

Curriculum Vitae



Personal:

Name: ANISA QAMAR
Father's Name: MIAN SHAM-SUL-QAMAR
Sex: Female
Date & place of Birth: 26th January, 1968 (Mardan, Khyber Pakhtunkhwa, Pakistan)
I.D. Card No: 16101-1042504-6
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Academic Qualification:

Degrees	SUBJECTS	Year	Div	%age	Institutions
PhD	Plasma Physics	2004			Quaid-I-Azam University, Islamabad, Pakistan
MPhil	Plasma Physics	1995	1 st	85	Quaid-I-Azam University, Islamabad, Pakistan
MSc	Physics	1992	1 st	66	University of Peshawar, Peshawar, Pakistan
BSc	Maths A, Statistics & Physics	1988	1 st	65	Government Girls College Mardan, Pakistan
	Maths B (Additional)	1989	1 st	71	

Field of Research in MPhil

Experimental Study of dense plasma focus device (Supervisor Prof. Dr. M. Zakaullah)

Distinctions:

1. Chancellor's Gold Medal (1995) (M.Phil. in Physics), Quaid-I-Azam University, Islamabad, Pakistan.
2. Research Productivity Award - 2005
3. Research Productivity Award - 2011
4. Research Productivity Award - 2015
5. Research Productivity Award - 2016

Field of Research in PhD:

Title of PhD thesis: Order and Chaos in temperature gradient-driven-drift-waves in sheared flow plasma.

PhD Thesis Evaluated by:

1. **Prof. PH Sakanaka**, Instituto de Fisica - Universidade Estadual de Campinas, SP, Brazil.
2. **Prof. M Y Yu**, Institut für Theoretische Physik Ruhr Universität Bochum, Germany.
3. **Prof. L. Stenflo**, Institute of Physics, Umea University, Sweden.

Teaching & Research Experience:

- **Dec 2016-Continued** Professor (Tenured), Department of Physics, University of Peshawar.
- **Feb 2010 – Feb 2011** Associate Professor (BPS), Department of Physics, University of Peshawar.
- **March 2011- Dec 2016** Associate Professor (TTS), Department of Physics, University of Peshawar.
- **Feb 2007 – Feb 2010** Assistant Professor, Department of Physics, University of Peshawar.
- **Jan 2000 – Jan 2003** Research Associate at the Department of Physics, QAU, Islamabad
- **March 2004 – Jan 2006** Postdoctoral Fellow, NCP, Islamabad
- **Feb 2006 – Feb 2007** Postdoctoral Fellow, NCP, Islamabad
- **July 1998 - Dec 1999** Research Officer at the Department of Physics, QAU, Islamabad
- **May 1997- Aug 1998** **Lecturer** in Physics, Frontier Govt. Girls College, Peshawar, Pakistan.
- **Aug 1995 - May 1997** **Lecturer** in Physics, Govt. Girls College, Charsadda, Pakistan.

Administrative & Research Experiences

1. **15-06-2019 to 15-10-2019** Chairperson, Department of Physics, UoP
2. **22-09-2020 to 20-11-2020** Chairperson, Department of Physics, UoP
3. **30-11-2021 to 16-12-2021** Chairperson, Department of Physics, UoP
4. **07-03-2022 to 29-01-2024** Chairperson, Department of Physics, UoP
5. **30-01-2024 to till date** Chairperson, Department of Physics, UoP
6. **04-06-2025 to 31-12-2027** Member, IUPAP, C-13, Italy
7. **25-03-2022 to 25-03-2024** Member, IUPAP, WG 5, Italy
8. **05-11-2024 to 05-11-2026** Member of the Board of Directors of AAPPS-DPP, Japan
9. **05-11-2024 to 05-11-2026** Vice-chair of Women in Plasma Physics (WIPP AAPPS-DPP), Japan
10. **2016 to till date** Member of the Organization for Women in Science Development (OSWD), Italy
11. **01-01-2020 to 31-12-2020** Vice President of Pakistan Physical Society (PPS)
12. **01-01-2021 to 31-12-2021** President of Pakistan Physical Society (PPS)
13. **Feb 2006 - Feb 2007** Post-doc at National Center for Physics (NCP) QAU, Islamabad
14. **March 2004 – Jan 2006** Post-doc research at Department of Physics, QAU, Islamabad

Research Grants (More than One Million PKR)

1. HEC PROJECT

One research grant (NO.20-970IR&D/07-747) in 2008 by HEC worth **PKR 1.2 million**.

2. DOST PROJECT

PKR 2.4 million by the Directorate of Science and Technology, Peshawar, in 2013 for the establishment of the Plasma Experimental lab in the Department of Physics, University of Peshawar.

3. HEC PROJECT

In 2019, HEC (No.9740/KPK/NRPU/R&D/HEC/2017) granted **PKR 13.5 million** for the establishment of the Experimental Plasma Research Lab at the Department of Physics, University of Peshawar.

Research Collaborations (National) MoU with NCP 2008-2018

One MoU has been signed between the National Center for Physics, Islamabad, and the Department of Physics, UoP, for the training of MPhil & PhD scholars. Currently, three PhD scholars from the UoP are being trained under this exchange programme. These students are given training and free accommodation in NCP.

Research Collaborations (International)

I have strong research collaborations with **Queen's University, Belfast, UK**, the **University of Maryland, USA**, and **Saint Andrew's University, Scotland, UK**.

MEMBERSHIP (International Bodies)

1. Member of the Organization for Women in Science Development (OWSD), **Italy**
2. Member of the IUPAP WG5 Committee, **Italy**
3. Associate member of the IUPAP C13 Committee, **Italy**
4. Member of the Board of Directors (BoD) of the Association of Asian Pacific Physical Societies (AAPPS-DPP), **Japan**
5. Vice-chair of Women in Plasma Physics (WIPP AAPPS-DPP) **Japan**

MEMBERSHIP (National Bodies)

1. Part-time member of the Pakistan Nuclear Regulatory Authority (PNRA), Pakistan
2. Member and one-term President, Pakistan Physical Society (PPS), Pakistan
3. Vice President (One term) of Pakistan Physical Society (PPS), Pakistan
4. Member of the Pakistan Physics Working Women Group
5. Fellow of Pakistan Physical Society (PPS), Pakistan

Memberships of Different Statutory Bodies Other than UOP

1. Part-time member of the Pakistan Nuclear Regulatory Authority (PNRA)
2. Member of the Senate, Hazara University, Hazara
3. Member of the Selection Board of Hazara University, Hazara
4. Member of the Senate, Kohat University of Science and Technology (KUST), Kohat
5. Member of the Selection Board of KUST, Kohat
6. Member of the Scrutiny Committee, KUST, Kohat
7. Member of the Board of Studies Committee, KUST, Kohat
8. Member of the Departmental Technical Review Committee, KUST, Kohat
9. Member of the Board of Governors of Pak-Austria Fachhochschule, Haripur
10. Member of the Academic Council of Pak-Austria Fachhochschule, Haripur
11. Member of the Board of Studies, Shaheed Benazir Bhutto Women's University, Peshawar
12. Member of Departmental Technical Review Committee (DTRC), Shaheed Benazir Bhutto Women's University, Peshawar

13. Member of the Board of Faculty Sciences, Shaheed Benazir Bhutto Women's University, Peshawar
14. Member of the Board of Studies, Women's University, Swabi
15. Member of the Advanced Studies and Research Board (ASRB), University of Swabi
16. Member of the TTS Committee, University of Swabi
17. Member of the DTRC Committee, Islamia College University, Peshawar
18. Member of the Board of Studies, Islamia College University, Peshawar
19. Member of the Graduate Studies Committee, Islamia College University, Peshawar
20. Member of the Science and Technology Advisory Committee (STAC) of Khyber Pakhtunkhwa
21. Member of the Directorate General of Science and Technology, Government of Khyber Pakhtunkhwa

Memberships of Different Statutory Bodies of UOP

1. Member of the Advanced Studies and Research Board (ASRB), University of Peshawar
2. Member of the ASRB Sub Committee, University of Peshawar
3. Member of the Board of Faculty, University of Peshawar
4. Member of the Academic Council, University of Peshawar
5. Member of the Affiliation Committee, University of Peshawar
6. Member of Examination Discipline Committee, University of Peshawar
7. Member of the Board of Studies, Department of Physics, University of Peshawar
8. Member of the DTRC, Department of Physics, University of Peshawar
9. Member of the Graduate Studies Committee, Department of Physics, University of Peshawar

Research Publications INTERNATIONAL:

1. Anomalous Heat Transport and Vortex Formation due to Electron- Temperature-Gradient Driven Drift Waves in a Sheared Flow, A.M. Mirza, T.Rafiq, **Anisa Qamar**, G.Murtaza, R.T. Faria Jr., and P.K. Shukla, 60, 261 (1999), *Physica Scripta*, DOI 10.1238/Physica.Regular.060a00261.
2. Nonlinear Dynamics and Anomalous Energy Transport in an Electrostatic ITG Drift-Dissipative Mode, Tariq Rafiq, A.M. Mirza, **Anisa Qamar**, G. Murtaza, and P. K. Shukla *Physics of Plasmas*, 6, 3571 (1999), <https://doi.org/10.1063/1.873616>.
3. Order and Chaos in ETG-Driven Drift Dissipative Waves with Sheared Flows, A.M. Mirza, T.Rafiq, **Anisa Qamar**, G.Murtaza, P.K.Shukla and R.T. Faria. *J. Plasma Physics*, 62(5), 531 (1999), doi:10.1017/s0022377899008089.
4. Electromagnetic Ion-Temperature-Gradient modes and Anomalous Transport in a Non-uniform Magnetized Plasma with Equilibrium Flows, Tariq Rafiq, **Anisa Qamar**, Arshad M. Mirza, G. Murtaza and P. K. Shukla *Physics of Plasmas*, 7(4), 1125 (2000), <https://doi.org/10.1063/1.873920>.
5. Chaotic Behavior of Ion Temperature-Gradient Driven Drift Dissipative Modes, T. Rafiq, **Anisa Qamar**, G. Murtaza, and A.M. Mirza *Physics of Plasmas*, 7, 4499 (2000), <https://doi.org/10.1063/1.1316083>.
6. Tripolar vortices associated with toroidal ion temperature gradient modes in a magnetoplasma with sheared flows, T. Farid, A.M.Mirza, P. K. Shukla, and **Anisa Qamar**, *Physics of Plasmas*, 8, 846 (2001), <https://doi.org/10.1063/1.1348038>.
7. Formation of Quadrupolar vortices in ion-temperature-gradient modes, **Anisa Qamar**, A. M. Mirza, and G. Murtaza. *Physics of Plasmas*, 10, 2819 (2003) <https://doi.org/10.1063/1.1577123>.

8. Formation of tripolar vortices in toroidal ion-temperature-gradient driven modes in the presence of dust contamination, A.M. Mirza, **Anisa Qamar**, M. Yaqub Khan, and M. Ayub, *Physics of Plasmas* 14, 083701, (2007), <https://doi.org/10.1063/1.2753465>.
9. Ion-temperature-gradient driven modes in Bi-ion magnetoplasma, Nazia Batool, **Anisa Qamar**, A.M. Mirza *Physica Scripta* 78 065503 (2008), DOI 10.1088/0031-8949/78/06/065503.
10. Quadrupolar vortex formation in ion-temperature-gradient driven dust-contaminated magnetoplasma, **Anisa Qamar**, Arshad M. Mirza, and M. Y. Khan *Physica Scripta* 79 025505 (2009), DOI 10.1088/0031-8949/79/02/025505.
11. Parametric studies of non-linear magnetosonic waves in two-dimensional quantum magnetoplasmas, A. Mushtaq and **Anisa Qamar**, *Physics of Plasmas*. 16, 022301-8, (2009), <https://doi.org/10.1063/1.3073669>.
12. Vortical structures in a nonuniform pair-ion dust magnetoplasma with sheared flows, A. Mushtaq, **A. Qamar**, and Zulfiqar Ahmed, *Physics of Plasmas*. 17, 014502 (2010), <https://doi.org/10.1063/1.3290803>.
13. Dipolar vortex formation in electromagnetic ion – temperature – gradient waves in a dust-contaminated magnetoplasma. **Anisa Qamar**, M Yaqub Khan, Zulfiqar Ahmad, and Arshad M Mirza, *Physics of Plasma* 17, 062301, (2010), <https://doi.org/10.1063/1.3430631>.
14. Chaos in toroidal ion-temperature-gradient driven modes in dust-contaminated magnetoplasma, **Anisa Qamar**, Arshad M Mirza, M Yaqub Khan, Attaullah Shah, *Physica Scripta* 83, 065503, (2011), DOI 10.1088/0031-8949/83/06/065503.
15. Dust ion acoustic solitons in pair-ion plasmas with non-isothermal electrons, A. Mushtaq, M. Nasir Khattak, Zulfiqar Ahmad, **Anisa Qamar**, *Physics of Plasmas* 19, 042304,(2012), <https://doi.org/10.1063/1.3696061>.
16. Magnetohydrodynamic spin waves in degenerate electron-positron ion plasma, A. Mushtaq, R. Maroof, Zulfiqar Ahmad, **Anisa Qamar**. *Physics of Plasmas* 19, 052101 (2012), <https://doi.org/10.1063/1.4714602>.
17. Tripolar vortex formation in dense quantum plasma with ion-temperature-gradients. **Anisa Qamar**, A. M. Mirza, Atta-ur-Rehman, *Phys. Plasmas* 19, 052303 (2012), <https://doi.org/10.1063/1.4714648>.
18. Electrostatic solitons in rotating dusty plasmas with anisotropic ion pressure. Muhammad Adnan, S. Mahmood, **Anisa Qamar**, *Astrophys Space Sci* 341, 551 – 558 (2012), DOI 10.1007/s10509-012-1117-3.
19. Nonplanar electrostatic solitary waves in a relativistic degenerate dense plasma, Ata-ur-Rahman, A. Mushtaq, S. Ali and **A. Qamar** *Commun. Theor. Phys.* 59, 479-483 (2013), DOI 10.1088/0253-6102/59/4/16.
20. Nonlinear ion acoustic excitations in relativistic degenerate, astrophysical electron–positron–ion plasmas, Ata-ur-Rahman, S. Ali, A. Mushtaq and **A. Qamar** *J. Plasma Physics* 79, 817-823 (2013), doi:10.1017/s0022377813000524.

21. Planar and nonplanar ion acoustic shock waves in relativistic degenerate astrophysical electron-positron-ion plasmas, Ata-ur-Rahman, S. Ali, A. M. Mirza and **A. Qamar**, Physics of Plasmas 19, 052303 (2013), DOI:10.1063/1.4802934.
22. Linear and non-linear dynamics of electron temperature gradient mode in non-Maxwellian plasmas, U. Zakir, Q. Haque and **A. Qamar**, Physics of Plasmas 20, 052106 (2013), <https://doi.org/10.1063/1.4803653>
23. Kadomtsev–Petviashvili equation for solitary waves in warm dense astrophysical electron-positron-ion plasmas, Ata-ur Rahman, S.A. Khan, and **A. Qamar**, Astrophys. Space Sci. 347:119–127 (2013), DOI 10.1007/s10509-013-1501-7.
24. Three dimensional electrostatic solitary waves in a dense magnetoplasma with relativistically degenerate electrons. Ata-ur-Rahman, W. Masood, B. Eliasson, and **A. Qamar**, Phys. Plasmas 20, 092305 (2013), <https://doi.org/10.1063/1.4821976>.
25. Effect of Anisotropic Ion Pressure on Solitary Waves in Magnetized Dusty Plasma, M. Adnan S. Mahmood and **Anisa Qamar**, Contrib. Plasma Phys. 54, 724-734 (2014), <https://doi.org/10.1002/ctpp.201300061>.
26. Ion-temperature-gradient driven modes in dust-contaminated plasma with nonthermal electron distribution and dust charge fluctuations, U. Zakir, Q. Haque, **A. Qamar**, and Arshad M. Mirza, Astrophys Space Sci, 350, 565-572 (2014), DOI 10.1007/s10509-013-1765-y.
27. Small amplitude ion acoustic solitons in a weakly magnetized plasma with anisotropic ion pressure and kappa distributed electrons, M Adnan S. Mahmood and **Anisa Qamar**, Advances in Space Research 53 845–852 (2014), <https://doi.org/10.1016/j.asr.2014.01.003>.
28. On the ordinary mode instability for low beta plasmas. Fazal Hadi, Muhammad Fraz Bashir, **Anisa Qamar**, Phys. Plasmas 21, 052111 (2014), <https://doi.org/10.1063/1.4879823>.
29. Dust acoustic solitary and shock excitations in a Thomas-Fermi magnetoplasma, Zakia Rahim, Shahid Ali, and **Anisa Qamar**, Phys. Plasmas 21, 072305 (2014), doi.10.1063/1.4886999.
30. Bernstein instability driven by thermal ring distribution, Peter H. Yoon, Fazal Hadi, and **Anisa Qamar**, Phys. Plasmas 21, 074502 (2014), <https://doi.org/10.1063/1.4887000>.
31. Pressure anisotropy effects on nonlinear electrostatic excitations in magnetized electron-positron-ion plasmas, Muhammad Adnan, Gina Williams, **Anisa Qamar**, S. Mahmood, and Ioannis Kourakis, Eur. Phys. J. D 68, 247 (2014), DOI:10.1140/epjd/e2014-50384-y.
32. Coupled ion acoustic and drift waves in magnetized superthermal electron-positron-ion plasmas, Muhammad Adnan & Shahzad Mahmood, **Anisa Qamar**, Phys. Plasmas 21, 092119 (2014), <https://doi.org/10.1063/1.4896346>.
33. Ordinary mode instability associated with thermal ring distribution, F. Hadi, P. H. Yoon, and **A. Qamar**, Physics of Plasmas, 22, 022112 (2015), <https://doi.org/10.1063/1.4907657>.

34. Magnetohydrodynamic waves with relativistic electrons and positrons in degenerate spin $\frac{1}{2}$ astrophysical plasmas, R. Maroof, S. Ali, A. Mushtaq, and A. Qamar Phys. Plasmas, 22, 112102 (2015), doi.10.1063/1.4934924.
35. Amplitude modulation of quantum-ion-acoustic wave packets in electron-positron-ion plasmas, Atta ur Rahman, Michael Mc Kerr, Wale F., El. Taibany, Ioannis Kourakis, and A. Qamar, Phys. Plasmas, 22, 022305 (2015), doi.10.1063/1.4907247.
36. Electrostatic solitary waves in relativistic degenerate electron-proton-ion plasma, Atta ur Rahaman, Ioannis Kourakis, and Anisa Qamar, IEEE Transactions on plasma science 43, 4 (2015), DOI:10.1109/TPS.2015.2404298.
37. Propagation of ion solitary pulses in dense astrophysical electron-proton-ion magnetoplasma, Atta ur Rahman, S. A. Khan, and Anisa Qamar, Plasma Science and technology 17,12 (2015), DOI 10.1088/1009-0630/17/12/04.
38. Dust acoustic and drift waves in a non-Maxwellian dusty plasma with dust charge fluctuation, U. Zakir, Q. Haque, N. Imtiaz, and A. Qamar, J. Plasma Phys. 81, (2015), doi.10.1017/S002237781500104X.
39. Electron temperature gradient mode instability and stationary vortices with elliptic and circular boundary conditions in non-Maxwellian plasmas, U. Zakir, Q. Haque, and A. Qamar, Physics of Plasma, 22, 122105 (2015), <https://doi.org/10.1063/1.4936802>.
40. Quantum dust magnetosonic waves with spin and exchange correlation effects, R. Maroof, A. Mushtaq, and A. Qamar, Physics of Plasmas, 23, 013704 (2016), <https://doi.org/10.1063/1.4939807>.
41. Ion temperature gradient mode driven soliton and shock, U. Zakir, M. Adnan, Q. Haque, A. Qamar, and A. M. Mirza, Physics of Plasmas, 23, 042104 (2016), doi. 10.1063/1.4945632.
42. Small amplitude two-dimensional electrostatic excitations in a magnetized dusty plasma with q -distributed electrons: Shahab Ullah Khan, Muhammad Adnan, Anisa Qamar, Shahzad Mahmood; Astrophys Space Sci. 361, 213 (2016), doi. 10.1007/s10509-016-2798-9.
43. Characteristic study of head-on collision of dust-ion acoustic solitons of opposite polarity with kappa distributed electrons, Shahida Parveen, Shahzad Mahmood, Muhammad Adnan, and Anisa Qamar; Physics of Plasma 23, 092122 (2016), <https://doi.org/10.1063/1.4963246>.
44. Small amplitude Kinetic Alfvén Waves in a superthermal electron-positron ion plasma; Muhammad Adnan Sahahzad Mahmood, Anisa Qamar, Mouloud Tribeche; Advances in Space Research 58, 1746 (2016), <https://doi.org/10.1016/j.asr.2016.07.009>.
45. Arbitrary electron acoustic waves in degenerate dense plasmas by A. Rahman, A. Mushtaq, A. Qamar, and S. Neelam; Indian J Phys. 91, 5 (2017), doi:10.1007/s12648-016-0935-5.
46. On the characteristics of obliquely propagating electrostatic structures in non-Maxwellian plasmas in the presence of ion pressure anisotropy by Muhammad Adnan, Anisa Qamar, Shahzad Mahmood, and Ioannis Kourakis, Physics of Plasmas 24, 032114 (2017), <https://doi.org/10.1063/1.4978613>.

47. Tripolar vortices in ion-temperature-gradient mode with non-Maxwellian electrons in an inhomogeneous magnetoplasma; **Anisa Qamar**, Javed Iqbal, U. Zakir, and Arshad M. Mirza, *Can. J. Phys.* 95, 650–654 (2017), <https://doi.org/10.1139/cjp-2016-0581>.
48. Oblique ion acoustic excitations in an ultra-relativistic degenerate dense magnetoplasma; Ata-ur Rahman, **A. Qamar**, S. Naseer, and S. N. Naeem, *Can. J. Phys.* 95: 655–661 (2017), <https://doi.org/10.1139/cjp-2016-0592>.
49. Kinetic treatment of nonlinear ion-acoustic waves in multi-ion plasma; Zulfiqar Ahmad, Mushtaq Ahmad, and **A. Qamar** *Physics of Plasmas* 24, 092304 (2017), <https://doi.org/10.1063/1.4998473>.
50. Electron Bernstein waves in a collisionless magnetoplasma with Cairns distribution function; M. Usman Malik, W. Masood, Aman-ur Rehman, Arshad M. Mirza, and **Anisa Qamar**, *Can. J. Phys.* 1-5 (2017), <https://doi.org/10.1139/cjp-2017-0044>.
51. Landau damping of electrostatic modes in nonthermal plasmas; Fazli Hadi, Ata-ur-Rahman, **Anisa Qamar**, *Physics of Plasmas* 24, 104503 (2017), <https://doi.org/10.1063/1.5006802>.
52. Oblique Interaction of Dust-ion Acoustic Solitons with Superthermal Electrons in a Magnetized Plasma, Shahida Parveen, Shahzad Mahmood, Muhammad Adnan, and **Anisa Qamar**, *Journal of the Physical Society of Japan*, 87, 014502 1-12 (2018), <https://doi.org/10.7566/JPSJ.87.014502>.
53. Interaction of magnetoacoustic solitons in plasmas with dispersion effects through electron inertia, Shahida Parveen, Shahzad Mahmood, **Anisa Qamar**, Sajjad Hussain, Muhammad Adnan. *Contribution to Plasma Physics*, 1-13 (2018), <https://doi.org/10.1002/ctpp.201800009>.
54. Nonplanar dust-acoustic waves and chaotic motions in Thomas Fermi dusty plasmas, Zakia Rahim, Muhammad Adnan, **Anisa Qamar** and Asit Saha, *Physics of Plasma*, 25, 083706 1-10 (2018), <https://doi.org/10.1063/1.5016893>.
55. Effect of Pressure Anisotropy on Nonlinear Periodic Waves in a Magnetized Superthermal Electron-Positron-Ion Plasma, Shahab Ullah Khan, Muhammad Adnan Shahzad Mahmood Hafeez-Ur-Rehman, **Anisa Qamar**. *Brazilian Journal of Physics* 49, 379-39 (2019), <https://doi.org/10.1007/s13538-019-00653-w>.
56. Kinetic Study of Dust Ion Acoustic Waves in a Non-thermal Plasma, Ata-ur-Rahman, Fazli Hadi and **Anisa Qamar**. *Journal of the Physical Society of Japan* 88, 034501 (2019), DOI:10.7566/JPSJ.88.034501.
57. Interaction of kinetic Alfvén wave solitons in nonthermal plasmas, Shahida Parveen, Shahzad Mahmood, **Anisa Qamar** and Muhammad Adnan. *Physics of Plasmas* 26, 072117 (2019), <https://doi.org/10.1063/1.5099251>.
58. Interaction of Magnetoacoustic Solitons in Electron-Positron Plasma, Shahida Parveen, Shahzad Mahmood, **Anisa Qamar** and Muhammad Adnan. *Advances in Space Research* 63, 1192-1203 (2019), <https://doi.org/10.1016/j.asr.2018.10.022>.
59. Magnetosonic shock waves in magnetized quantum plasma with the evolution of spin-up and spin-down electrons, Zakia Rahim, Muhammad Adnan and **Anisa Qamar**. *Physical Review E* 100, 053206 (2019), 10.1103/PhysRevE.100.053206.

60. Head-on collision of Magnetosonic shock waves with separated spin evolution in degenerate quantum magnetoplasma, Zakia Rahim, Muhammad Adnan and **Anisa Qamar**. Journal of the Physical Society of Japan (2020), doi/10.7566/JPSJ.89.094502.
61. Nonlinear excitations of Magnetosonic Solitary Waves and Their Chaotic Behavior in Spin-Polarized Degenerate Quantum Magnetoplasma, Zakia Rahim, Muhammad Adnan and **Anisa Qamar**. Chaos (2021), 10.1063/5.0011622.
62. Dust Ion Acoustic Waves in Non-thermal Cairns Bi-Maxwellian Plasma, Rashid ul Haq, Fazli Hadi, Zakir Ulla, Zeeshan Ahmad and **Anisa Qamar**. Contributions to Plasma Physics (2021), <https://doi.org/10.1002/ctpp.202000216>.
63. Role of Entropy in η_i -mode Driven Nonlinear Structures Obtained by Homotopy Perturbation Method in Electron-Positron-Ion Plasma, Aziz Khan, U. Zakir, Qamar Ul Haq, **Anisa Qamar**. Zeitschrift für Naturforschung A (2021), <https://doi.org/10.1515/zna-2021-0031>.
64. Coexistence of positive and negative polarity dust ion acoustic excitations with κ -deformed Kaniadakis distribution, S. N. Naeem, **Anisa Qamar**, Muhammad Khalid, Ata ur Rahman. The European Physical Journal Plus (2021), <https://doi.org/10.1140/epjp/s13360-021-02209-x>.
65. 3D non-driven magnetic reconnection at multiple separators, Zarqa Zahid, C. E. Parnell, and **Anisa Qamar**. Chaos (2021), <https://doi.org/10.1063/5.0065957>.
66. Significant enhancement in field emission and photoluminescence properties of vertically aligned tellurium nanorods by plasma treatment, Faisal Shahzad, **Anisa Qamar**, and Ghulam Nabi, Optical Materials (2022), <https://doi.org/10.1016/j.optmat.2022.112171>. [Impact Factor 3.26]
67. Self-nucleated tellurium nanorods patterned growth: Their applications for excellent field emitters and optical devices, Faisal Shahzad, **Anisa Qamar**, Ghulam Nabi, Journal of Luminescence, (2023), <https://doi.org/10.1016/j.jlumin.2023.119756>.
68. Metrology of Ar-N₂/O₂ Mixture Atmospheric Pressure Pulsed DC Jet Plasma and its Application in Bio-Decontamination Naqib Ullah, Muhammad Ibrahim Khan, **Anisa Qamar**, Najeeb-Ur Rehman, El Sayed Tag el Din, Mohammad Alkhedher, and Abdul Majid, ACS OMEGA (2023), <https://doi.org/10.1021/acsomega.2c07810>.
69. The effect of dust streaming on arbitrary amplitude solitary waves in superthermal polarized space dusty plasma, Syeda Neelam Naeem, **Anisa Qamar**, Ata-ur Rahman and Wedad Albalawi, Z. Naturforsch, (2023), <https://doi.org/10.1515/zna-2023-0104>
70. Workshop report: Women in physics in developing countries, Fiona Panther; Irvy Gledhill; Kuijuan Jin; Francisca Nneke Okeke; Saphina Biira; Nicole Bossard; Zélia Maria Da Costa Ludwig; Miaoyi Deng; Zheyu Fang; Srubabati Goswami; Rachel Ivie; Rosinah Modibe; **Anisa Qamar**; Zara Randriamanakoto; Elexus Robinson; Lorena Romero-Salazar; Angie Sanchez; Susan White; Xing Zhu AIP Conf. Proc. 3040, 040002 (2023), <https://doi.org/10.1063/5.0175567>
71. Contemporary challenges to women's education in Pakistan, **Anisa Qamar**; Muhammad Ayub Jan AIP Conf. Proc. 3040, 050029 (2023) <https://doi.org/10.1063/5.0175932>.

72. Head-on Collision of Multi-Ion Acoustic Solitons with Arbitrary Degenerate Electrons, Shahida Parveen, Shahzad Mahmood, Arshad Majid Mirza and **Anisa Qamar**, Physica Scripta, 99(2), (2024), <https://doi.org/10.1088/1402-4896/ad1e42>.
73. Vertical tellurium nano-tower arrays: Topological shape engineering to excellent field emission and optical performance, Faisal Shahzad, **Anisa Qamar**, Ahmed Nadeem, Khuram Shahzad Ahmad, Wajid Ali, Soha Muzaffar, Ghulam Nabi, Optical Materials, 155, (2024), <https://doi.org/10.1016/j.optmat.2024.115886>
74. Magnetosonic shock waves in degenerate electron-positron-ion plasma with separated spin densities, Mansoor Ahmed, Muhammad Adnan, and **Anisa Qamar**, Physics of Fluids, (2024), <https://doi.org/10.1063/5.0216452>.
75. The impact of polarization force on the oblique propagation of dust-acoustic solitons in a superthermal complex magnetoplasma, S. Neelam Naeema, **Anisa Qamar**, Almas, Ata-ur-Rahman, Weaam Alhejailic, Sherif M.E. Ismaeel, S.A. El-Tantawy, Chaos Solitons and Fractals, 187 (2024), <https://doi.org/10.1016/j.chaos.2024.115346>.
76. Ion-acoustic shock waves and chaotic motions in certain Thomas-Fermi plasmas, Zakia Raheem, Muhammad Adnan, and **Anisa Qamar**, Chaos Solitons and Fractals, 117020 (2025).

Conference Proceedings Publications

1. 25th International Nathiagali Summer College on Physics & Contemporary Needs (26 June -12 July, 2000). A poster presented by A. Qamar entitled: “*Chaos in ITG Driven Drift-Dissipative Waves in a Nonuniform Magnetoplasma*”. (**A. Qamar**, T. Rafiq, M. Ajmal Khan, and Arshad M. Mirza).
2. Quadrupolar Vortex Formation due to Nonlinearly Interacting ITG Driven Modes. Proc. of the 9th National Symposium on Frontiers in Physics, Pakistan (2003) pp.297-308.
(Arshad M. Mirza, **A. Qamar**, M. Azeem, and G. Murtaza)
3. Self-organized Structures in ITG-driven Modes of Tokamak Plasmas. Proc., of 2nd International Bhurban Conference on Applied Sciences and Technology, Bhurban, Pakistan (2003) pp.787-798.
(Arshad M. Mirza, **A. Qamar**, G. Murtaza, J. Vranjes and P. H. Sakanaka).
4. International Conference on Models and Methods in Fluid Mechanics (23-26, 2003) at COMSATS Institute of Information Technology, *Abbottabad*, Pakistan. *Invited Speaker*: Gave two talks entitled:
 - (i) Formation of Coherent Nonlinear Vortex Structures in Ion-Temperature-Gradient Driven Modes in a Nonuniform Magnetoplasma,
 - (ii) Study of Fusion Parameters in a Multicascade Liner Z-theta Pinch Plasmas -invited Speaker
 (Arshad M. Mirza, **A. Qamar**, G. Murtaza and T. Rafiq).
5. Order and Chaos in electrostatic ion-temperature gradient dusty magnetoplasma, presented at 4th IUPAP International Conference on Women in Physics, 5-8 April 2011, Stellenbosch, South Africa. **A Qamar**, Arshad M Mirza, and Atta Ullah Shah.
6. A day with the women physicists of Pakistan by Aziz Fatima Hasnain, Aquila Islam, Asima Ali, Riffat Mehmood Qureshi, and **Anisa Qamar**, Citation: AIP Conference Proceedings **1697**, 060035 (2015).

7. Pakistan Country Report, **Anisa Qamar** and Aziz Fatima Hasnain AIP Conference Proceedings **2019**, 050030 (2019).

Conferences Attended (NATIONAL):

1. Regional Course on Plasma Physics (Nov. 12-30, 1994), at QAU, Islamabad, Pakistan
2. 7th National Symposium on Frontiers in Physics (November 19-21, 1998), at QAU, Islamabad, Pakistan.
3. 8th National Symposium on Frontiers in Physics (November 19-22, 2000), at the Govt. College Lahore, Pakistan.
4. Regional College in Plasma Physics (Jan 29 to Feb 3, 2001), at QAU, Islamabad, Pakistan.
5. National Symposium on Plasma Physics, 28-29th Jan 2008, at Auditorium, Pakistan Academy of Sciences, Islamabad, Pakistan.
6. Ion-temperature-gradient driven modes in dust-contaminated Tokamak Plasma. 33rd International Nathiagali Summer College on Physics and Contemporary Needs. 23rd June – 5th July 2008.
7. Chaos in ITG modes. 1st NCP Scientific Spring, NCP, Quaid-i-Azam University Campus, Islamabad, Pakistan, 6-9th April 2009.
8. 12th National Symposium on Frontiers in Physics” 2-5th February, 2011 at Government College University Lahore, Pakistan.
9. One-day Workshop on Plasma Physics, 5th March 2011, at National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan.
10. Pakistan Physical Society Conference on Contemporary Physics 15-17 Nov. 2011, Department of Physics, University of Gujarat, Pakistan.
11. “One Day Workshop on Plasma Physics” 9th March, 2012 at National Centre for Physics, Quaid-i- Azam University Campus, Islamabad, Pakistan.
12. 13th National Symposium on Frontiers in Physics December 19-21, 2012, University of Peshawar, Peshawar, Pakistan.
13. A Half Century of Drift Waves and Beyond, 16th March 2013 at National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan.
14. One-day Activity on Plasma Physics, 2nd April 2014 at Kohat University of Science and Technology, Kohat, Pakistan.
15. One-day Activity on Plasma Physics, 5th Feb 2016 at the Department of Physics, University of Peshawar, Pakistan.
16. Regional Conference on Women in Physics, 25th-27th April 2016 at National Centre for Physics, Quaid-i- Azam University Campus, Islamabad, Pakistan.
17. One-day Activity on Plasma Physics, 18th Feb 2017 at Department of Physics, Islamia College University, Peshawar, Pakistan.
18. One-day Activity on Plasma Physics, 21st March 2018 at Kohat University of Science and Technology, Kohat, Pakistan.
19. Two-day national conference on Mathematics, 18-19 April 2018, UET Peshawar, Pakistan.
20. Promoting Applied Sciences in Pakistan (PASP) Online Conference 20-21 July 2020

21. Science Diplomacy in South Asia online workshop, 21 Nov. to 13 Dec. 2020.
22. Regional E-conference on Physics, 18-21 January 2022, Pakistan.
23. **Invited Speaker** at 17th National Symposium on Frontiers in Physics, 1-3 December 2022, GCU, Lahore
24. Training on Women's Leadership, January 2023, with the collaboration of HEC and USAID.
25. One-day Webinar to Be a Women Leader in Higher Education, 14th March 2023.

Conferences Attended (INTERNATIONAL):

1. **25th International Nathiagali Summer College** on Physics and Contemporary Needs (July 5-8, 2000), Pakistan.
2. Autumn College on Plasma Physics (Oct 8th to Nov 3rd 2001) at ICTP, Trieste, **Italy**.
3. **27th International Nathiagali Summer College** on Physics and Contemporary Needs (July 4-6, 2002)
4. **International conference on models and methods** in fluid mechanics. 23rd-27th June 2003. COMSATS, Abbottabad, Pakistan.
5. Ion-temperature-gradient driven modes in dust-contaminated Tokamak Plasma. 33rd International Nathiagali Summer College on Physics and Contemporary Needs. 23rd June – 5th July 2008.
6. Paper presented in International Union of Pure and Applied Physics (IUPAP), Working Group on Women in Physics (WGWiP), 5-8th April 2011, **Stellenbosch, South Africa**.
7. **International Workshop on “PLASMA SCIENCE”** November 19-21, 2012, COMSTECH Islamabad, Pakistan.
8. **International Scientific Spring**, March 11-15, 2013, at the National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan.
9. First ICTP-NCP **International College on Plasma Physics** 11-15 November 2013 at the National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan.
10. **39th International Nathiagali Summer College** 4-9th August 2014 at National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan.
11. Career Development Workshop for Women in Physics 12-16 October 2015, ICTP, **Trieste, Italy**.
12. **41st International Nathiagali Summer College** 18-23rd August 2016 at National Centre for Physics, Quaid-i-Azam University Campus, Islamabad.
13. 6th International Conference on Women in Physics (ICWiP-2017) at University of **Birmingham, UK** from July 16-20th, 2017.
14. **10th International Scientific School**, 12-16 March 2018 at National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan.
15. Joint ICTP-IAEA College on Plasma Physics from 29th Oct. to 9th Nov. 2018, ICTP, **Trieste, Italy**.
16. 2nd Regional Conference on Women in Physics from 27th to 29th March 2019 **Kathmandu University, Nepal**.
17. Regional webinar COVID-19 Lockdown Effects on Status of Women Scientists 19th July 2020, organized by Women Scientists Forum, Nepal Academy of Science and Technology (NAST), **Kathmandu, Nepal**.

18. International E-Conference on Promoting Physics among Women in Pakistan, August 17-19, 2020, the Women's University, Multan, Pakistan.
19. IUPAP Centennial Symposium 10-12 July 2022, ICTP, **Italy**.
20. International Conference on Frontiers of Physics-2022 via virtual platform on January 22-24, 2022, **Nepal**
21. 8th IUPAP International Conference on Women in Physics Online 10-14 July 2023, **India**.
22. 7th Asian Pacific Conference on Plasma Physics 11-18th November 2023, Nagoya, **Japan**.
23. 8th Asian Pacific Conference on Plasma Physics 3-8th November 2024, Malacca, **Malaysia**.
24. 9th Asian Pacific Conference on Plasma Physics 21-26th September 2025, Fukuoka, **Japan**

Internationally Published Books:

1. Order and Chaos in ITG/ETG Modes in Tokamak and Space Plasma. Published in July 2011, Publisher: VDM Verlag Dr. Müller GmbH & Co. KG, Germany. ISBN: 9783639355765
2. Proceedings of the "First Regional Conference for Women in Physics" (RCWP-2016), Islamabad, Pakistan, 25-27 April. Published by Canadian Journal of Physics in July 2017, Volume 95, Number 7

Number of MPhil scholars supervised and degrees awarded: 30

Number of PhD supervised and degrees awarded: 12

PhDs Supervised in Plasma Physics as (full-time)

- 1- **Dr Ata Ur Rahman**, under the topic "Collective Modes and Instabilities in Quantum Plasmas" **(2014)**
- 2- **Dr Muhammad Adnan**, under the topic "Nonlinear Electrostatic & Electromagnetic Waves in Multi-component Plasmas". **(2015)**
- 3- **Dr Fazli Hadi**, under the topic "Study of Perpendicularly Propagating Modes in Magnetized Non-Relativistic Plasma with Loss-cone Distribution". **(2015)**
- 4- **Dr Muhammad Nasir**, under the topic "Nonlinear Perturbation in Complex Plasma". **(2016)**
- 5- **Dr Zakir Ullah**, under the topic "Linear and Nonlinear Dynamics of Space and Laboratory Plasma". **(2016)**
- 6- **Dr Raheema Maroof**, under the topic "Magnetohydrodynamic Waves in Quantum Plasma". **(2016)**
- 7- **Dr Zulfiqar Ahmed**, under the topic "Electrostatic and Electromagnetic Localized Field Solutions in Multispecies Plasma. **(2017)**
- 8- **Dr. Shahida Parveen**, under the topic "Particle acceleration in solar-flare-like magnetic configuration and solitons interaction in plasma". **(2019)**
- 9- **Dr Zarqa Zahid**, under the topic "The Role of Multiple Separators in Magnetic Reconnection of Solar Corona". **(2022)**
- 10- **Dr Naqib Ullah**, under the topic "Metrology and applications of atmospheric pressure plasma jet in Ar-N₂/O₂ mixture plasma". **(2024)**
- 11- **Dr Faisal Shehzad**, under the topic "Plasma Treatment Effect on Optical and Field Emission Properties of Tellurium-Based Nano-Structures". **(2024)**
- 12- **Dr Sayeda Neelum Naim**, under the topic "Electrostatic Solitary Waves in Nonthermal Plasma". **(2024)**

Reviewer for the following International Journals

1. Physics of Plasmas (Journal of the AIP)
2. Plasma Physics & Control Fusion (Journal of the IOP)
3. Advances in Space Research (Journal of the Springer)
4. Central European Journal of Physics (Journal of the Springer)
5. Canadian Journal of Physics (Journal of the IOP)
6. Plasma Research Express (Journal of the IOP)

Conferences Organized (National):

1. "The 13th National Symposium on Frontiers in Physics" December 19-21, 2012 at the University of Peshawar, Pakistan.
2. "A Day with Women Physicists of Pakistan" April 21st, 2014 at National Center for Physics, Islamabad, Pakistan.
3. One-day workshop on women Harassment Act 2010, April 24th, 2014, at the University of Peshawar, Pakistan.
4. One-day Activity on Plasma Physics, 2nd April 2014 at Kohat University of Science and Technology, Kohat, Pakistan.
5. One-day Activity on Plasma Physics, 5th Feb 2016 at the Department of Physics, University of Peshawar, Pakistan.
6. One-day Activity on Plasma Physics, 18th Feb 2017 at the Department of Physics, Islamia College University, Peshawar, Pakistan.
7. One-day Activity on Plasma Physics, 21st March 2018 at Kohat University of Science and Technology, Kohat, Pakistan.
8. KUST Conference on Plasma Physics, 16-17th May 2024 at Kohat University of Science and Technology, Pakistan.

Conferences Organized (International):

1. Regional Conference on Women in Physics (RCWP) 25th -27th April 2016 at National Center for Physics (QAU), Islamabad, Pakistan.
2. Regional E-conference on Physics 18-21 January 2022, Pakistan.
3. Two-day Women's Leadership workshop at the 8th IUPAP conference on 13-14 July 2023, **India**.
4. Mini workshop on Women in Plasma Physics (WIPP) for the 8th AAPPS conference on 3-8 November 2024, **Malaysia**.
5. Two-day mini workshop on Women in Plasma Physics (WIPP) for the 9th AAPPS conference on 22-23 September 2025, **Japan**.

References (available on request)

1. Dr G. Murtaza (SI), HEC Distinguished Professor, working as Professor Salam Chair, Government College University, Lahore, Pakistan. murtazaqau@yahoo.com

2. Dr Abdullah Sadiq (SI), ICTP Laureate, retired, Pakistan. asadiqalt@gmail.com
3. Dr Arshad Majeed Mirza (SI) Dean of Sciences, UET University, Lahore, Pakistan. a_m_mirza@yahoo.com
4. Dr Fida Younus Khattak (TI) Professor, Rector, Pir Roshan Institute of Progressive Sciences and Technologies (PIPST), Waziristan, Pakistan. fida_k@hotmail.com