. ***Phys. Rev. Lett. 85: 3595 – 3595, 2000.***

29. Δ++ Production in 158 A GeV Pb208 + Pb208 Interactions at the CERN SPS. ***Phys. Lett. B477: 37 – 44, 2000.***

30. Collective flow and HBT in Pb + Pb Collisions at the CERN SPS. ***Nucl. Phys. A 663 – 664: 729 – 732, 2000.***

31. Systematics of Inclusive Photon production in 158 A GeV Pb Induced Reactions on Ni, Nb and Pb Targets. ***Phys. Lett. B 458: 422 – 430, 1999.***

32. Freezeout Parameters in Central 158 A GeV Pb ^{208} + Pb ^{208} Collisions. ***Phys. Rev. Lett. 83: 926 – 930, 1999.***

33. Elliptic Emission of K^+ and π^+ in 158 A GeV Pb – Pb Collisions. ***Phys. Lett. B467: 30-36, 1999.***

34. Elliptic Emission of K^+ 158 a GeV Pb + Pb Collisions. ***Nucl. Phys. A661 – 467, 1999.***

35. Recent Results from the WA 98 Experiment. ***Nucl, Phys. A661 : 191 – 197, 1999.***

36. Two Particle correlations in 158 A GeV collisions. ***Nucl. Phys. A661: 427 – 430, 1999.***

37. Measurement of dileptons with the CBM Experiment at FAIR", ***Nuclear Physics A***, 931 **(2014)** 735 – 739.

38. "Propagation of Fluctuations in High Energy Heavy Ion Collisions", ***Physical. Rev. C*** **(2014)** (Sub.).

Annexure – II

List of Publication in National Journals

Conference Abstracts

1. Fluctuation Evolution in Heavy Ion Collisions at FAIR Energy, **PoS(ICPAQGP2015)111**, Proceedings of Science, ISSN: **1824-8039**

2. Multi-Strange production at FAIR Energies, **PoS(ICPAQGP2015)051**, Proceedings of Science, **ISSN: 1824-8039**

3. Conditional Entropy and Mutual Information in Photon Multiplicity produced in Pb – Pb Central Interactions at 158 a GeV. ***Proceeding of DAE Symposium on nuclear Physics, Vol. 41B (1998) 338.***

4. Entropy Content of Photon Multiplicity Distributions in Lead Induced Interactions at 158 A Gev. ***Proceeding of DAE Symposium on Nuclear Physics, Vol. 41B (1998) 340***

5. Multifractal Analysis of Photon Multiplicity Distributions in Lead Induced Reactions at 158 A GeV ***Proceeding of DAE Symposium on Nuclear Physics, Vol. 41B (1998) 336.***

6. Studies on Non – statistical Fluctuations in Lead Ion Interactions at 158 A GeV.
Proc. DAE International Symposium on Nuclear Physics 43B (2000) 389.

7. Study of Phase Transition in the light of Ginzburg – Landu Model.
Proc. DAE International Symposium on Nuclear Physics 43 B(2000) 391

8. Net Proton flow and Nuclear Transparency effects at RHIC.
Cited at: arxiv.org>hep-ph: arxive:0901.1376 (2008)

9. Dynamical Fluctuations of Photon Multiplicities in Pb Induced Reactions.
Proc. DAE International Symposium on Nuclear Physics 43 B(2000) 430.

10. Experimental/Simulation studies in Compressed Baryonic Matter Experiment.

DST sponsored International workshop in High Energy Physics (2008)

11. FairRoot Simulation Studies in Au-Au collisions
DST/DAE sponsored High Energy Physics conference at B.H.U (29th Dec. 2009)

12. Study of Physics Observables in Compressed Baryonic Matter experiment at Fair energies.
DST/DAE sponsored High Energy Physics conference at B.H.U (30th Dec.2009)

13. STS Effects and MUCH Effeciency of CBM Experiment
Proceeding of **DAE Symposium on Nuclear Physics 59 (2014) , page 754**

14. Optimisation of Beam-Pipe Shielding for MUCH detector of CBM experiment
Proceeding of DAE Symposium on Nuclear Physics 59 (2014) , page 756

15. Cocktail detection with CBM Experiment at 25 GeV
Proceeding of DAE Symposium on Nuclear Physics 59 (2014) , page 686.

16. Exotic nuclei production by photofission at many energies, ***60th DAE-BRNS***
Symposium on Nuclear Physics to be held from December 07-11, 2015; Paper No.
: paper034.

17. Study of the elliptic flow and. their energy dependence over pseudorapidity range at FAIR energies, ***60th DAE-BRNS Symposium on Nuclear Physics (2015).***

Papers presented in Conferences, Seminars, Workshops, Symposia

Title of the Paper presented	**Title of Conference/ Seminar/Workshop/ Symposium**	**Organised by**	**International/ National/State/Regional/ College or University level**
Conditional Entropy and Mutual Information in Photon Multiplicity produced in Pb- at 158 A GeV. 41B(1998)338 Pb central Interactions	*International Symposium on Nuclear Physics*	*Bhaba Atomic Research Centre, Mumbai*	*International*
Entropy content of Photon Multiplicity Distributions in Lead Induced Interactions at 158 A GeV 41B(1998)340	*International Symposium on Nuclear Physics*	*Bhaba Atomic Research Centre, Mumbai*	*International*
Multifractal analysis of Photon Multiplicity Distributions in Lead Induced Reactions at 158 A GeV. 41B(2000)336	*International Symposium on Nuclear Physics*	*Bhaba Atomic Research Centre, Mumbai*	*International*
Studies of Non-statistical Fluctuations in Lead Induced	*International*	*Bhaba*	*Internatio*

Interactions at 158 A GeV 43B(2000)389	*Symposium on Nuclear Physics*	*Atomic Research Centre, Mumbai*	*nal*
Study of Phase Transition in the light of Ginzburg_Landu Model 43B(2000)391	*International Symposium on Nuclear Physics*	*Bhaba Atomic Research Centre, Mumbai*	*Internatio nal*

Dynamical fluctuations of Photon Multiplicities in Lead (Pb) Induced Interactions 43B(2000)430	*International Symposium on Nuclear Physics*	*Bhaba Atomic Research Centre, Mumbai*	*Internatio nal*
Effect of Additional Absorber on Neutrons between STS (Silicon Tracking Station) and Muon Chamber (MuCh) detector for CBM experiment at FAIR	*8th J&K Science Congress*	*J&K DST and DST Govt. of India*	Regional
Optimization of First Absorber of Muon Chamber (MuCh) Detector for the CBM Experiment	*8th J&K Science Congress*	*J&K DST and DST Govt. of India*	Regional
Effect of Front Absorber Thickness on Particle Multiplicities of Muon Chamber (MuCh) Detector for the CBM Experiment at FAIR	*8th J&K Science Congress*	*J&K DST and DST Govt. of India*	Regional
Root at Heavy Ions In Heavy Ion Collisions	International Workshop in University of Jammu	*DST & University of Jammu*	*Internatio nal*
Photovoltic Power Plants:An Alternative to the Conventional Energy Resourses.	National Industry/Academia Symposium	*University of Jammu, Jammu*	*National*
MUCH(Muon Chamber) Detector for CBM Experiment at FAIR	International Conference	*Variable Energy Cyclotron Centre(VECC), Kolkata*	*Internatio nal*
Energy Challenges in Jammu and Kashmir	International Conference	*University of Kashmir*	*Internatio nal*
Geomatics for Good Governance	National Conference on Good Governance	University of Kashmir	National

Environment Sustainability of Jammu and Kashmir: Trends and Indicators	National Conference on Environmental Sustainability	University of Kashmir	National
Feasibility Study of Elliptic Flow in CBM Experiment at FAIR Energies	9th JK Science Congress 2013 & Regional Science Congress	UoK, J&K SCS&T,DST,GoI	Regional
Fluctuations as a signature for the QCD Critical Point at FAIR Energies	9th JK Science Congress 2013 & Regional Science Congress	UoK, J&K SCS&T,DST,GoI	Regional
Study of Kaon to Pion Ratio Fluctuations at Different Collision Energies in FAIR Experiment	9th JK Science Congress 2013 & Regional Science Congress	UoK,J&K SCS&T,DST,GoI	Regional
Elliptic Flow of Identified Hadrons by Using the AMPT Model at GSI Facility for Antiproton and Ion Research (FAIR)	9th JK Science Congress 2013 & Regional Science Congress	UoK,J&K SCS&T,DST,GoI	Regional
Secondaries upstream and downstream the first absorber of muon detection system for CBM Experiment at FAIR	DAE Symposium on Nuclear Physics	Dept. of Atomic Energy & BRNS	International

Invited Lectures and Chairmanships at national or international conference/ seminar/workshop/symposium etc.

Title of Lecture/Academic Session	**Title of Conference/ Seminar/workshop/ symposium etc.**	**Organised by**	Whether International/ National/ State/ Regional
Ultra-relativistic Heavy Ion Collisions	National Seminar UGC-DRS Programme	Department of Physics, Jamia Millia Islamia, New Delhi.	National
FAIR/ROOT Simulation Studies in Au-Au Interactions in CBM experiment at FAIR	Workshop in High Energy Physics	Department of Physics, Jamia Millia Islamia, New Delhi.	National
Physics Observables of Quark Gluon Plasma (QGP)	National Seminar in High Energy Physics	Department of Physics, Jamia Millia Islamia, New Delhi.	National
Quantum Chromodynamics (QCD) and its applications	National Seminar in High Energy Physics	Department of Physics, Jamia Millia Islamia, New Delhi.	National

Compresserd Baryonic Matter and J/Psi Production at FAIR	Invited Lecturer	Jamia Millia Islamia University, Deptt. Of Physics	National
Lader Sustainability Development	Workshop	University of Kashmir(Chairmanship	National
Urban Earthquake Risks Reduction	Workshop	University of Kashmir	National
Earth Day Programme	Workshop	University of Kashmir	National

Articles / Chapters published in Books

Status of the CBM experiment at FAIR, Page No. 1	*CBM (Compressed Baryonic Matter Experiment) Progress Report,* ***2010***	International
The CBM experiment at SIS-100, Page No. 1	*CBM Progress Report,* ***2011***	International
Status of the CBM Experiment at FAIR. Pg. No.1	*CBM Progress Report,* ***2012.*** *GSI, Darmstadt, Germany*	International
Study of secondaries produced in the MUCH detector of the CBM, Page No:45	*CBM Progress Report,* ***2012.***	International
Status of the Compressed Baryonic Matter (CBM) experiment at FAIR, Pg. No. 1	*CBM Progress Report,* ***2013***	International
Effeciency of the CBM Muon Chamber system for low-mass vector mesons, Pg. No. 115	*CBM Progress Report,* ***2013***	International
Evolution of Strangeness fluctuations at FAIR energies. Page No:146	*CBM progress report* ***2014***	International
Simulation of beam pipe shielding for CBM MuCH. Page No:69	*CBM progress report* ***2014***	International
The Compressed Baryonic Matter Experiment at FAIR	*CBM progress report* ***2014***	International
Status of the Compressed Baryonic Matter experiment at FAIR, Page 1	*CBM Progress Report,* ***2015***	International
Simulation of the beam pipe for MUCH, Page 69	*CBM Progress Report,* ***2015***	International
Mass and quark number dependence of elliptic flow with the AMPT model at FAIR energies, Page 143	*CBM Progress Report,* ***2015***	International

Published Document:

1. ***"Study of Observables of Highly Compressed Baryonic Matter Produced in Nucleus-Nucleus Collision in CBM Experiment at FAIR",*** *published by GSI, Darmstadt, Germny.*

   Document identifier: QCD_CBM-thesis_ma-2012-006
   GDS – ID: DOC-2012-Dec-61

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