

# CURRICULUM VITAE



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[https://en.wikipedia.org/wiki/Muhammad\\_Sharif\\_\(cosmologist\)](https://en.wikipedia.org/wiki/Muhammad_Sharif_(cosmologist))

## RESEARCH SUMMARY

Total Research papers in Impact Factor journals:	<b>398</b>
Cumulative IF:	<b>715</b>
Cumulative citation:	<b>4900</b>
h-index:	<b>34</b>
i10-index:	<b>167</b>
Lectures delivered in Local/International Conferences:	<b>78</b>
PhD Supervised: <b>16</b>	PhD in progress: <b>08</b>
MPhil Supervised: <b>55</b>	MPhil in Progress: <b>04</b>

A complete list of research papers can be seen at the following link.

<http://pu.edu.pk/images/publication/1408596083423-Pub.pdf>

## I. ACADEMIC QUALIFICATIONS

<u>Degree</u>	<u>Date</u>	<u>Institutions</u>	<u>Subject(s)</u>
BSc	Nov. 1983	Islamia University Bahawalpur	Maths A, B Courses and Physics
MSc	Dec. 1985	Quaid-i-Azam University Islamabad	Applied Mathematics
MPhil	Nov. 1987	-do-	Applied Mathematics
PhD	Dec. 1991	-do-	Applied Mathematics (Relativity)

## II. FIELDS OF INTEREST

Gravitational Theory, Astrophysics and Cosmology

### III. EXPERIENCE

#### A. ACADEMIC EXPERIENCE:

1. **Chairman**, Department of Mathematics, University of the Punjab, Lahore from **May 16, 2013 to to-date**.
2. **Tenured Professor** at Mathematics Department, University of the Punjab, Lahore from **December 21, 2012 to to-date**.
3. **Professor (TTS)** at Mathematics Department, University of the Punjab, Lahore from **April 28, 2008 to to-date**.
4. **Professor** at Mathematics Department, University of the Punjab, Lahore from **April 23, 2005 to to-date**.
5. **Associate Professor** at Mathematics Department, University of the Punjab, Lahore from **August 25, 2001 to April 22, 2005**.
6. **Assistant Professor** at Mathematics Department, University of the Punjab, Lahore from **Nov. 30, 1995 to August 24, 2001**.
7. **Assistant Professor (Applied Mathematics)** at the Institute of Chemical Engg. & Technology, University of the Punjab, Lahore from **Feb. 22, 1994 to Nov. 29, 1995**.
8. **Research Officer** at Mathematics Department, Quaid-i-Azam University Islamabad under the Pakistan Science Foundation Project PSF/RES/C-QU/MATHS (16) from June 01, 1989 to May 31, 1992.
9. **Senior Research Assistant** at Mathematics Department, Quaid-i-Azam University Islamabad from Dec. 17, 1987 to Dec. 16, 1991.
10. **Junior Research Assistant** at Mathematics Department, Quaid-i-Azam University Islamabad from Dec. 24, 1985 to Dec. 16, 1987.

#### B. ADMINITRATIVE EXPERIENCE:

1. **Chairman**, Department of mathematics, University of the Punjab, Lahore from **May 16, 2013 to todate**.
2. **Coordinator**, Departmental Internet Services during Oct. 1998-Feb. 2000.
3. **Coordinator**, MPhil Program from Oct. 1998 and PhD Program from April 2008-May 15, 2013.

4. **Coordinator**, Departmental Purchase Committee from Dec. 2004-Feb. 2010.
5. **Member**, Departmental Purchase Committee from March 2007-May 15, 2013.
6. **Member**, Board of Studies in Mathematics, University of the Punjab from August 25, 2001 to May 15, 2013.
7. **Member**, Board of Faculty of Science, University of the Punjab from April 23, 2005 to date.
8. **Member**, Senate, University of the Punjab from April 23, 2005 to date.
9. **Member**, Academic Council, University of the Punjab from April 23, 2005 to date.
10. **Coordinator**, Doctoral Program Committee from Nov. 2005-May 15, 2013.
11. **Coordinator**, Departmental Seminar Series from August 2005-April 2008.
12. **Coordinator**, Departmental Computer Centre from March 2007-May 15, 2012.
13. **Coordinator**, Departmental Scholarship Committee from March 2007-June 2010.
14. **Member**, Departmental Examination Committee from March 2005-May 15, 2013.

**C. COMPUTER EXPERIENCE**

- (a) MS Office      (b) LaTeX      (c) Mathematica      (d) Maple.

**D. TEACHING EXPERIENCE**

**a. Taught the following subjects:**

1. Intermediate Mathematics Courses, i.e., Calculus etc. (FA, FSc/A.Level) at Government Gordon College;
2. Mathematics Courses A&B (BSc) at Government Gordon College;
3. Advanced Engineering Mathematics Courses (BSc Engineering) at University of the Punjab;
4. Applied Mathematics Courses (Post-Graduate Diploma in Chemical Technology) at University of the Punjab;
5. Quantum Mechanics (MSc) at University of the Punjab;

6. Mechanics & Special Relativity (MSc) at University of the Punjab;
7. Mathematics Courses (BA Honors) at University of the Punjab;
8. Differential Geometry (MSc) at University of the Punjab;
9. Fluid Mechanics (MSc) at University of the Punjab;
10. Calculus (BCS) at FAST and ILM;
11. Quantum Field Theory (MPhil) at University of the Punjab;
12. General Relativity & Cosmology (MPhil and PhD) at University of the Punjab;
13. Special Relativity and A. Dynamics (MSc) at University of the Punjab;
14. Mechanics (MSc) at University of the Punjab;
15. MS Office 2000 (Short Certificate Course) at University of the Punjab;
16. Vector and Tensor Analysis (BSc Honors) at University of the Punjab;
17. Riemannian Geometry (MPhil) at University of the Punjab;
18. Algebra (BSc) at University of Aberdeen, UK;
19. Electromagnetic Theory (MSc) at University of the Punjab;
20. Ordinary Differential Equations (MSc) at University of the Punjab;
21. Partial Differential Equations (MSc) at University of the Punjab;
22. General Relativity I (MPhil) at University of the Punjab;
23. General Relativity II (PhD) at University of the Punjab;
24. Classical Field Theory (PhD) at University of the Punjab;
25. Elastodynamics (MPhil) at University of the Punjab;
26. Integral Equations (PhD) at University of the Punjab.
27. Reading and Research-MA1 (PhD) at University of the Punjab.

**b. Delivered the following seminars:**

1. *Transmission of Elastic Wave through a Random Layer* (Maths Department QAU 1987);
2. *Time Varying Forces in Relativity* (Maths Department QAU 1989);
3. *On the Solution of Cubic Equation* (Maths Department QAU 1989);
4. *Extension of the pseudo-Newtonian Formalism to Time Varying Spacetimes* (Maths Department QAU 1990);
5. *Energy in General Relativity* (Maths Department QAU 1991);
6. *Forces in Non-Static Spacetimes* (Maths Department QAU 1991);
7. *Energy in Gravitational Waves* (Physics Dept. Trakya University Edirne-Turkey 1991);
8. *Motion Caused by Gravitational Waves* (Maths Department QAU 1993);
9. *Some Developments in CAGD* (Institute for Studies in Theoretical Physics & Mathematics, Tehran-Iran, 1995);
10. *An Introduction to General Relativity* (Maths Department PU 1996);
11. *Non-Static Spherically Symmetric Perfect Fluid Solutions of Einstein's Field Equations Using Different Equations of State* (Maths Department QAU 1999);
12. *Non-Static Spherically Symmetric Perfect Fluid Solutions* (Physics Department, Hanyang University, Seoul-Korea 2000);
13. *Classification of Kantowski-Sachs, Bianchi Types I and III Spacetimes according to their Matter Collineations* (Maths Department QAU Islamabad 2002);
14. *Classification of Spherically Symmetric Static Spacetimes according to their Matter Collineations* (Maths Department, University of Aberdeen, UK 2003);
15. *Matter Symmetries of Spherically Symmetric Static Spacetimes* (Maths Department, University of Aberdeen, UK 2003);
16. *Matter Collineations of Spherically Symmetric Spacetimes* (BRITGRAV III, Ambleside, UK Sep. 2003);
17. *Matter Symmetries* (Maths Department LUMS, Jan. 2004);
18. *Some Examples of Matter Symmetries* (SMS Lahore, March 2004);

19. *Kinematic Self-Similar Solutions* (11<sup>th</sup> Reg. Conf. Tehran, May 2004);
20. *The Determination of the Metric Tensor by Weyl and the Energy-Momentum Tensor* (CAMP, NUST Rawalpindi, Oct. 2004);
21. *Some Aspects of Carmeli's Relativity* (SMS Lahore, March 4, 2005);
22. *Teleparallel Descriptions of Gravitation* (CAMP, NUST Rawalpindi, April 6, 2005);
23. *Symmetries of the Energy-Momentum Tensor* (30<sup>th</sup> INSC, Nathiagali, July 1, 2005);
24. *Relativity: An Introduction* (Maths Dept. PU, August 24, 2005);
25. *Symmetries of the Energy Momentum Tensor: Some Basic Facts* (BRITGRAV V, Oxford, UK Sep. 22, 2005);
26. *Matter Collineations: Some Basic Facts* (LUMS Int. Conf. on Mathematics and its Applications in Information Technology LUMS, Lahore, Nov. 29, 2005);
27. *Teleparallel Equivalent of Gravitation: An Overview* (Int. Conf. on Mathematics and its Applications COMSATS, Lahore, Jan. 21, 2006);
28. *Matter Symmetries of Non-Static Plane Symmetric Spacetimes* (12<sup>th</sup> Regional Conf. QAU, Islamabad, March 27-April 1, 2006);
29. *Classification of Cylindrically Symmetric Kinematic Self-Similar Solutions* (Dept. of Mathematics and Physics, Osaka City University, Japan, May 30, 2006);
30. *Classification of Plane Symmetric Kinematic Self-Similar Solutions* (Institute of Theoretical Physics, Rikkyo University Tokyo Japan, June 2, 2006);
31. *High Speed Cylindrical Collapse of Two Dust Fluids* (MGM11, Dept of Physics Freie University, Berlin Germany, July 27, 2006);
32. *Matter Collineations* (Maths Dept. PU, February 14, 2007);
33. *Symmetries of the Energy-Momentum Tensor* (SMS Lahore, March 6, 2007);
34. *Self-Similar Solutions* (All Pakistan Maths Conf. Islamabad, June 7, 2007);
35. *Gravitational Collapse with Cosmological Constant* (GR18, Sydney-Australia, July 9, 2007);

36. *Wave Properties in Schwarzschild Geometry with Isothermal Plasma* (GR18, Sydney-Australia, July 12, 2007);
37. *An Overview of Einstein's Theory of Relativity* (First Maths Conf. BZU Multan, July 28, 2007);
38. *Gravitational Collapse* (Maths. Dept. PU Lahore October 31, 2007);
39. *Gravitational Collapse with Perfect Fluid* (SMS Lahore November 6, 2007);
40. *Spherically Symmetric Gravitational Collapse* (SMS Lahore March 4, 2009);
41. *Wave Properties in Schwarzschild Magnetosphere* (NCP QAU Islamabad April 9, 2009);
42. *Gravitational Collapse: Expanding and Collapsing Regions* (II Italian-Pakistani Workshop on Relativistic Astrophysics, ICRANet Centre Pescara-Italy, July 9, 2009);
43. *Energy Contents of Plane Gravitational Waves in Teleparallel Gravity* (MGM12 UNESCO, Paris-France, July 16, 2009);
44. *Cosmic Censorship Conjecture* (Maths Dept. PU Lahore September 30, 2009);
45. *The Pseudo Newtonian Potentials* (GRG Conference Maths Dept. PU Lahore February 12, 2010);
46. *Effects of Electromagnetic Field on Cylindrically Symmetric Perfect Fluid Collapse* (GR19, Mexico City-Mexico, July 6, 2010);
47. *Some Interesting Consequences of  $f(R)$  Theory of Gravity* (13<sup>th</sup> Regional Conf. on Mathematical Physics Antalya, Turkey, October 27, 2010);
48. *Modern Cosmology and Modified Gravity Theories* (Department of Physics, Akdeniz University Antalya, Turkey, Nov. 01, 2010);
49. *Effects of  $f(R)$  Dark Energy on the Dynamics of Gravitational Collapse* (Department of Physics, Akdeniz University Antalya, Turkey, Nov. 01, 2010);
50. *Modified Theories of Gravity* (Institute of Mathematics, University of Aberdeen, Aberdeen Scotland, UK, June 9, 2011);
51. *Phantom Accretion onto a Class of Black Holes* (III Italian-Pakistani Workshop on Relativistic Astrophysics, University of Salento, Lecce-Italy, June 21, 2011);

52. *Tunneling of Dirac Particles* (3<sup>rd</sup> Galileo-Xu Guangoi Meeting, National Astronomical Observatories, Beijing, China, Oct. 11-15, 2011);
53. *F(T) Gravity* (NUST Conference on Mathematical Sciences, NUST Islamabad, Nov. 17, 2011);
54. *Cosmic Acceleration in Teleparallel Gravity* (Int. Conference on Physics and the World of Today, Karachi University, Karachi, December 22, 2011);
55. *Kaluza Klein Cosmology with Modified Holographic Dark Energy* (4th Winter Meeting in Particles and Physics, Physics Dept. LUMS Lahore, January 28, 2012);
56. *Dark Energy Models and Laws of Thermodynamics* (MGM13 Stockholm University, Stockholm-Sweden, July 03, 2012);
57. *Modern Cosmology* (First National Conference on Space Sciences, ISPA, University of Karachi, October 08, 2012);
58. *Effects of Electromagnetic Field on Shearfree Spherical Collapse* (IV Italian-Pakistani Workshop on Relativistic Astrophysics, CAMP-NUST, Islamabad-Pakistan, February 15, 2013);
59. *f(R) Theory of Gravity* (Maths Dept. PU Lahore October 02, 2013);
60. *Bianchi Type Universe and Superpotential Reconstruction in Scalar-Tensor Cosmology* (Second National Conference on Space Sciences, ISPA, University of Karachi, October 07, 2013);
61. *Dynamics of Bianchi Type Scalar-Tensor Cosmology* (27th Texas Symposium on Relativistic Astrophysics, Dallas, USA, December 09, 2013);
62. *Noether Symmetries in a Modified Scalar-Tensor Gravity* (SDEA-II, SNS-NUST Islamabad, January 27, 2014);
63. *Inflationary Cosmological Model* (1<sup>st</sup> National Conference on Mathematical Sciences, University of Malakand, Dir Lower, KPK, September 02, 2014);
64. *Warm Inflation* (Maths Dept. PU Lahore, September 24, 2014);
65. *Inflationary Universe Model* (Dark Side of the Universe, University of Cape Town, South Africa, November 17, 2014);
66. *Stability Analysis of Stellar Object* (1<sup>st</sup> UMT National Conference on Pure and Applied Mathematics, Lahore, March 07, 2015);



67. *Stability: Impact of Physical Factors* (The International Conference on Gravitation and Cosmology/4th Galileo-Xu Guangoi Meeting, Institute of Theoretical Physics, Beijing, China, May 07, 2015);
68. *Gravitational Lensing* (Maths Dept. PU Lahore, September 02, 2015);
69. *Strong Gravitational Lensing of a Spherically Symmetric Black Hole* (Spanish Relativity Meeting 2015, UIB, Palma de Mallorca, Spain, September 07, 2015);
70. *Warm Inflation with Viscous Pressure* (Third National Conference on Space Science and Technology, ISPA, University of Karachi, October 05, 2015);
71. *Gravitational Lensing in a String Cloud Background* (14<sup>th</sup> Regional Conference on Mathematical Physics, Quaid-i-Azam University Islamabad, November 11, 2015);
72. *Inflation: Some Recent Developments* (International Conference on Recent Advances in Applied Mathematics, COMSATS, Lahore, December 17, 2015);
73. *Thermodynamics in Modified Gravity* (1st International Conference on Pure and Applied Sciences, UMT, Lahore, March 05, 2016);
74. *Study of Thin-Shell Wormholes Stability* (21st International Conference on General Relativity and Gravitation, Columbia University, New York City-USA, July 13, 2016);
75. *Thin-Shell Wormholes Supported by Different Cosmological Models* (V Italian-Pakistani Workshop on Relativistic Astrophysics, University of Salento, Lecce-Italy, July 22, 2016);
76. *Thin-Shell Wormholes* (Maths Dept. PU Lahore, August 17, 2016);
77. *Thermodynamics and Gravity* (Fourth National Conference on Space Science and Technology, ISPA, University of Karachi, October 08, 2016);
78. *Noether Symmetries and their Applications* (One Day National Seminar on Advancement in Pure and Applied Mathematics, GC University Faisalabad, January 25, 2017).

#### IV. CONFERENCES AND SEMINARS ATTENDED

1. All Pakistan Mathematical Conference held at Mathematics Department, Quaid-i-Azam University Islamabad, Oct. 1-4, 1985.

2. Third Regional Conference on Mathematical Physics *SUPERSTRINGS AND RELATIVITY* held at Physics Department, Quaid-i-Azam University Islamabad, Feb. 18-24, 1989.
3. Third Albert Einstein Seminar held at Mathematics Department, Quaid-i-Azam University Islamabad, Feb. 25-27, 1989.
4. One day Arif-uz-Zaman Symposium held at Physics Department, Quaid-i-Azam University Islamabad, Nov. 27, 1989.
5. School on Fundamental Physics and Cosmology held at Physics Department, Quaid-i-Azam University Islamabad, March 11-25, 1990.
6. Third National Symposium on Frontiers in Physics held at Physics Department, Quaid-i-Azam University Islamabad, Nov. 26-29, 1990.
7. Mini Workshop on Relativity, Astrophysics and Cosmology held at Mathematics Department, Quaid-i-Azam University Islamabad, Oct. 15-17, 1991.
8. Fifth Regional Conference on Mathematical Physics held at Physics Department, Trakya University Edirne-Turkey, Dec. 15-22, 1991.
9. Fourth National Symposium on Frontiers in Physics held at Physics Department, Quaid-i-Azam University Islamabad, April 15-19, 1992.
10. BCSPIN Pakistan Preparatory School held at Physics Department, Quaid-i-Azam University Islamabad, Nov. 25-Dec. 17, 1992.
11. International Workshop on Experimental Gravitation held at Nathiagali, June 26-July 01, 1993.
12. All Pakistan Mathematical Conference held at Mathematics Department, University of Engineering & Technology Lahore, March 11-14, 1995.
13. Seventh Regional Conference on Mathematical Physics (Caspian Conference) held at the Institute for Studies in Theoretical Physics & Mathematics, Tehran-Iran, Oct. 15-22, 1995.
14. Summer School in High Energy Physics and Cosmology held at International Centre for Theoretical Physics, Trieste-Italy, June 10-July 26, 1996.
15. BCSPIN Pakistan Preparatory School held at Physics Department, Quaid-i-Azam University Islamabad, Jan. 4-23, 1997.
16. Symposium on Relativity, Astrophysics and Cosmology held at Mathematics Department, Quaid-i-Azam University Islamabad Nov. 18-20, 1999.

17. Workshop on Applications of Symmetry Methods held at Mathematics Department, Quaid-i-Azam University Islamabad Oct. 15-17, 2002.
18. The Robert Cormack Bequest Meeting for Astronomy held at Department of Mathematical Sciences, University of Aberdeen, Scotland, UK March 31, 2003.
19. The Third British Gravity Meeting (BRITGRAV III) held at Ambleside Conference Centre, Ambleside with Lancaster University, UK Sep. 12-14, 2003.
20. World Conference on 21<sup>st</sup> Century Mathematics 2004 held at School of Mathematical Sciences, Lahore, March, 18-20, 2004.
21. 11th Regional Conference on Mathematical Physics and IPM Spring Conference held at the Institute for Studies in Theoretical Physics & Mathematics (IPM), Tehran-Iran, May, 3-6, 2004.
22. 17th International Conference on General Relativity and Gravitation held at RDS Dublin-Ireland, July 18-23, 2004.
23. Second Symposium on Relativity, Astrophysics and Cosmology held at Centre for Advanced Mathematics and Physics (CAMP), National University of Sciences and Technology, Rawalpindi Oct. 4-6, 2004.
24. Second World Conference on 21<sup>st</sup> Century Mathematics 2005 held at School of Mathematical Sciences, Lahore, March, 4-6, 2005.
25. 30<sup>th</sup> International Nathiagali Summer College on Physics and Contemporary Needs held at Nathiagali, June 27-July 2, 2005.
26. The Fifth British Gravity Meeting (BRITGRAV V) held at St. Catherine's College, Oxford, UK Sep. 20-23, 2005.
27. LUMS International Conference on Mathematics and its Applications in Information Technology held at LUMS, Lahore, Nov. 27-30, 2005.
28. International Conference on Mathematics and its Applications held at COMSATS, Lahore, Jan. 20-22, 2006.
29. 12th Regional Conference on Mathematical Physics held at Quaid-i-Azam University Islamabad, March 27-April 1, 2006.
30. International Symposium on Relativity held at University of the Punjab Lahore, April 6, 2006.
31. 11<sup>th</sup> Marcel Grossmann Meeting held at Freie University, Berlin Germany, July 23-29, 2006.

32. Third World Conference on 21<sup>st</sup> Century Mathematics 2007 held at School of Mathematical Sciences, Lahore, March, 5-7, 2007.
33. All Pakistan Mathematical Conference Islamabad, June 7-9, 2007.
34. 18th International Conference on General Relativity and Gravitation held at Sydney Convention and Exhibition Centre Sydney-Australia, July 8-14, 2007.
35. First Mathematics Conference held at CASPAM, BZU Multan, July 27-28, 2007.
36. LUMS 2<sup>nd</sup> International Conference on Mathematics held at LUMS, Lahore, March 9-12, 2008.
37. Eleventh National Symposium on Frontiers in Physics held at GC University Lahore, January 29-31, 2009.
38. Fourth World Conference on 21<sup>st</sup> Century Mathematics 2009 held at School of Mathematical Sciences, Lahore, March, 4-7, 2009.
39. 1<sup>st</sup> NCP Scientific Spring 2009 held at NCP QAU, Islamabad, April 6-9, 2009.
40. II Italian-Pakistani Workshop on Relativistic Astrophysics, ICRANet Centre, Pescara-Italy, July 8-10, 2009.
41. 12<sup>th</sup> Marcel Grossmann Meeting held at UNESCO, Paris-France, July 12-18, 2009.
42. Conference on General Relativity and Gravitation at University of the Punjab February 11-13, 2010.
43. 19th International Conference on General Relativity and Gravitation held at Mexico City-Mexico, July 5-9, 2010.
44. 13<sup>th</sup> Regional Conference on Mathematical Physics held at Antalya, Turkey, October 27-31, 2010.
45. Twelfth National Symposium on Frontiers in Physics held at GC University Lahore, February 02-04, 2011.
46. III Italian-Pakistani Workshop on Relativistic Astrophysics, University of Salento, Lecce-Italy, June 20-22, 2011.
47. 3<sup>rd</sup> Galileo-Xu Guangqi Meeting, National Astronomical Observatories, Beijing, China, Oct. 11-15, 2011.
48. NUST Conference on Mathematical Sciences, NUST Islamabad, Nov. 17-19, 2011.

49. International Conference on Physics and the World of Today, Department of Physics, University of Karachi, Karachi, December 21-22, 2011.
50. 4th Winter Meeting in Particles and Physics, Department of Physics, LUMS Lahore, January 27-28, 2012.
56. 13<sup>th</sup> Marcel Grossmann Meeting held at Stockholm University, Stockholm-Sweden, July 01-07, 2012.
57. First National Conference on Space Sciences, ISPA, University of Karachi, October 08-09, 2012.
58. IV Italian-Pakistani Workshop on Relativistic Astrophysics, CAMP-NUST, Islamabad-Pakistan, February 15-17, 2013.
59. Second National Conference on Space Sciences, ISPA, University of Karachi, October 07-08, 2013.
60. 27th Texas Symposium on Relativistic Astrophysics, Dallas, USA, December 08-13, 2013.
61. Symmetries, Differential Equations and Applications-II, SNS-NUST, Islamabad, January 27-30, 2014.
62. First National Conference on Mathematical Sciences, Department of Mathematics, University of Malakand, Chakdara, Dir Lower, KPK, September 02-04, 2014.
63. Dark Side of the Universe, University of Cape Town, South Africa, November 17-21, 2014.
64. 1<sup>st</sup> UMT National Conference on Pure and Applied Mathematics, Lahore, March 07-08, 2015.
65. The International Conference on Gravitation and Cosmology/4th Galileo-Xu Guangqi Meeting, Institute of Theoretical Physics, Beijing, China, May 04-08, 2015.
66. Spanish Relativity Meeting 2015, UIB, Palma de Mallorca, Spain, September 07-11, 2015).
67. Third National Conference on Space Science and Technology, ISPA, University of Karachi, October 05-06, 2015.
67. 14<sup>th</sup> Regional Conference on Mathematical Physics, Quaid-i-Azam University Islamabad, November 09-14, 2015.

68. International Conference on Recent Advances in Applied Mathematics, COMSATS, Lahore, December 17-18, 2015.
69. 1st International Conference on Pure and Applied Sciences, UMT, Lahore, March 05-07, 2016.
70. 21st International Conference on General Relativity and Gravitation, Columbia University, New York City-USA, July 11-15, 2016.
71. V Italian-Pakistani Workshop on Relativistic Astrophysics, University of Salento, Lecce-Italy, July 21-23, 2016).
72. Fourth National Conference on Space Science and Technology, ISPA, University of Karachi, October 07-09, 2016.

## V. CONFERENCES ORGANIZED

1. Organized *International Symposium on Relativity* at University of the Punjab on April 6, 2006.
2. Organized *one day International Symposium on Relativity* at University of the Punjab on April 06, 2006.
3. Organized *Lecture Series on Black Holes* at University of the Punjab October 10-11, 2008.
4. Organized a *Special Lecture on Approximate Symmetries* at University of the Punjab November 23, 2009.
5. Organized a *Conference on General Relativity and Gravitation* at University of the Punjab February 11-13, 2010.
6. Organized *Lecture Series on Cosmology* at University of the Punjab November 23-27, 2010.
7. Organized a *One Day Conference on Gravitation* at University of the Punjab December 17, 2011.
8. Organized *Lecture Series on Cosmology* at University of the Punjab November 08-09, 2013.
9. Organized five days *International Conference on Relativistic Astrophysics* at University of the Punjab February 10-14, 2015.
10. Organized a *One Day Conference on Gravitation and Cosmology* at University of the Punjab November 26, 2016.

**VI. AWARDS/FELLOWSHIPS**

1. **Merit Scholarship** awarded by Quaid-i-Azam University during M.Sc.
2. **Dr. Raziuddin Siddiqi Research Fellowship** awarded by Quaid-i-Azam University during M.Phil.
3. **Post-Doctoral Fellowship** awarded by Korea Science and Engineering Foundation (KOSEF) (2000).
4. **Research Productivity Award (2001-2015)** awarded by Pakistan Council for Science and Technology (PCST).
5. **Dr. Raziuddin Siddiqi Prize and Gold Medal (2002)** awarded by Pakistan Academy of Sciences.
6. **Post-Doctoral Fellowship** awarded by Ministry of Science & Technology (2003).
7. **Izaz-i-Fazeelat (Presidential Award)** awarded by Government of Pakistan (Dec. 13, 2007).
8. **Tamgha-i-Imtiaz** awarded by Government of Pakistan (March 23, 2008).
9. **Best University Teacher Award** awarded by Higher Education Commission (August 13, 2008).
10. **Best Research Paper Award** awarded by Higher Education Commission (December 17, 2009).
11. **Pakistan Academy of Sciences Gold Medal** awarded by Pakistan Academy of Sciences (December 22, 2009).
12. **HEC Distinguished National Professor** awarded by Higher Education Commission (November 03, 2010).
13. **Fellow, Pakistan Academy of Sciences** elected by Pakistan Academy of Sciences (November 26, 2010).
14. **Best Research Paper Award** awarded by Higher Education Commission (March 13, 2015).
15. **Pakistan Top Scientist** in all disciplines awarded by PCST during 2014 and 2015.
16. **Best University Teacher Award** awarded by Higher Education Commission (January 28, 2016).

**VII. RESEARCH PROJECTS**

1. *The pseudo-Newtonian Formalism*, Quaid-i-Azam University (1989-1992) (Completed).
2. *Application of the pseudo-Newtonian Formalism*, University of the Punjab (1998-1999) (Completed).
3. *Effects of Electromagnetic Field on Dissipative Viscous Collapse*, University of the Punjab (2015) (Completed).
4. *Warm Inflation with General Dissipation Coefficient*, University of the Punjab (2016) (Completed).
5. *Stability Analysis and Some Interesting Cosmic Issues*, Pakistan Academy of Sciences (2016-2018) (In progress).

**VIII. HONORARY POSITIONS HELD, ETC.**

1. Conducted a Refresher Course for College teachers of Azad Kashmir at Mirpur, Feb. 1992.
2. Research Fellow at ICTP Trieste-Italy, July 27-August 14, 1996.
3. Life Member, Punjab Mathematical Society, Pakistan.
4. Member, All Pakistan Mathematical Association.
5. Third World Academy of Sciences (TWAS) Associateship for Brazil 1998-2000.
6. Visiting Professor at IMECC, UNICAMP, Campinas, SP, Brazil, July 20-Oct. 17, 1998 and June 01-August 31, 2000.
7. Supervision of Ph.D. Students under the Indigenous PhD Fellowship Program of Higher Education Commission.
8. Visiting Professor at Department of Mathematics, Canakkale Onsekiz Mart University, Turkey, June 17-July 19, 2002.
9. Member, Pakistan Mathematical Society, Pakistan.
10. Referee, International Journals like *General Relativity and Gravitation* etc.
11. Life Member, International Society of General Relativity and Gravitation.



12. PCST awarded *Pakistan Top Scientist* during 2005-2006, 2006-2007, 2014.
13. Punjab University awarded Top Scientist during 2005.
14. Visiting Professor at Department of Mathematics and Physics, Osaka City University, Osaka, Japan, May 27-June 4, 2006.
15. Life Member, Pakistan Physical Society, Pakistan.
16. Visiting Professor at Institute of Mathematics, University of Aberdeen, UK, June 04-July 02, 2011 under HEC program PPCR.
17. HEC Consultancy Services for Short Study of Faculty Staff under TESP during March-June 2016.

## IX. COUNTRIES VISITED

1. **S. Korea:** Postdoctoral Fellow at Hanyang University during March 2000-Feb. 2001 for one year.
2. **Brazil:** Visiting Professor at IMECC, UNICAMP during July-Oct. 1998 and June-August 2000 for six months.
3. **UAE:** Excursion during June 1996 and June 2002 for three days.
4. **Iran:** To attend Regional Conferences during Oct. 1995 for two weeks and during May 2004 for one week.
5. **Ireland:** To attend 17<sup>th</sup> International Conference on General Relativity and Gravitation during July 18-23, 2004 for one week.
6. **Japan:** Visiting Professor at Department of Mathematics and Physics, Osaka City University, Osaka, Japan, May 27-June 4, 2006.
7. **Germany:** To attend 11<sup>th</sup> Marcel Grossmann Meeting during July 23-29, 2006 for one week.
8. **Australia:** To attend 18<sup>th</sup> International Conference on General Relativity and Gravitation during July 8-14, 2007 for one week.
9. **Switzerland:** Excursion during July 2009 for two days.
10. **France:** To attend 12<sup>th</sup> Marcel Grossmann Meeting during July 12-18, 2009 for one week.
11. **Mexico:** To attend 19<sup>th</sup> International Conference on General Relativity and Gravitation during July 5-9, 2010 for one week.
12. **Italy:** To attend a Summer School at ICTP during June-August 1996 for three months; to attend II, III and V Italian-Pakistani Workshops on Relativistic Astrophysics during July 2009, June 2011 and July 2016, respectively for one week each.
13. **UK:** Postdoctoral Fellow at University of Aberdeen, Scotland during Nov. 2002-Oct. 2003 for one year; to attend BritGrav V in Sep. 2005 for one week; Visiting Professor at University of Aberdeen, Scotland during June 04-July 02 2011 for one month.

- 14. Saudi Arabia:** To perform Umrah during July 1998, June 2002, Sep. 2005; July 2006 for 12 days; June/July 2008 for two weeks; June 2012 for two weeks; Hajj during Dec. 2004-Jan. 2005 for 6 weeks.
- 15. Sweden:** To attend 13<sup>th</sup> Marcel Grossmann Meeting during July 01-7, 2012 for one week.
- 16. Norway:** Excursion during July 2012 for five days.
- 17. USA:** To attend 27<sup>th</sup> Texas Symposium on Relativistic Astrophysics, December 08-13, 2013 for one week; To attend GR21, July 08-18, 2016.
- 18. S. Africa:** To attend “Dark Side of the Universe” Conference during November 17-21, 2014 for one week.
- 19. China:** To attend 3<sup>rd</sup> Galileo-Xu Guangoi Meeting, Oct. 11-15, 2011 for a week; To attend 4<sup>th</sup> Galileo-Xu Guangoi Meeting, May 04-08, 2015 for one week
- 20. Turkey:** To attend a Conference during Dec. 1991 for three weeks; visiting Professor at Onsekiz Mart University during June-July 2002 for one and half month; to attend a Regional Conference during Oct. 2010 for ten days; excursion during September 05-06, 2015 for two days.
- 21. Spain:** To attend “Spanish Relativity Meeting 2015” Conference during September 07-11, 2015 for one week.

**SUPERVISION OF MPHIL/PHD STUDENTS:****SUPERVISED PHD THESIS TITLES:**

1. *Kinematic Self-Similar Solutions and their Applications* by **Ms Sehar Aziz** (January 11, 2008).
2. *Wave Properties in Black Hole Magnetospheres* by **Miss Umber Sheikh** (September 01, 2008).
3. *Some Important Issues of General Relativity in Teleparallel Theory of Gravity* by **Mr. Muhammad Jamil Amir** (October 17, 2008).
4. *Gravitational Collapse: A Key Issue in General Relativity* by **Mr. Zahid Ahmad** (February 23, 2009).
5. *Some Aspects of Dark Energy and Gravitational Collapse in  $f(R)$  Theory* by **Miss H. Rizwana Kausar** (May 12, 2012).
6. *Fate of Gravitational Collapse in Electromagnetic Theory* by **Mr. Ghulam Abbas** (January 11, 2013).
7. *Some Cosmological Issues in Scalar-Tensor Theories* by **Miss Saira Waheed** (January 04, 2014).
8. *Evolution of the Universe and Dark Energy Mystery* by **Mr. Abdul Jawad** (January 17, 2014).
9. *Hawking Radiation from Some Particular Black Holes* by **Ms Wajiha Javed** (January 17, 2014).
10. *Stability Analysis: A Crucial Study in General Relativity* by **Mr. Muhammad Azam** (February 28, 2014).
11. *Curvature Matter Coupling: Some Cosmic Aspects* by **Mr. Muhammad Zubair** (April 19, 2014).
12. *Some Interesting Issues in  $f(T)$  Gravity* by **Miss Shamaila Rani** (December 11, 2014).
13. *Stability Analysis of Self-gravitating Collapsing Systems* by **Mr. M. Zaeem ul Haq Bhatti** (October 26, 2015).
14. *Some Inflationary and Cosmic Issues in General Relativity* by **Miss Rabia Saleem** (October 26, 2015).
15. *Dynamical Evolution of Collapsing Stellar Systems in  $f(R)$  Gravity* by **Mr. Zeeshan Yousaf** (November 02, 2015).
16. *Gravitational Lensing and Dynamics of Black Holes* by **Miss Sehrish Iftikhar** (December 15, 2016).

**PhD in Progress:**

1. Miss Rubab Manzoor (Thesis submitted on December 14, 2016)
2. Miss Ismat Fatima (2013-2016)
3. Miss Ayesha Ikram (2014-2017)
4. Miss Saadia Mumtaz (2014-2017)
5. Ms Kanwal Nazir (2014-2017)
6. Miss Iqra Nawazish (2014-2017)
7. Miss Sobia Sadiq (2015-2018)
8. Ms Aisha Siddiq (2015-2018)

9. Miss Arfa Waseem (2016-2019)
10. Ms Saadia Saba (2016-2019)

**SUPERVISED MPHIL THESIS TITLES:**

1. *Non-Static Spherically Symmetric Perfect Fluid Solutions* by **Tanveer Iqbal** (1999).
2. *Matter Collineations of Spherically Symmetric Static Spacetimes* by **Sehar Aziz** (2002).
3. *Spacelike and Timelike Matter Inheritance Vectors in Different forms of Matter Tensor* by **Umer Sheikh** (2004).
4. *Energy-Momentum Distribution: A Crucial Problem in General Relativity* by **Tasnim Fatima** (2004).
5. *Matter Collineations of Plane Symmetric Spacetimes* by **Tariq Ismaeel** (2006).
6. *Conformal Collineations for Fluid Spacetimes* by **Naghmana Tehseen** (2006).
7. *Energy-Momentum Distribution of Some Specific Spacetimes* by **Muhammad Azam** (2006).
8. *Linear Perturbations of Self-Similar Spherically Symmetric Solutions of Second Kind* by **Aziz Ullah** (2006).
9. *Symmetries of Energy-Momentum Tensor: Plane Symmetric Spacetimes* by **Nousheen Ilyas** (2007).
10. *Energy-Momentum Distribution in General Relativity and Teleparallel Theory of Gravitation* by **Kanwal Nazir** (2007).
11. *Parallel and Orthogonal Self-Similar Solutions of Cylindrically Symmetric Spacetimes* by **Javaria Zanub** (2007).
12. *Tilted Self-Similar Solutions of Cylindrically Symmetric Spacetimes* by **Sajid Sultan** (2007).
13. *Behavior of Time Varying Constants in Relativity* by **H. Rizwana Kausar** (2008).
14. *Plasma Wave Properties of Non-Rotating Spacetimes* by **Ghulam Mustafa** (2008).
15. *Killing Vectors in Teleparallel Theory of Gravitation* by **Bushra Majeed** (2008).
16. *Spherically Symmetric Gravitational Collapse* by **Khadija Iqbal** (2008).
17. *Wave Properties of the Schwarzschild Magnetosphere with Hot Plasma* by **Asma Rafique** (2009).
18. *Spherically Symmetric Gravitational Collapse with Electromagnetic Field* by **Ghulam Abbas** (2009).
19. *Some Issues in  $f(R)$  Theory of Gravity* by **M. Farasat Shamir** (2009).
20. *Hamiltonian Approach: Energy and its Contents in Teleparallel Gravity* by **Sumaira Taj** (2009).
21. *Plane Symmetric Kinematic Self-similar Heat Conducting and Charge Solutions* by **Wajiha Javed** (2009).
22. *Dynamics of Viscous Dissipative Plane Symmetric Gravitational Collapse* by **Zakia Rehmat** (2009).
23. *Wave Properties of the Non-Rotating Black Hole in a Veselago Medium* by **Noureen Mukhtar** (2010).
24. *Effects of Electromagnetic Field and Anisotropic Dark Energy on Cosmological Models* by **Muhammad Zubair** (2010).

25. *Conserved Quantities with Approximate Symmetries of Some Well-Known Spacetimes* by **Saira Waheed** (2010).
26. *Dynamics of the Charged Plane Symmetric Gravitational Collapse* by **Aisha Siddiq** (2010).
27. *Conserved Energy-Momentum Issue using Hamiltonian Approach in Teleparallel Gravity* by **Abdul Jawad** (2010).
28. *Dynamics of the Charged Cylindrically Symmetric Gravitational Collapse* by **Sundas Fatima** (2010).
29. *Charged Anisotropic Static Cylindrically Symmetric Models* by **H. Ismat Fatima** (2011).
30. *Thermodynamics and Some Cosmological Parameters with Varying  $G$  and  $\Lambda$*  by **Farida Khanum** (2011).
31. *Expanding Universe in Generalized Teleparallel Gravity* by **Shamaila Rani** (2011).
32. *Plasma Wave Properties of Schwarzschild de Sitter Black Hole in a Veselago Medium* by **Ifra Noureen** (2011).
33. *Energy Density Inhomogeneity and Electromagnetic Field with Spherical Symmetry* by **Neelum Bashir** (2012).
34. *Dark Energy  $f(T)$  Gravity Models with Anisotropic Universe Models* by **Sehrish Azeem** (2012).
35. *Electromagnetic Wave Propagation with Negative Phase Velocity in Some Black Holes* by **Rubab Manzoor** (2012).
36. *Thermodynamics and Some Cosmological Parameters for Dark Energy Models* by **Rabia Saleem** (2012).
37. *Structure Scalars in Charged Cylindrical and Plane Symmetries* by **M. Zaeem ul Haq Bhatti** (2012).
38. *Shear and Expansion Free Evolution Models in General Relativity* by **Zeeshan Yousaf** (2012).
39. *Some Exact Solutions in  $f(R)$  Gravity and Energy-Momentum Distribution* by **Sadia Arif** (2012).
40. *Gravitational Collapse and Dynamics of Charged Tilted LTB Spacetimes* by **Amal Majid** (2013).
41. *Center of Mass Energy for Some Well-known Black Holes* by **Nida Haider** (2013).
42. *Some Exact Static Plane Symmetric Interior Solutions and Traversable Wormholes in  $f(R)$  Gravity* by **Zuriat Zahra** (2013).
43. *Gravitational Collapse and Wormhole Solutions in  $f(G)$  Gravity* by **Ayesha Ikram** (2014).
44. *Some Anisotropic Cosmic Models in Scalar-Tensor Theories* by **Imrana Shafique** (2014).
45. *Stability and Thermodynamics of Anisotropic Model in  $f(T)$  Gravity* by **Saima Jabbar** (2014).
46. *Dynamics of Some Spacetimes in Tilted and Non-tilted Frames* by **Hira Tahir** (2014).
47. *Dynamics of Tilted LTB Spacetime and Noether Symmetry in  $f(R)$  Gravity* by **Iqra Nawazish** (2014).

48. *Thin-shell Wormhole Solutions and their Stability Static* by **Saadia Mumtaz** (2014).
49. *Gravitational Structure Scalars of Dissipative Axial System in  $f(R)$  Gravity* by **Zunaira Nasir** (2015).
50. *Conformally Flat Anisotropic Polytropes* by **Sobia Sadiq** (2015).
51. *Study of Inflation with Generalized Dissipation and Inhomogeneous Viscous Fluid* by **Sidra Mohsaneen** (2015).
52. *Thermodynamics of Chaplygin Gas and Emergent Universe Models* by **Ayesha Sarwar** (2016).
53. *Some Features of Compact Stars in  $f(R, T, R_{\mu\nu}T^{\mu\nu})$  Gravity* by **Arfa Waseem** (2016).
54. *Stability Analysis of Bardeen Thin-Shell Wormholes with Variable Equation of State* by **Faisal Javed** (2016).
55. *Anisotropic Exact Solutions in Scalar-Tensor-Vector Gravity Theory* by **Aasma Yousaf** (2016).

**MPhil in Progress:**

1. Miss Lubna Kousar (2015-2017).
2. Miss Misbah Shahzadi (2015-2017).
3. Miss Sara Ashraf (2015-2017).
4. Miss Naila Farooq (2015-2017).

**EDITORSHIP:**

1. Chief Editor, *Punjab University Journal of Mathematics* from 2013 to to-date.
2. Editor, *Punjab University Journal of Mathematics* from 1996 to 2013.
3. Editor (Physical Sciences), *Proceedings of the Pakistan Academy of Sciences* from 2015 to to-date.
4. Editor, *Proceedings of the Mini Workshop on Relativity, Astrophysics and Cosmology* (The Wall Street Printers, 1992).
5. Editor, *Proceedings of the International Conference on Relativistic Astrophysics* (Department of Press and Publications, University of the Punjab, 2015).

**REFERENCES:**

1. Prof. Dr. Asghar Qadir, School of Natural Sciences (SNS), National University of Sciences and Technology (NUST), H-12 Campus Islamabad, Pakistan, E\_mail: [asgharqadir46@gmail.com](mailto:asgharqadir46@gmail.com)
2. Prof. Dr. Rong-Gen Cai, Institute of Theoretical Physics, Chinese Academy of Sciences, P.O. Box 2735, Beijing 100190, P.R. China, Email: [cairg@itp.ac.cn](mailto:cairg@itp.ac.cn)
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