



Dr. Shamaila Rani

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COMSATS University Islamabad, Lahore-Campus

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OBJECTIVE

To obtain a dynamic position in the field of Mathematics in which I can contribute my strong analytical and research skills in organized and competitive way.

- **134** accepted/published research articles and the accumulative impact factor of all the articles is about **405.7**.
- Three BS, 34 MS and 03 PhD students are supervised.
- Won and completed Four research projects.
- Evaluated many MS/PhD thesis of well-known Universities in Pakistan.
- Won six Research Productivity Awards from HEC and CUI

PERSONAL INFORMATION

<u>Father name:</u>	Nasir Ahmad
<u>Husband name:</u>	Dr. Abdul Jawad, (Associate Prof. CUI Lahore)
<u>CNIC no:</u>	34201-5406093-8
<u>Date of Birth:</u>	01 st January, 1987.
<u>Place of Birth:</u>	Gujrat
<u>Permanent Address:</u>	House #E-1, E-22/9, Street #7, Officers Colony Walton Road Lahore Cantt. Pakistan
<u>Recommended Address:</u>	Department of Mathematics, COMSATS University Islamabad, Lahore-Campus, Pakistan

EDUCATION

- ❖ **Post Doc. in Applied Mathematics**
General Relativity and Cosmology (Gravitational Waves)
2023-2025

Institute for Theoretical Physics and Cosmology, Zhejiang University of Technology, Hangzhou, 310023 China

❖ **Ph. D. in Applied Mathematics**

General Relativity and Cosmology

2011-2014

Department of Mathematics, University of the Punjab Lahore, Pakistan.

Thesis Title: Study of Some Interesting Issues in $f(T)$ Gravity

Course Work Subjects:

- ODEs and Computational Linear Algebra
- Integral Equations
- Advances in Mathematical Physics
- Plasma Physics
- Quantum Field Theory
- Reading & Research I

CGPA: 3.78 /4.00

❖ **M. Phil. In Applied Mathematics**

General Relativity and Cosmology

2009 - 2011

Department of Mathematics, University of the Punjab Lahore, Pakistan.

Thesis Title: Expanding Universe in Generalized Teleparallel Gravity

CGPA: 3.30 /4.00

Division: First

Course Work Subjects:

- Elastodynamics
- Riemannian Geometry
- Group Theory
- Theory of Spline Functions-I
- General Relativity-I
- Graph Theory
- Linear Groups and Group Representations
- Fluid Dynamics

❖ **M. Sc. In Applied Mathematics** **2006 - 2008**

Quantum Mechanics, EMT, Analytical Dynamics

Department of Mathematics, University of the Punjab Lahore, Pakistan.

CGPA: 3.44/4.00 **Division:** First

❖ **B. Sc.** **2004-2006**

Math A & B and Physics

Ibn-e-Ameer Government College for Women, Jalalpur Jattan, Gujrat
(University of the Punjab)

Marks: 607/800 **Division:** First

❖ **Intermediate** **2002-2004**

Math, Physics and Computer Science

Ibn-e-Ameer Government College for Women, Jalalpur Jattan, Gujrat
(BISE Gujranwala)

Marks: 742/1100 Division: First

❖ **Matriculation 2000-2002**

Math, Physics, Chemistry, Biology

Govt. Girls High School Sohal Khurd, Gujrat (BISE Gujranwala)

Marks: 719/850 Division: First

CONFERENCE ATTENDED

No.	Title of Conference	Date	Status	University Name
1	10 th World Conference on 21 st Century Mathematics 2009	March: 4-8, 2009	As participant	ASSM, GC University, Lahore
2	Conference on General Relativity and Gravitation	Feb: 11-13, 2010	As participant	Department of Mathematics, University of the Punjab, Lahore
3	IV Italian-Pakistani Workshop on Relativistic Astrophysics	Feb: 15-17, 2013	As Speaker	CAMP, NUST Islamabad
4	Lecture Series on Cosmology	Nov: 8-9, 2013	As participant	Department of Mathematics, University of the Punjab, Lahore
5	Symmetries, Differential Equations and Applications II	Jan: 27-30, 2014	As Speaker	SNS, NUST, Islamabad
6	1st National Conference on Mathematical Sciences	Sep: 2-4, 2014	As participant	Department of Mathematics, Convocation Hall, University of Malakand, Khyber Pakhtunkhwa, Pakistan
7	International Conference on Relativistic Astrophysics	Feb: 10-14, 2015	As Speaker	Department of Mathematics, University of the Punjab, Lahore Pakistan
8	Seminar: Presented Research Work	May 13, 2015	As Speaker	Department of Mathematics, CUI Lahore-Campus
9	International Conference on Recent Advances in Applied Mathematics	Dec: 17-18, 2015	As participant	Department of Mathematics, CUI Lahore-Campus
10	New Perspectives on	Jan: 04-08, 2016	As participant	APCTP, Pohang

	Cosmology			South Korea
11	Second International Workshop on Modern Aspects of Algebra and Graph Theory	Nov: 02-03, 2016	As participant	Department of Mathematics, CUI Lahore-Campus
12	Workshop on Relativistic Astrophysics and Cosmology	Nov: 24-25, 2016	As organizer and participant	Department of Mathematics, CUI Lahore-Campus
13	One Day Conference on Gravitation and Cosmology in the Honor of Prof. Dr. Asghar Qadir	Nov 26, 2016	As participant	Department of Mathematics, CUI Lahore-Campus
14	Career Development Workshop for Women in Physics	Oct: 09-13, 2017	As participant	Trieste ICTP, Italy
15	1 st PU International Conference on Gravitation and Cosmology	Jan: 27-31, 2019	As participant	Department of Mathematics, University of the Punjab, Lahore Pakistan
16	International Conference of Recent Advances in Applied Mathematics 2019	Feb: 20-22, 2019	As participant	Department of Mathematics, CUI Lahore-Campus
17	4 th PU International Conference on Gravitation and Cosmology	Nov: 22-25, 2021	As participant	Department of Mathematics, University of the Punjab, Lahore Pakistan.
18	32 nd Texas Symposium on Relativistic Astrophysics,	Dec: 11-15, 2023	Poster Presenter	Tsung-Dao Lee Institute, Shanghai, China
19	International Conference on Gravitation and Cosmology ICGC24	Jan: 29-31, 2024	As participant	Department of Mathematics and Statistics, The University of Lahore, Pakistan.
20	International Conference on Relativistic Astrophysics and Cosmology	Feb: 01-02, 2024	As participant	Department of Mathematics, COMSATS University Islamabad, Lahore-Campus, Pakistan.
21	Seminar Series, ITPC ZJUT 2024	Jan. 05, 2024	Speaker (Wormhole)	Institute for Theoretical

			Solutions in Modified Theories of Gravity)	Physics and Cosmology, Zhejiang University of Technology, Hangzhou, China
22	2024 Annual Academic Meeting of the Gravitational and Relativistic Astrophysics	April: 20-24, 2024	As participant	Section of the Chinese Physical Society and the 6 th Galileo-Xu Guangqi Conference, Hengyang China
23	2025 Annual Academic Conference and National Congress of the Gravitational and Relativistic Astrophysics	April: 18-23, 2025	As participant	KUST, Kunming, China

RESEARCH WORK

1. M. Sharif and **Shamaila Rani**:
“F(T) Models within Bianchi Type-I Universe”
Mod. Phys. Lett. A 26 (2011)1657 (Category Q2, IF= 1.6)
<https://www.worldscientific.com/doi/abs/10.1142/S0217732311036127>
2. M. Sharif and **Shamaila Rani**:
“The K-essence Models and Cosmic Acceleration in Generalized Teleparallel Gravity”
Phys. Scripta 84(2011)055005 (Category Q2, IF= 2.6)
<https://iopscience.iop.org/article/10.1088/0031-8949/84/05/055005>
3. M. Sharif, K. Yesmakhanova, **Shamaila Rani** and R. Myrzakulov:
“Solvable K-essence Cosmologies and Modified Chaplygin Gas Unified Models of Dark Energy and Dark Matter”,
Eur. Phys. J. C 72(2012)2067 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-012-2067-1>
4. M. Sharif and **Shamaila Rani**:
“Generalized Teleparallel Gravity via Some Scalar Field Dark Energy Models”,
Astrophys. Space Sci. 345(2013)217 (Category Q3, IF=1.5).
<https://link.springer.com/article/10.1007/s10509-013-1379-4>
5. M. Sharif and **Shamaila Rani**:
“Nonlinear Electrodynamics in f(T) Gravity and Generalized Second Law of Thermodynamics”,
Astrophys. Space Sci. 346(2013)573 (Category Q3, IF=1.5).
<https://link.springer.com/article/10.1007/s10509-013-1480-8>

6. M. Sharif and Shamaila Rani:
"Viscous Dark Energy in $f(T)$ Gravity",
Mod. Phys. Lett. A 28(2013)1350118 (Category Q2, IF= 1.6)
<https://www.worldscientific.com/doi/abs/10.1142/S0217732313501186>
7. M. Sharif and Shamaila Rani:
"Thermodynamics in $f(T)$ Gravity and Corrected Entropies",
Eur. Phys. J. Plus 128(2013)96 (Category Q2, IF = 2.9).
<https://link.springer.com/article/10.1140/epjp/i2013-13096-x>
8. M. Sharif, Shamaila Rani and R. Myrzakulov:
"Analysis of $F(R, T)$ Gravity Through Energy Conditions",
Eur. Phys. J. Plus 128(2013)123 (Category Q2, IF = 2.9).
<https://link.springer.com/article/10.1140/epjp/i2013-13123-0>
9. M. Sharif and Shamaila Rani:
"Dynamical Wormhole Solutions in $f(T)$ Gravity",
Gen. Relativ. Gravit. 45(2013)2389 (Category Q2, IF = 2.8).
<https://link.springer.com/article/10.1007/s10714-013-1599-5>
10. M. Sharif and Shamaila Rani:
"Wormhole Solutions in $f(T)$ Gravity with Noncommutative Geometry",
Phys. Rev. D 88 (2013) 123501 (Category Q1, IF = 5.3).
<https://journals.aps.org/prd/abstract/10.1103/PhysRevD.88.123501>
11. M. Sharif and Shamaila Rani:
"Entropy Corrected Holographic Dark Energy $f(T)$ Gravity Model",
Mod. Phys. Lett. A 29(2014)1450015 (Category Q2, IF= 1.6)
<https://www.worldscientific.com/doi/abs/10.1142/S0217732314500151>
12. M. Sharif and Shamaila Rani:
"Dynamical Instability of Spherical Collapse in $f(T)$ Gravity",
Mon. Not. Roy. Astron. Soc. 440(2014)2255 (Category Q1, IF= 4.8)
<https://academic.oup.com/mnras/article/440/3/2255/1747913>
13. M. Sharif and Shamaila Rani:
"Pilgrim Dark Energy in $f(T)$ Gravity",
J. Exp. Theor. Phys. 119(2014)75 (Category Q3, IF= 0.7)
<https://link.springer.com/article/10.1134%2FS1063776114070152>
14. M. Sharif and Shamaila Rani:
" $f(T)$ Gravity and Static Wormhole Solutions",
Mod. Phys. Lett. A 29(2014)1450137 (Category Q2, IF= 1.6)
<https://www.worldscientific.com/doi/abs/10.1142/S0217732314501375>
15. M. Sharif and Shamaila Rani:
"Charged Noncommutative Wormhole Solutions in $f(T)$ Gravity",
Eur. Phys. J. Plus 129(2014)237 (Category Q2, IF = 2.9).
<https://link.springer.com/article/10.1140/epjp/i2014-14237-5>

16. M. Sharif and Shamaila Rani:
“Galactic Halo Wormhole Solutions in $f(T)$ Gravity”,
Advan. High Ener. Phys. 2014(2014)691497 (Category Q4, IF = 1.1).
<https://www.hindawi.com/journals/ahep/2014/691497/>
17. M. Sharif and Shamaila Rani:
“Dynamical Instability of Expansion-free Collapse in $f(T)$ Gravity”,
Int. J. Theor. Phys. 54(2015)2524 (Category Q3, IF = 1.7).
<https://link.springer.com/article/10.1007%2Fs10773-014-2483-0>
18. Abdul Jawad and Shamaila Rani:
“Cosmological Evolution of Pilgrim Dark Energy in $f(G)$ Gravity”,
Advan. High Ener. Phys. 2015 (2015) 952156 (Category Q4, IF = 1.1).
<https://www.hindawi.com/journals/ahep/2015/952156/>
19. Abdul Jawad and Shamaila Rani:
“Reconstruction Scenario in Modified Horava-Lifshitz $F(R)$ Gravity With Well-Known Scale Factors”,
Astrophys. Space Sci. 357(2015)88 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-015-2232-8>
20. Abdul Jawad and Shamaila Rani:
“Lorentz Distributed Noncommutative Wormhole Solutions in Extended Teleparallel Gravity”,
Eur. Phys. J. C 75(2015)173 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-015-3386-9>
21. Abdul Jawad and Shamaila Rani:
“Reconstruction of Generalized Ghost Pilgrim Dark Energy in $F(\tilde{R})$ Gravity,”
Astrophys. Space Sci. 359(2015)23 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-015-2477-2>
22. Abdul Jawad and Shamaila Rani:
“Cosmological Analysis of Dynamical Chern-Simons Modified Gravity Via Dark Energy Scenario”,
Advan. High Ener. Phys. 2015 (2015) 259578 (Category Q4, IF = 1.1).
<https://www.hindawi.com/journals/ahep/2015/259578/>
23. Surajit Chattopadhyay, Abdul Jawad and Shamaila Rani:
“Holographic polytropic $f(T)$ -gravity models”,
Advan. High Ener. Phys. 2015 (2015) 798902 (Category Q4, IF = 1.1).
<https://www.hindawi.com/journals/ahep/2015/798902/>
24. Abdul Jawad and Shamaila Rani:
“Dynamical Instability of Shear-free Collapsing Star in Extended Teleparallel Gravity”,
Eur. Phys. J. C 75(2015)548 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-015-3748-3>

25. Abdul Jawad, **Shamaila Rani** and Surajit Chattopadhyay:
 “Modified QCD Ghost $f(T, T_G)$ Gravity”,
Astrophys. Space Sci. 360(2015)37 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-015-2548-4>
26. **Shamaila Rani** and Abdul Jawad:
 “Noncommutative Wormhole Solutions in Einstein Gauss-Bonnet Gravity”,
Advan. High Ener. Phys. 2016 (2016)7815242 (Category Q4, IF = 1.1).
<https://www.hindawi.com/journals/ahp/2016/7815242/>
27. Abdul Jawad, Davood Momeni, **Shamaila Rani**, Ratbay Myrzakulov
 “Dynamical Instability of Cylindrically Symmetric Collapsing Star in Generalized Teleparallel Gravity”,
Astrophys. Space Sci. 361(2016) 141 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-016-2721-4>
28. Abdul Jawad and **Shamaila Rani**:
 “Anisotropic Inflationary Scenario Via Generalized Chaplygin Gas Model”,
Commun. Theor. Phys. 65 (2016) 653 (Category Q2, IF=2.9).
<https://iopscience.iop.org/article/10.1088/0253-6102/65/5/653>
29. Abdul Jawad, **Shamaila Rani** and Sidra Mohsaneen:
 “Modified Chaplygin Gas Inspired Inflationary Model in Braneworld Scenario”,
Astrophys. Space Sci. 361(2016)158 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-016-2751-y>
30. Abdul Jawad, Sadaf Butt and **Shamaila Rani**:
 “Dynamics of Warm Chaplygin Gas Inflationary Models with Quartic Potential”,
Eur. Phys. J. C 76(2016)274 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-016-4121-x>
31. Abdul Jawad, Amara Ilyas and **Shamaila Rani**:
 “Dynamics of Bulk Viscous Pressure Effected Inflation in Braneworld Scenario”
Astroparticle Phys. 81 (2016) 61–71 (Category Q2, IF=2.9).
<https://www.sciencedirect.com/science/article/pii/S0927650516300640>
32. **Shamaila Rani** and Abdul Jawad
 “Cosmological Implications of DGP Braneworld via Well-Known Holographic Dark Energy Models,
Int. J. Mod. Phys. D 25 (2016) 1650102 (Category Q3, IF= 2.1).
<https://www.worldscientific.com/doi/abs/10.1142/S0218271816501029>
33. Abdul Jawad, Surajit Chattopadhyay and **Shamaila Rani**:
 “Viscous Pilgrim $f(T)$ gravity Models,”
Astrophys. Space Sci. 361 (2016) 231 (Category Q3, IF = 1.5).

34. Abdul Jawad, **Shamaila Rani**, Ines G. Salako and Faiza Gulshan:
“*Aspects of Some New Versions of Pilgrim Dark Energy in DGP Braneworld*,”
Eur. Phys. J. Plus 131(2016) 236 (Category Q2, IF = 2.9).
<https://link.springer.com/article/10.1140/epjp/i2016-16236-x>
35. Abdul Jawad, **Shamaila Rani** and Sidra Mohsaneen:
“*Generalized Cosmic Chaplygin Inflationary Model on the Brane*,”
Eur. Phys. J. Plus 131(2016) 234 (Category Q2, IF = 2.9).
<https://link.springer.com/article/10.1140/epjp/i2016-16234-0>
36. Abdul Jawad, Sadaf Butt and **Shamaila Rani**:
“*Chaplygin Gas Inspired Scalar Fields Inflation Via Well-known Potentials*”,
Astrophys. Space Sci. 361 (2016) 258 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-016-2843-8>
37. Abdul Jawad, **Shamaila Rani** and Sidra Mohsaneen:
“*Generalized Cosmic Chaplygin Gas Inspired Intermediate Standard Scalar Field Inflation*”,
Astrophys. Space Sci. 361(2016)268 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-016-2852-7>
38. **Shamaila Rani**, Tanzeela Nawaz and Abdul Jawad:
“*Thermodynamics in Dynamical Chern-Simons Modified Gravity with Canonical Scalar Field*”,
Astrophys. Space Sci. 361 (2016) 285 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-016-2861-6>
39. Abdul Jawad, **Shamaila Rani** and Tanzeela Nawaz:
“*Interacting New Holographic Dark Energy in Dynamical Chern-Simons Modified Gravity*”,
Eur. Phys. J. Plus 131(2016) 282 (Category Q2, IF=2.9).
<https://link.springer.com/article/10.1140/epjp/i2016-16282-4>
40. Abdul Jawad, **Shamaila Rani**, Ines G. Salako and Nadeem Azhar:
“*Non-flat Pilgrim Dark Energy FRW Models in Modified Gravity*,”
Astrophys. Space Sci. 361 (2016) 286 (Category Q3, IF = 1.5).
<https://link.springer.com/article/10.1007/s10509-016-2868-z>
41. **Shamaila Rani**, Abdul Jawad and M. Bilal Amin:
“*Charged Noncommutative Wormhole Solutions via Power-law $f(T)$ Models*”,
Commun. Theor. Phys. 66(2016) 411-422. (Category Q2, IF=2.9).
<https://iopscience.iop.org/article/10.1088/0253-6102/66/4/411/meta>
42. **Shamaila Rani**, M. Bilal Amin and Abdul Jawad:
“*Exponential and Logarithmic $f(T)$ Wormhole Solutions in Lorentzian Noncommutative Background*”,
Eur. Phys. J. Plus 131(2016) 436 (Category Q2, IF=2.9).

43. Abdul Jawad and **Shamaila Rani**
“Non-minimal Coupling of Torsion-matter Satisfying Null Energy Condition for Wormhole Solutions”,
Eur. Phys. J. C 76(2016) 704 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-016-4560-4>
44. Abdul Jawad, **Shamaila Rani**, Ines G. Salako and Faiza Gulshan:
“Cosmological Study in Loop Quantum Cosmology through Dark Energy Model”,
Int. J. Mod. Phys. D 26 (2017) 1750007 (Category Q3, IF=2.1).
<https://www.worldscientific.com/doi/abs/10.1142/S0218271817500079>
45. Abdul Jawad, Amara Ilyas and **Shamaila Rani**:
“Dynamics of Modified Chaplygin Gas Inflation on the Brane with Bulk Viscous Pressure”,
Int. J. Mod. Phys. D 26 (2017) 1750031 (Category Q3, IF=2.1).
<https://www.worldscientific.com/doi/abs/10.1142/S0218271817500316>
46. Abdul Jawad, **Shamaila Rani** and Nadeem Azhar:
“Entropy Corrected Holographic Dark Energy Models in Modified Gravity”,
Int. J. Mod. Phys. D 26 (2017) 1750040 (Category Q3, IF=2.1).
<https://www.worldscientific.com/doi/abs/10.1142/S0218271817500407>
47. Abdul Jawad, **Shamaila Rani**, I.G. Salako and Faiza Gulshan:
“Pilgrim Dark Energy models in Fractal Universe”,
Int. J. Mod. Phys. D 26(2017)1750049 (Category Q3, IF=2.1).
<https://www.worldscientific.com/doi/abs/10.1142/S0218271817500493>
48. Abdul Jawad, **Shamaila Rani** and M. Saleem:
“Cosmological Study of Reconstructed $f(T)$ Models”,
Astrophys. Space Sci. 362 (2017) 63 (Category Q3, IF=1.5).
<https://link.springer.com/article/10.1007/s10509-017-3040-0>
49. Abdul Jawad, Amara Ilyas and **Shamaila Rani**:
“Warm Modified Chaplygin Gas Shaft Inflation”,
Eur. Phys. J. C 77(2017) 131 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-017-4691-2>
50. Abdul Jawad, Faiza Gulshan and **Shamaila Rani**:
“Warm Standard Scalar Field Modified Chaplygin Gas Inflation Inspired by Generalized Dissipative Coefficient on the Brane”,
Commun. Theor. Phys. 68 (2017) 272–284 (Category Q2, IF=2.9).
<https://iopscience.iop.org/article/10.1088/0253-6102/68/2/272/meta>
51. Abdul Jawad, **Shamaila Rani** and Amara Ilyas:
“Quartic Potential Inspired Warm Standard and Tachyon Scalar Fields Brane-world Inflation”,

- Int. J. Mod. Phys. D** 26 (2017) 1750144 (Category Q3, IF=2.1).
<https://www.worldscientific.com/doi/abs/10.1142/S0218271817501449>
52. Abdul Jawad, Shahzad Hussain, **Shamaila Rani** and Nelson Videla:
“Impact of Generalized Dissipative Coefficient on Warm Inflationary Dynamics in the Light of Latest Planck Data”,
Eur. Phys. J. C 77 (2017) 700 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-017-5264-0>
53. Abdul Jawad, **Shamaila Rani** and Tanzeela Nawaz:
“Thermodynamics of Specific Modified Gravity with Generalized Interaction Term”,
Int. J. Geom. Meth. Mod. Phys. 15 (2018) 1850033 (Category Q1, IF=2.2).
<https://www.worldscientific.com/doi/abs/10.1142/S0219887818500330>
54. **Shamaila Rani** and Abdul Jawad:
“Holographic Dark Energy Models in Higher Derivative Torsion Corrected Modified Teleparallel Gravity”,
Int. J. Geom. Meth. Mod. Phys. 15 (2018) 1850067 (Category Q1, IF=2.2).
<https://www.worldscientific.com/doi/abs/10.1142/S0219887818500676>
55. **Shamaila Rani**, Abdul Jawad, Tanzeela Nawaz and Rubab Manzoor:
“Thermodynamics in Modified Brans-Dicke gravity with Entropy Corrections”,
Eur. Phys. J. C 78(2018)58 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-018-5539-0>
56. Abdul Jawad, **Shamaila Rani** and Salman Rafique:
“Thermodynamics of Gravitationally Induced Particle Creation Scenario in DGP Braneworld”,
Eur. Phys. J. C 78(2108)79 (Category Q2, IF=4.8).
<https://link.springer.com/article/10.1140/epjc/s10052-018-5528-3>
57. Abdul Jawad, Tanzeela Nawaz, **Shamaila Rani**, Rubab Manzoor and H. Moradpour:
“Role of $f(T, \Theta)$ Gravity on Dynamical Instability of Collapsing Star”,
Phys. Dark Uni. 21 (2018) 70–75 (Category Q1, IF=6.4).
<https://www.sciencedirect.com/science/article/pii/S221268641830058X>
58. Abdul Jawad, **Shamaila Rani** and Salman Rafique:
“Thermodynamics of Various Entropies in Specific Modified Gravity with Particle Creation”,
Adv. High Ener. Phys. 2018(2018) 9471346 (Category Q4, IF=1).
<https://www.hindawi.com/journals/ahep/2018/9471346/>
59. Abdul Jawad, Kazuharu Bamba, M. Younas, Saba Qummer and **Shamaila Rani**:
“Tsallis, Rényi and Sharma-Mittal Holographic Dark Energy Models in Loop Quantum Cosmology”,

- Symmetry 10(2018)635 (Category Q2, IF=2.2).**
<https://www.mdpi.com/2073-8994/10/11/635>
60. Rubab Manzoor, Abdul Jawad and **Shamaila Rani**:
“Dynamics of Evolving Self-Gravitating Models in Extended Teleparallel Gravity”,
Int. J. Mod. Phys. D. 28 (2019) 1950043 (Category Q3, IF=2.1).
<https://www.worldscientific.com/doi/10.1142/S0218271819500433>
 61. M. Younas, Abdul Jawad, Saba Qummer, Hooman Moradpur and **Shamaila Rani**:
“Cosmological Implications of the Generalized Entropy Based Holographic Dark Energy Models in Dynamical Chern-Simons Modified Gravity”,
Adv. High Ener. Phys. 2019(2019)1287932 (Category Q4, IF=1.1).
<https://www.hindawi.com/journals/ahep/2019/1287932/>
 62. Abdul Jawad, **Shamaila Rani** and Nadeem Azhar:
“Non-flat FRW Universe Version of Tsallis holographic Dark Energy in Specific Modified Gravity”
Mod. Phys. Lett. A 34(2019)1950055 (Category Q3, IF= 1.6).
<https://www.worldscientific.com/doi/abs/10.1142/S021773231950055X>
 63. Abdul Jawad, **Shamaila Rani**, Kazuharu Bamba, Irfan Ullah Malik:
“Cosmological Consequences of New Dark Energy Models in Einstein-Aether Gravity”,
Symmetry, 11(2019)509 (Category Q2, IF=2.2).
<https://www.mdpi.com/2073-8994/11/4/509>
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I have also submitted some papers in the international journal having good impact factor for publications.

Projects

1. **(Completed)** As Principal Investigator (PI), won the research project entitled as,

"Cosmological Analysis of Extended Teleparallel Gravity with Higher-Derivative Torsional Terms"

under SRGP by HEC with grant No: 21-1112/SRGP/R&D/HEC/2016

2. **(Completed)** As Co-Principal Investigator (Co-PI), won the Research project entitled as,

"Study of Early and Late-Times Universe via Modified/Alternatives Theories of Gravity"

under NRPU by HEC with grant No: 5412/Federal/NRPU/R\&D/HEC/2016

3. **(Completed)** As Co-Principal Investigator (Co-PI), won the research project entitled as,

"Essential Properties of Black Holes in Various Theories of Gravity"

under NRPU by HEC with grant No: 9290/Balochistan/NRPU/R&D/HEC/2017

4. **(Completed)** As Principal Investigator (PI), won the research project entitled as,

"Some Emergent Scenarios in Torsion based Modified Theories of Gravity"

under NRPU by HEC with grant No: 9183/Balochistan/NRPU/R&D/HEC/2017

SUPERVISION OF BS STUDENTS

1. **Ujala Safdar** (Reg. No. CIIT/SP14-BSM-001/LHR, Completed, Fall. 2017)

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Thesis Title: *Thermodynamic Quantities of Black Hole*

3. **Alisha Afzal** (Reg. No. CIIT/FA22-BSM-010/LHR, In progress)

4. **Aniqa Mukhtar** (Reg. No. CIIT/FA22-BSM-023/LHR, In progress)

SUPERVISION OF MS STUDENTS

1. **Muhammad Bilal Amin** (Reg. No. CIIT/FA14-RMT-017/LHR Completed, Jan. 2016)

Thesis Title: *Analysis of Various Wormhole Solutions in $f(T)$ Gravity*

2. **Muhammad Saleem** (Reg. No. CIIT/FA14-RMT-002/LHR Completed, Jan. 2016)

Thesis Title: *Reconstruction Scenario in Extended Teleparallel Gravity*

3. **Salman Rafique** (Reg. No. CIIT/SP16-RMT-004/LHR, Completed, Jan. 2018)

Thesis Title: *Thermodynamics of FRW Universe in Various Theories of Gravity Inspired by Entropy Corrections*

4. **Irfan Ullah Malik** (Reg. No. CIIT/SP17-RMT-007/LHR, Completed, Jan. 2019)

Thesis Title: *Cosmological Analysis of Reconstructed Einstein-Aether Models*

5. **Zoya Khan** (Reg. No. CIIT/FA17-RMT-055/LHR, Completed, July 2019)

Thesis Title: *Thermodynamics of Specific $f(R, T^\phi)$ Gravity with Entropy Corrections*

6. **Sidra Saleem** (Reg. No. CIIT/FA17-RMT-051/LHR, Completed, July 2019)

- Thesis Title:** *Cosmological Implications of Equation of State Parametrizations*
7. **Saliha Manzoor** (Reg. NO. CIIT/SP18-RMT-005/LHR, Completed, January 2020)
- Thesis Title:** *Various Wormhole Solutions in Torsion based Theories*
8. **Nusrat Mehdi** (Reg. NO. CIIT/SP18-RMT-024/LHR, Completed, January 2020)
- Thesis Title:** *Steep Potentials Inspired Scalar Field Inflation with Chaplygin Gas Models*
9. **Ayesha Sadiq** (Reg. NO. CIIT/FA18-RMT-076/LHR, Completed, August 2020)
- Thesis Title:** *Non-Linear Interaction of Dark Energy Models in Fractal Cosmology*
10. **H. Zarish Arshad** (Reg. NO. CIIT/FA18-RMT-037/LHR, Completed, August 2020)
- Thesis Title:** *Cosmic and Thermodynamic Study of Cubic and its Extended Gravity*
11. **Amir Sharif** (Reg. NO. CIIT/SP19-RMT-039/LHR, Completed, January 2021)
- Thesis Title:** *Growth of Matter Index and Cosmic Acceleration*
12. **Farzan Mushtaq** (Reg. NO. CIIT/SP19-RMT-021/LHR, Completed, January 2021)
- Thesis Title:** *Cosmic Thermodynamics of Matter Creation Models in Alternative Theories of Gravity*
13. **Ghulam Murtaza** (Reg. NO. CIIT/FA19-RMT-085/LHR, Completed, July 2021)
- Thesis Title:** *Barrow Holographic Dark Energy in Extended Teleparallel Theories of Gravity*
14. **Nageen Pervaiz** (Reg. NO. CIIT/FA19-RMT-001/LHR, Completed, July 2021)
- Thesis Title:** *Thermodynamics in Non-Zero Torsion Theory*
15. **Farwa Khurshid** (Reg. NO. CIIT/FA19-RMT-105/LHR, Completed, July 2021)
- Thesis Title:** *Cosmic Expansion Phenomenon in Specific Scalar Filed Theory*
16. **Misbah Tasleem** (Reg. NO. CIIT/FA19-RMT-019/LHR, Completed, July 2021)
- Thesis Title:** *Thermodynamics Quantities and Heat Engines of Various Black Holes*
17. **Iram Ashraf** (Reg. NO. CIIT/SP20-RMT-022/LHR, Completed, January 2022)
- Thesis Title:** *Squared Speed of Sound Parameterizations in Non-Zero Torsion Cosmology*

18. **Aqsa Tanveer** (Reg. NO. CIIT/SP20-RMT-011/LHR, Completed, January 2022)
Thesis Title: *Effects of Modified Entropies on Geometric Thermodynamics of Black Holes*
19. **Aimen Javed** (Reg. NO. CIIT/SP20-RMT-007/LHR, Completed, January 2022)
Thesis Title: *Study of Gravitational Baryogenesis in Curvature-Based Theories*
20. **Umair Anwar** (Reg. NO. CIIT/FA20-RMT-040/LHR, Completed, July 2022)
Thesis Title: *Cosmic Aspects of $f(R, A)$ Gravity in the Presence of Scale Factors*
21. **Shama Sadiq** (Reg. NO. CIIT/FA20-RMT-019/LHR, Completed. July 2022)
Thesis Title: *Inflationary Parameters and Swampland Conjectures in Various Scenarios of Gravity*
22. **M. Rizwan Azhar** (Reg. NO. CIIT/FA20-RMT-032/LHR, Completed, July 2022)
Thesis Title: *Cosmological Consequences of Equation of State Parameterizations in Mimetic Gravity*
23. **Fareeha Rasool** (Reg. NO. CIIT/SP21-RMT-024/LHR, Completed, January 2023)
Thesis Title: *Study of Cosmic Warm Inflation using Dark Energy Models*
24. **Sidra Kareem** (Reg. NO. CIIT/FA21-RMT-021/LHR, Completed, June 2023)
Thesis Title: *Cosmographic and Matter Bounce Scenario in Modified Torsion Gravity*
25. **Abu Bakar** (Reg. NO. CIIT/FA21-RMT-059/LHR, Completed, June 2023)
Thesis Title: *Study of Cosmic Expansion through Several Equation of States*
26. **Warisha** (Reg. NO. CIIT/FA21-RMT-043/LHR, Completed, June 2023)
Thesis Title: *Analysis of Barrow Holographic Dark Energy in Five-Dimensional Modified Gravity*
27. **Sadaf Iqbal** (Reg. NO. CIIT/FA21-RMT-018/ LHR, Completed, June 2023)
Thesis Title: *Effects of Exponential Entropy on Thermodynamic Geometries*
28. **Hafiz Haseeb Nawaz** (Reg. NO. CIIT/SP22-RMT-005/LHR, Completed, January 2024)
Thesis Title: *Cosmological Consequences of Extended Bose-Einstein Condensate Dark Matter in Specific Modified Gravity*

30. **Ayesha Siddiq** (Reg. NO. CIIT/FA22-RMT-050/LHR, Completed, June 2024)

Thesis Title: *Insights of Modified Entropy on Thermodynamics of Black Holes in Einstein-Maxwell Scalar Theory*

31. **Aneela** (Reg. NO. CIIT/FA22-RMT-004/LHR, Completed, June 2024)

Thesis Title: *Physical Aspects of Dark Universe Through Matter Growth Perturbations*

32. **Muhammad Arslan Nasir** (Reg. NO. CIIT/SP23-RMT-019/LHR, Completed, Jan. 2025)

Thesis Title: *Analyzing Various Aspects of Black Holes in Modified Gravity*

33. **Hifza Riaz** (Reg. NO. CIIT/FA23-RMT-012/LHR, July 2025)

Thesis Title: *Stability and Topological Thermodynamics of Specific Black Holes*

34. **Muhammad Husnain Tariq** (Reg. NO. CIIT/SP24-RMT-013/LHR, January 2026)

Thesis Title: *Dynamical Stability of Modified Friedmann Equation Through Non-linear Interactions*

35. **Laiba Riaz** (Reg. No. CIIT/FA24-RMT-007/LHR, In progress)

SUPERVISION OF PhD STUDENTS

1. Tanzeela Nawaz (Reg.# CIIT/FAI3-PMATH-007/LHR, **Final defense: 18-06-2021**)

Thesis Title: *Cosmological and Dynamical Instability Analysis in Some Modified Theories of Gravity*

2. Nadeem Azhar (Reg. NO. CIIT/FAI7-PMT-013/LHR, **Final defense: 21-07-2022**)

Thesis Title: *Impact of Alternative Theories of Gravity on Current Cosmic Scenarios*

3. M. Bilal Amin Sulehri (Reg. NO. CIIT/FAI7-PMT-012/LHR, **Final defense: 07-07-2023**)

Thesis Title: *Physical Aspects of Cosmic Parameters and Wormholes Solutions in Modified Theories of Gravity*

4. Muhammad Adeel (Reg. NO. CIIT/FA20-PMT-004/LHR, Synopsis approved)

Thesis Title: *Dynamic Properties of Astrophysical Objects Through Various Physical Parameters*

5. Aneesa Majeed (Reg. NO. CIIT/SP22-PMT-009/LHR, Co-supervisor: Dr. Nadeem Azhar, Synopsis approved)

Thesis Title: *Exploring the Mysteries of Cosmos Through Modern Cosmological Systems*

6. Kashif Abbas (Reg. NO. CIIT/FA24-PMT-008/LHR, In progress)

THESIS EVALUATION AS EXTERNAL EXAMINER

1. Ms. Imama Zehra, ***Study of Warm Vector Inflation in Brane World Scenario***, March 07, 2017. University of Education, Township, Lahore.
2. Ms. Atrooba Saeed, ***Plane Symmetric Solutions in Modified Gauss Bonnet Gravity***, July 17, 2017. National University of Computer and Emerging Sciences-FAST, Lahore Campus.
3. Mr. Muhammad Atif Fayyaz, ***Dissipative Cylindrical Collapse of Charged Anisotropic Fluid in $f(R)$ Gravity***, July 17, 2017. National University of Computer and Emerging Sciences-FAST, Lahore Campus.
4. Mr. Aarsal Kamal, ***The Stability Issues of Einstein Static Universe in $f(R, \phi)$ Gravity***, August 15, 2018. National University of Computer and Emerging Sciences-FAST, Lahore Campus
5. Ms. Saba Jabeen, ***Anisotropic Universe with Power Law $f(R, T)$ Gravity***, August 15, 2018. National University of Computer and Emerging Sciences-FAST, Lahore Campus.
6. Mr. Muhammad Fawad Malik, ***Non-reversible Evolution of Tilted Szekeres Geometry***, January 16, 2019. University of the Punjab, Lahore.
7. Ms. Nimra Irshad, ***Cosmic Evolution via Interacting Dark Energy Model***, December 09, 2019. University of Education, Township, Lahore.
8. Mr. Mohsin Raza Khan, ***Warm Inflation Inspired by Chaplygin Gas Model***, December 09, 2019. University of Education, Township, Lahore.
9. Hamna Asad, ***Analysis of Self-gravitating Objects with Effective Matter Configuration***, August 06, 2020 (Online). University of the Punjab, Lahore.
10. Husnain Ali Wajid, ***Spherically Symmetric Universe in $f(G, T)$ Gravity***, August 18, 2020. National University of Computer and Emerging Sciences-FAST, Lahore Campus.
11. Aamir Ali, ***Quasi Homologous Evolution of Irrotational Relativistic Structures***, August 10, 2021. University of the Punjab, Lahore.
12. Zeshan Rasool, ***Dynamical Variables and Their Evolution***, August 10, 2021. University of the Punjab, Lahore.

- 13 Faiqa Shabir, *Gravastars and their Characteristics*,
September 10, 2021. University of the Punjab, Lahore.
- 14 Tanveer Ahmad, *Energy Momentum Squared Gravity and Gravastars*,
August 30, 2022. University of the Punjab, Lahore.
- 15 Aqsa Farhat, *Ellis Equation and its Applications*,
August 30, 2022. University of the Punjab, Lahore.
- 16 Sana Sharif *Thermodynamics of Neutral Gauss-Bonnet AdS Black Holes in Five Dimensions*,
December 08, 2022. University of Okara, Okara.
- 17 Atteeq Ur Rehman *Study of Compact Objects under Various Backgrounds*,
PhD Thesis: July 31, 2024. University of the Punjab, Lahore.

JOB EXPERIENCE

- I have served Department of Mathematics, SST, University of Management and Technology, Lahore as Lecturer from October 02, 2014 to March 13, 2015.
- I have served Department of Mathematics, COMSATS University Islamabad, Lahore-Campus as Assistant Professor since March 16, 2015 - March 15, 2016 under IPFP and March 16, 2016 - March 15 2021 under TTS.
- Now I am serving Department of Mathematics, COMSATS University Islamabad, Lahore-Campus as Associate Professor since March 16, 2021.

REVIEWER OF INTERNATIONAL JOURNALS

- Astrophysics and Space Science
- The European Physical Journal C
- Physica Scripta
- Modern Physics Letter A
- Physics of Dark Universe
- International Journal of Geometric Methods in Modern Physics

ACHIEVEMENTS

- Merit Scholarships during schooling and college.
- PhD Scholarship under Indigenous 5000 PhD Fellowship Program Phase-II, Batch-I (July 2012-September 2014).
- Research Productivity Award **2014** with **D-Category** from *Pakistan Council for Science and Technology*.
- Research Productivity Award **2015** with **C-Category** from *Pakistan Council for Science and Technology*.
- Research Productivity Award **2015** from *COMSATS University Islamabad, Lahore-Campus*
- Research Productivity Award **2016** with **B-Category** from *Pakistan Council for Science and Technology*.
- Research Productivity Award **2016** from *COMSATS University Islamabad, Lahore-Campus*
- Research Productivity Award **2017** from *COMSATS University Islamabad, Lahore-Campus*