

# Dr. Zeeshan Yousaf

HEC Approved PhD Supervisor

## Curriculum Vitae

### Personal Information

Address Department of Mathematics, University of the Punjab, Quaid-i-Azam Campus, Lahore-54590, Pakistan.

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Nationality Pakistani.

Weblinks <http://pu.edu.pk/faculty/description/1641/Dr-Zeeshan-Yousaf.html>  
<http://pu.edu.pk/ggc/GroupMembers.html>

### Education

2012-2015 **Ph.D. (Doctor of Philosophy)** in Mathematics,  
Department of Mathematics, University of the Punjab, Lahore.  
Thesis: Dynamical Evolution of Collapsing Stellar Systems in  $f(R)$  Gravity  
<http://pr.hec.gov.pk/jspui/handle/123456789/9585>

2010-2012 **M.Phil. (Master of Philosophy)** in Mathematics,  
Department of Mathematics, University of the Punjab, Lahore.  
CGPA=3.87/4.00.  
Thesis: Shear and Expansion Free Evolution Models in General Relativity

2007-2009 **M.Sc. (Master of Science)** in Mathematics,  
Department of Mathematics, University of the Punjab, Lahore.  
CGPA=3.86/4.00

### Practical Exposure

1. **Associate Professor**, Department of Mathematics, University of the Punjab, Lahore. May, 2022 – present.
2. **Assistant Professor**, Department of Mathematics, University of the Punjab, Lahore. Nov., 2015 – May, 2022.
3. **Lecturer**, Department of Mathematics, University of the Punjab, Lahore. May, 2014 – Nov., 2015.
4. **Assistant Superintendent**, Allama Iqbal Hall, University of the Punjab, Lahore.

Nov., 2016 – April, 2019.

5. **Assistant Superintendent**, Maulana Muhammad Ali Johar Hall, University of the Punjab, Lahore. May, 2014 – Nov., 2016.
6. **Research Experience** in Department of Mathematics, University of the Punjab, Pakistan during July 2012 to May, 2014 vide Letter No. DG/QA/HEC/2008/64 Dated April 24, 2008.

## **Awards, Scholarships and Honors**

- 2021** Worldwide Top **2%** researchers in Stanford University's list (whole career) (<http://dx.doi.org/10.17632/btchxktzyw.3>)
- 2020, 2021** Worldwide Top **2%** researchers in Stanford University's list (2020; 2021) (<http://dx.doi.org/10.17632/btchxktzyw.2>; <http://dx.doi.org/10.17632/btchxktzyw.3> )
- 2018** **7<sup>th</sup> Most Productive Young Scientist of Pakistan in Mathematical Sciences**, Directory of Productive Scientist of Pakistan, Pakistan Council for Science and Technology, Islamabad–Pakistan. (<https://www.pcst.org.pk/docs/PSP2017.pdf>)
- 2018** **16<sup>th</sup> Most Productive Scientist of Pakistan in Mathematical Sciences**, Directory of Productive Scientist of Pakistan, Pakistan Council for Science and Technology, Islamabad–Pakistan. (<https://www.pcst.org.pk/docs/PSP2017.pdf>)
- 2017-2018** **Research Productivity Award in Category C**, Pakistan Council for Science & Technology, Ministry of Science and Technology, Islamabad–Pakistan.
- 2016-2017** **Research Productivity Award in Category B**, Pakistan Council for Science & Technology, Ministry of Science and Technology, Islamabad–Pakistan.
- 2015-2016** **Research Productivity Award in Category A**, Pakistan Council for Science & Technology, Ministry of Science and Technology, Islamabad–Pakistan.
- 2014-2015** **Research Productivity Award in Category B**, Pakistan Council for Science & Technology, Ministry of Science and Technology, Islamabad–Pakistan.
- 2014-2018** **Maximum Research Incentive Award**, University of the Punjab, Lahore–Pakistan.
- 2012-2014** **Indigenous Ph.D. Fellowship**, Higher Education Commission, Pakistan.
- 2011-2012** **Departmental Doctoral Program Committee (DDPC) M.Phil. Merit Scholarship**, Department of Mathematics, University of the Punjab, Pakistan.

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## Administrative Experiences

1. **Member** of Departmental Admission Committee, Department of Mathematics, University of the Punjab, Lahore (2014 – Present).
2. **Incharge**, General Accounts taking of Department of Mathematics, University of the Punjab, Lahore (2014 and 2016).
3. **Associate Secretary**, International Conference on Relativistic Astrophysics, University of the Punjab, Lahore (2015).
4. **Incharge**, Accounts and Stock taking of Departmental Computer Center, Department of Mathematics, University of the Punjab, 2015.
5. **Organizer**, One Day Conference on Gravitation and Cosmology, University of the Punjab, Lahore (2015).
6. **Coordinator**, Computer Center, Department of Mathematics, University of the Punjab, Lahore (Sept., 2015 – May, 2016).
7. **Expert**, Self-Assessment Report, Master of Science in Mathematics, National Textile University, Faisalabad (2017).
8. **Editor** of the Departmental Magazine “*The Infinity*”, Department of Mathematics, University of the Punjab, Lahore (Feb., 2017– May, 2019)
9. **Coordinator, Departmental Seminar Series**, Department of Mathematics, University of the Punjab, Lahore (Nov., 2017 – Jan., 2019; May, 2019 – Sept. 20; June 2023 – Present)
10. **Focal Person of the ORIC Advisor Committee**, Department of Mathematics, University of the Punjab, Lahore (Dec., 2017– Nov., 2020)
11. **Focal Person for QS Subject Wise World Ranking Committee**, Department of Mathematics, University of the Punjab, Lahore (March, 2018 – Present)
12. **Assistant Coordinator MPhil/PhD Program** at Department of Mathematics, University of the Punjab, Lahore (May, 2018 – May, 2019; Sept., 2019 – Sept. 2020)
13. **Focal Person for QEC for Quality Enhancement Matters**, Department of Mathematics, University of the Punjab, Lahore (July, 2018 – May, 2019)
14. **Secretary**, 1<sup>st</sup> PU International Conference on Gravitation and Cosmology,

University of the Punjab, Lahore (January 27– 31, 2019).

15. **Member**, Departmental Seminar Committee, Department of Mathematics, University of the Punjab, Lahore (May, 2019 – June, 2023)
16. **Member**, MPhil/PhD Lab. Committee, Department of Mathematics, University of the Punjab, Lahore (May, 2019 – Present)
17. **Member**, Departmental Auction Committee, Department of Mathematics, University of the Punjab, Lahore (May, 2019 – Present)
18. **Local Scientific Organizer** for 6<sup>th</sup> UMT International Conference on Pure and Applied Mathematics, UMT, Lahore–Pakistan (February 21 – 23, 2020).
19. **Member**, Board of Faculty of Science, University of the Punjab, Lahore (2020 – 2023).
20. **Member**, Board of Studies, Department of Mathematics, University of the Punjab Lahore (2020 – Present).
21. **Chairman of the Session at** International Webinar on Recent Developments in Cosmology and Modified Gravity, BITS- Pilani, Hyderabad Campus, India; March 10, 2021
22. **Secretary**, 4<sup>th</sup> PU International Conference on Gravitation and Cosmology, University of the Punjab, Lahore (November 22 – 25, 2021).
23. **Scientific and Local Organizer of** 4<sup>th</sup> PU International Conference on Gravitation and Cosmology, University of the Punjab, Lahore (November 22 – 25, 2021).
24. **Member**, Board of Studies, Department of Mathematics and Statistics, The University of Lahore, Lahore (2022 – Present).

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## Trainings

1. **Faculty Orientation Program** by Institute of Administration Sciences, University of the Punjab, Lahore; August 19–22, 2014.
2. **Business Edge Course Titled Communicating Effectively** by International Finance Cooperation, World Bank Group, Lahore; August 20–21, 2014.
3. **Training Workshop on Scopus Database** by University of the Punjab Ranking Committee and Punjab University Library; February 20, 2019.

4. **ProQuest Ebook Central Advanced Training** (Series) by ProQuest Education & Higher Education Commission, Islamabad; September 16, 2020.
5. **ProQuest Ebook Central Advanced Training** (Series) by ProQuest Education & Higher Education Commission, Islamabad; September 23, 2020.
6. **ProQuest Ebook Central Advanced Training** (Series) by ProQuest Education & Higher Education Commission, Islamabad; September 30, 2020.
7. **How to Utilize ProQuest Journals, Dissertations, and Varied Content Types in Teaching and Research** by ProQuest Education & Higher Education Commission, Islamabad; October 19, 2020.
8. **How to Manage Your References Using RefWorks** by ProQuest Education & Higher Education Commission, Islamabad; October 26, 2020.
9. **5 Tips for Getting Published: Maximize Your Chances to Get Your Paper Accepted in Academic Journals** by ProQuest Education & Higher Education Commission, Islamabad; October 27, 2020.

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## Research Projects

- 2022–2023 Obtained a research project from University of the Punjab entitled “***Spatially Hyperbolic Solutions***” and successfully completed as a **principal investigator** during 2022–2023.
- 2021–2022 Obtained a research project from University of the Punjab entitled “***Stability of Geometric Structures through Structure Scalars***” and successfully completed as a **principal investigator** during 2021–2022.
- 2019–2021 Won a National Research Project for Universities from HEC entitled “***Evolution of the Universe under the Influence of Higher order Gravitational Theories***” and completed as a **Co-principal investigator** during 2019–2021.
- 2019–2021 Won on a National Research Project for Universities from HEC entitled “***Existence of Celestial Structures in Galaxies***” and completed as a **principal investigator** during 2019–2021.
- 2017–2019 Obtained a research project from University of the Punjab entitled “***A Class of Viable Stellar Models in the Einstein- $\Lambda$  Gravity***” and successfully completed as a **principal investigator** during 2017–2019.

- 2015–2016 Obtained a research project from University of the Punjab entitled “**Relativistic Compact Stellar Bodies and Modified Gravity**” and successfully completed as a **principal investigator** during 2015–2016.
- 2014–2015 Obtained a research project from University of the Punjab entitled “**Role of Meridional Degrees of Freedom on the Existence of Axisymmetric Systems in  $f(R)$  Gravity**” and successfully completed as a **principal investigator** during 2014–2015.

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## Countries Visited

5. **Japan:** To deliver Research Seminar/Lecture Series and collaboration Works in the field of Gravitation and Cosmology at Fukushima University, Japan from May 07, 2023 to May 14, 2023 (08 days).
4. **France:** To attend XIIth Spontaneous Workshop on Cosmology « Hot Topics in Modern Cosmology » organized by Aix Marseille University and Institut d’Etude Scientifique de Cargèse (IESC) Corsica, France from May 12, 2018 to May 21, 2018 (09 days). ([https://www.cpt.univ-mrs.fr/~cosmo/SW\\_2018/SW12.html](https://www.cpt.univ-mrs.fr/~cosmo/SW_2018/SW12.html))
3. **Australia:** To attend Surveying the Cosmos, The Science From Massively Multiplexed Surveys, The Southern Cross Conference jointly supported by the Australian Astronomical Observatory (AAO) and the CSIRO Astronomy and Space Science (CASS), Australia from June 03, 2017 to June 18, 2017 (15 days). (<https://mailman.sydney.edu.au/pipermail/asa/Week-of-Mon-20161017/004532.html>)
2. **United States of America:** To attend 21st International Conference on General Relativity and Gravitation organized by Columbia University, New York, USA from July 08, 2010 to July 21, 2016 (13 days) (<http://www.gr21.org/>)
1. **Kingdom of Saudi Arabia:** To perform Umrah from April 17, 2010 to May 08, 2010 (21 days).

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## Guest/Associate Editors and Editorial Board

1. *Universe (Guest Editor)*  
**Special Issue:** Astrophysical Objects in Modified Gravity  
[https://www.mdpi.com/journal/universe/special\\_issues/AOMG](https://www.mdpi.com/journal/universe/special_issues/AOMG)
2. *Galaxies (Guest Editor)*  
**Special Issue:** Special Issue: Relativistic Cosmology, Numerical Analysis, General Relativity and Modified Gravity Theories  
[https://www.mdpi.com/journal/galaxies/special\\_issues/Gravity](https://www.mdpi.com/journal/galaxies/special_issues/Gravity)
3. *Galaxies (Guest Editor)*  
**Special Issue:** Self-Gravitating Systems and Fuzzification of Geometric Structure  
[https://www.mdpi.com/journal/galaxies/special\\_issues/self\\_gravitating\\_geometric\\_structures](https://www.mdpi.com/journal/galaxies/special_issues/self_gravitating_geometric_structures)
4. International Journal of Mathematics and Systems Science (Editor)  
<https://systems.enpress-publisher.com/index.php/IJMSS/about/editorialBoard>
5. Expert Opinion on Astronomy and Astrophysics (Editor)  
<http://ojs.whoice.com/index.php/eoaa/about/editorialTeam>
6. Frontiers in Astronomy and Space Sciences (*Topic Editor*) Q1.  
**Special Issue:** Current Challenges of Compact Objects  
<https://www.frontiersin.org/research-topics/50106/current-challenges-of-compact-objects>
7. Frontiers in Physics (*Topic Editor*) Q1.  
**Special Issue:** Current Challenges of Compact Objects  
<https://www.frontiersin.org/research-topics/50106/current-challenges-of-compact-objects>

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## Reviewer of the Following Journals

Advances in Astronomy  
Axioms  
Canadian Journal of Physics  
Chinese Journal of Physics  
Classical and Quantum Gravity  
Entropy  
Galaxies  
Gravitation and Cosmology  
Indian Journal of Physics  
International Frontier Science Letters  
Iranian Journal of Science and Technology, Transaction A, Science  
Karbala International Journal of Modern Science  
Mathematics  
Modern Physics Letters A  
New Astronomy  
Physica Scripta  
Physics Letters A  
Physics of the Dark Universe  
Symmetry  
The European Physical Journal C  
The European Physical Journal Plus  
Universe  
Zeitschrift für Naturforschung A

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## MS/MPhil Theses Supervised

22. Mr. Saqib Sadiq (Second Supervisor)  
**Thesis Title:** ABSBSBBSBBSS  
Centre for High Energy Physics, University of the Punjab, Lahore  
Session: 2021 – 2023
21. Mr. Muhammad Abdullah (Second Supervisor)  
**Thesis Title:** Few Viable Cosmic Solutions in  $f(G,T)$  Gravity  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2021 – 2023
20. Mr. Zubair Ul Hassan (Second Supervisor)  
**Thesis Title:** Bulk Isotropic Cosmology and Matter Geometry Coupling  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2021 – 2023



19. Ms. Ujalah Aftab Khokhar  
**Thesis Title:** A Study on the Interaction Between Polytropes and Ideal Fluids in  $f(T)$  Theory  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2021 – 2023
18. Mr. Muhammad Azam  
**Thesis Title:** Viscous Cosmology in 4-Dimensional Einstein Gauss Bonnet Theory  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2021 – 2023
17. Ms. Rukhsana Nazer  
**Thesis Title:** Stellar Solutions in  $f(R)$  Gravity  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2021 – 2023
16. Ms. Aqsa Farhat  
**Thesis Title:** Ellis Equation and its Applications  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2020 – 2022
15. Mr. Huzaifa Aman  
**Thesis Title:** Bouncing Cosmology  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2020 – 2022
14. Ms. Sana Rehman  
**Thesis Title:** Uses of Quasi Homologous Condition in Brans-Dicke Gravity  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2020 – 2022
13. Mr. Muhammad Rasheed  
**Thesis Title:** Stability of Thin-Shell Wormholes  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2020 – 2022
12. Ms. Nida Ramzan  
**Thesis Title:** Possibility of Information Extraction from Collapsing Objects in Rainbow Gravity  
Department of Mathematics, National Textile University, Faisalabad  
Session: 2019 – 2021

11. Ms. Faiqa Shabir  
**Thesis Title:** Gravastars and their Characteristics  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2019 – 2021
10. Mr. Zeshan Rasool  
**Thesis Title:** Dynamical Variables and their Evolution  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2019 – 2021
9. Mr. Amir Ali  
**Thesis Title:** Quasi Homologous Evolution of Irrotational Relativistic Structures  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2019 – 2021
8. Ms. Hamna Asad  
**Thesis Title:** Analysis of Self-gravitating Objects with effective Matter Configurations  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2018 – 2020
7. Ms. Komal Hassan  
**Thesis Title:** Evolution and Complexity of Self-gravitating Fluids in  $f(G,T)$  Gravity  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2018 – 2020
6. Mr. Tayyab Naseer  
**Thesis Title:** Effects of  $f(R,T,R_{\mu\nu}T^{\mu\nu})$  Gravity on the Complexity factor of Relativistic Matter  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2018 – 2020
- Ms. Sobia Yaseen
5. **Thesis Title:** On the Role of Palatini  $f(R)$  Gravity in the Dynamics of LTB Geometry  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2017 – 2019
4. Mr. Usama Ghafoor  
**Thesis Title:** Physical Features of Gravastar in  $f(R,T)$  Gravity  
 Department of Mathematics, University of the Punjab, Lahore  
 Session: 2017 – 2019

3. Mr. Muhammad Fawad Malik  
**Thesis Title:** Dynamical Variables of Tilted Szekeres Spacetime in Palatini  $f(R)$  Gravity  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2017 – 2019
  
2. Ms. Ume Farwa  
**Thesis Title:** Spherical and Cylindrical Stellar Collapse in  $f(R, T, R_{\mu\nu}T^{\mu\nu})$  Gravity  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2015 – 2017
  
1. Ms. Aamna Rafaqat  
**Thesis Title:** The Study of LTB Geometry with Tilted and Non-Tilted Congruences in Modified Gravity  
Department of Mathematics, University of the Punjab, Lahore  
Session: 2015 – 2017

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## BS Project/Theses Supervised

- 2016-2020 Mr. Syed Mehroz Ali  
**Thesis Title:** Cosmic Aspects of General Relativity-I  
Department of Space Science, University of the Punjab, Lahore.
- 2016-2020 Ms. Aiman Hanif  
**Thesis Title:** Cosmic Aspects of General Relativity-II  
Department of Space Science, University of the Punjab, Lahore.
- 2016-2020 Mr. Muhammad Awais  
**Thesis Title:** Cosmic Aspects of General Relativity-III  
Department of Space Science, University of the Punjab, Lahore.
- 2018-2022 Mr. Salman Khan (SSR 18-03) Session: 2018-2022  
**Thesis Title:** Cosmological Implications of Relativistic Models,  
Department of Space Science, University of the Punjab, Lahore.

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## Academic-Industry Collaborations:

- Company Details:** CTOMED Instruments (Pvt) Ltd, (Health Care Instruments)  
Kotli Behram, Sialkot-51330, Punjab, Pakistan  
**Web link:** [www.ctomed.com](http://www.ctomed.com)  
**Duration:** January 01, 2020 – December 31, 2020  
**Role:** Consulting Mathematician  
**Nature of Collaboration:**
  - Conducted workshops on data-driven decision-making for company employees.
  - Strengthened skills in data visualization and predictive modeling.
- Company Details:** Ali Bro Engineering Co., Khadim Ali Road, Sialkot-51330, Punjab, Pakistan  
**Web link:** [www.alibro.com](http://www.alibro.com)  
**Duration:** January 01, 2021 – December 31, 2021  
**Role:** Consulting Mathematician  
**Nature of Collaboration:**
  - Developed a novel algorithm that reduced operational costs by 15%

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## Memberships

- Faculty member, **The Group of Gravitation and Cosmology**, Lahore–Pakistan.
- Life time member, **Pakistan Physical Society**, Islamabad–Pakistan.

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## Academic and Research Interests

Cosmology,  
Electromagnetic Field Theory,  
Geometry, Special & General Relativity,  
Modified Gravitational theories,  
Mathematical Techniques,  
Newtonian Dynamics  
Relativistic Astrophysics.

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## PhD Theses Supervised

1. Mr. Muhammad Ilyas,  
Centre for High Energy Physics, University of the Punjab, Lahore  
**Thesis Title:** *Some Cosmological Aspects of Celestial Objects in Modified Gravity,*  
PhD Defense Date: September 27, 2018.
2. Mr. Irfan Ahmad Aslam  
Department of Mathematics and Statistics, The University of Lahore, Lahore  
**Thesis Title:** *Examining Structural Properties of Cosmic Models,*  
PhD Synopsis Date: November 25, 2020.  
PhD Defense Date: June 09, 2023.
3. Ms. Hamna Asad  
Department of Mathematics, University of the Punjab, Lahore  
**Thesis Title:** *Gravastars and Spatially Hyperbolic and Non-Hyperbolic Fluids in Modified Gravity,*  
PhD Synopsis Date: February 21, 2022.
4. Ms. Ume Farwa  
Department of Mathematics, University of the Punjab, Lahore  
**Thesis Title:** *Stability of Self-gravitating Structures at Large Scales,*  
PhD Synopsis Date: February 21, 2022.
5. Mr. Mian Muhammad Muddassar Nasir  
Department of Mathematics, University of the Punjab, Lahore  
**Thesis Title:** *Study of Complex Systems in Modified Gauss-Bonnet Gravity,*  
PhD Synopsis Date: February 21, 2022.
6. Mr. Muhammad Yousaf  
Department of Mathematics, University of the Punjab, Lahore  
**Thesis Title:** *Investigation on Celestial Objects using Some Mathematical Methods,*  
PhD Synopsis Date: March XX, 2022.
7. Mr. Atteeq Ur Rehman  
Department of Mathematics, University of the Punjab, Lahore  
**Thesis Title:** *Study of Compact Objects under Various Backgrounds,*  
PhD Synopsis Date: March XX, 2022.

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## PhD/MS/MSc/BS Courses Taught

Analytical Dynamics  
Calculus-I  
Calculus-II  
Computer (Introduction and Applications)-COMP-111  
Cosmology  
Geometry  
General Theory of Relativity (I & II)  
Linear Algebra  
Partial Differential Equations  
Quantum Mechanics  
Quantitative Methods  
Quantitative Reasoning  
Real Analysis  
Mechanics  
Methods of Mathematical Physics  
Numerical Analysis  
Ordinary Differential Equations  
Partial Differential Equations  
Special Theory of Relativity  
Vectors and Tensor Analysis

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## Computer and Software Skills

Math Packages Mathematica, Maple.  
OS Windows, Mac OS X.  
Typography MS Word, Latex.

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## Talks Delivered

1. **Some Exact Models of Relativity** at Department of Mathematics, University of the Punjab, Lahore; May 30, 2012.
2. **Electromagnetic Effects on the Stability of Spherical Relativistic Collapse in  $f(R)$  Gravity** at Department of Mathematics, University of the Punjab, Lahore; November 6, 2013.
3. **Stability of Charged Spherical Dissipative Collapse in  $f(R)$  Gravity** as a poster presentation in an international conference named "Symmetries, Differential Equations and Applications II" at School of Natural Sciences, NUST, Islamabad; January 27–30, 2014.
4. **Energy Density Inhomogeneities with Polynomial  $f(R)$  Cosmology** at

Department of Mathematics, University of the Punjab, Lahore; October 29, 2014.

5. **Dynamical Instability of Charged Spherical Radiating Collapse in  $f(R)$  Gravity** at 1<sup>st</sup> National Conference on Mathematical Sciences, University of Malakand, Khyber Pakhtunkhwa; September 02–04, 2014.
6. **Dynamical Instability of Relativistic Fluids in  $f(R)$  Gravity** at International Conference on Relativistic Astrophysics by Department of Mathematics, University of the Punjab, Lahore; February 10–14, 2015.
7. **A Bird's Eye of  $f(R)$  Gravity** at Department of Mathematics, University of the Punjab, Lahore; February 25, 2015.
8. **Energy Density Irregularities in  $f(R)$  Gravity** at 1<sup>st</sup> UMT National Conference on Pure and Applied Mathematics, University of Management Technology, Lahore; March 07–08, 2015.
9. **Causes of Inhomogeneous Energy Density in Relativistic Fluids with  $f(R)$  Background** at 14<sup>th</sup> Regional Conference on Mathematical Physics, Department of Mathematics, Quaid-i-Azam University, Islamabad; November 09–14, 2015.
10. **Compact Stars and their Evolution** at International Conference on Recent Advances in Applied Mathematics, Department of Mathematics, COMSATS Institute of Information Technology, Lahore; December 17–18, 2015.
11. **Unstable Phases of Collapsing Models** at 1<sup>st</sup> UMT International Conference in Pure and Applied Science, Centre for Mathematics and its Applications, University of Management Technology, Lahore; March 05–07, 2016.
12. **Dynamical Instability and Cavity Evolution** at 21<sup>st</sup> International Conference on General Relativity and Gravitation (GR21), Columbia Astrophysics Laboratory, Columbia University, New York–USA; July 10–15, 2016.
13. **An Overview on Cosmic Evolution** (*invited speaker*) at Research Seminar Program, UMT, Sialkot–Pakistan; Dec. 03, 2016.
14. **Differential Geometry, Vectors and Tensors** (*resource person*) at one day workshop organized by Higher Education Department, Punjab at Govt. Post Graduate College for Women, Gujranwala–Pakistan; Dec. 10, 2016.
15. **The Quest of Cosmic and Stellar Evolution** (*invited speaker*) at Bi-Monthly Seminar Series, UMT, Lahore–Pakistan; Dec. 15, 2016.

16. **Causes of Inhomogeneous Energy Density in Modified Gravity** at Southern Cross 2017: Surveying the Cosmos, The Science from Massively Multiplexed Surveys at Australian Astronomical Observatory, Sydney–Australia; June 06, 2017.
17. **Stellar Zoo, Past and Future** at 2<sup>nd</sup> UMT International Conference on Pure and Applied Sciences, UMT, Lahore–Pakistan; Oct. 05, 2017.
18. **Challenges: Our Understanding of the Universe** at 2017 International Conference on Mathematics and its Applications, Government College University Lahore–Pakistan; Nov. 14, 2017.
19. **Self-Gravitating Systems and their Stability Analysis** at 6<sup>th</sup> International Conference on Education, Science Beyond Classroom, University of Education, Lahore–Pakistan; March 16, 2018.
20. **Collapsing Relativistic Fluids and Hydrostatic Equilibrium** at 4<sup>th</sup> UMT International Conference on Pure and Applied Mathematics, UMT, Lahore–Pakistan; April. 02, 2018.
21. **Stability of Anisotropic Stellar Filaments**, (plenary talk) at XIIth Spontaneous Workshop on Cosmology, at Institut d'Etude Scientifique de Cargèse (IESC) Corsica, Cargèse, France; May 14, 2018
22. **Irregularities and Existence of Stellar Systems** at 5<sup>th</sup> UMT International Conference on Pure and Applied Mathematics, UMT, Lahore–Pakistan; March 31, 2019.
23. **Mathematical Modeling of Stellar Structures** at One Day International Seminar on Recent Trends in Pure and Applied Mathematics at Department of Mathematics, Government College University, Faisalabad–Pakistan; Nov. 09, 19
24. **Geometry and its Applications** (*resource person*) at One Day Workshop on Geometry and its Applications at NISA Girls College, Sialkot–Pakistan; Dec. 13, 2019.
25. **Tilted Congruence and Regular Compact Objects** at 6<sup>th</sup> UMT International Conference on Pure and Applied Mathematics, UMT, Lahore–Pakistan; Feb. 22, 2020.
26. **Complexity of Dissipative Fluids** at 1<sup>st</sup> International Conference on Recent Advances in Mathematics at University of Education, Lahore–Pakistan; October 15 – 16, 2020.



27. **Influence of Curvature on the Complexity Factor for Relativistic Geometric Structures** at One Day Seminar on Mathematical Physics at University of Education, Bank Road Campus, Lahore – Pakistan; Jan. 28, 2021
28. **Complexity Factor of Static Geometric Structures** (*invited speaker*) at International Webinar on Recent Developments in Cosmology and Modified Gravity, BITS- Pilani, Hyderabad Campus, India; March 09 – 11, 2021
29. **The Measure of Complexity in Spherical Relativistic Geometry** at International Workshop on Relativistic Astrophysics and Gravitation Ulugh Beg Astronomical Institute of the Uzbek Academy of Sciences, Tashkent, Uzbekistan; May 12 – 14, 2021.
30. **Complexity of a Self-gravitating System** at XIVth School of Cosmology – the thematic school of CNRS Theory of Gravitation and Variation in Cosmology at Centre International de Rencontres Mathématiques, Aix Marseille University, Marseille, France; July 28, 2021.
31. **Role of Structure Scalars on the Study of Complex Systems** (*resource person*) at Neoteric Development of Cosmology and Gravitational Theories, Mung-saji Maharaj Mahavidyalaya, Darwha, India; September 29, 2021.
32. **Real Analysis and Vector Calculus** (*resource person*) at One Day Workshop on Real Analysis and Vector Calculus at NISA Girls College, Sialkot–Pakistan; Dec. 10, 2021.
33. **Complex Cosmic Structures** (*resource person*) at 6<sup>th</sup> One Day Symposium on Applied Mathematics and its Applications at, UMT, Sialkot–Pakistan; Dec., 19, 2021.
34. **Quasi-homologous Evolution and BD Theory** (*invited speaker*) at Two Days International Webinar, Recent Trends in Applied Mathematics and Physics, Lahore College for Women University, Lahore–Pakistan; Dec., 09, 2022.
35. **Hyperbolically Symmetric Solutions** at Madrid Winter Workshop at Complutense University of Madrid, Madrid–Spain; Dec., 14, 2022
36. **Inflationary Universe at One Day Seminar on Pure and Applied Mathematics**, at Department of Mathematics, University of Management and Technology, Lahore–Pakistan; June 17, 2023.
37. **Study of Complex Structures** at 3<sup>rd</sup> Garrison International Conference on Pure and Applied Mathematics, Department of Mathematics, Lahore Garrison University, Lahore–Pakistan; June, 21 – 22, 2023.

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## Conference Proceedings

- 2015 M. Sharif and **Z. Yousaf**: *Dynamical Instability of Relativistic Fluids in  $f(R)$  Gravity*, Proc. Int. Conf. Relativ. Astrophys 202-207 (2015).
- 2018 M. Sharif and **Z. Yousaf**: *Causes of Inhomogeneous Energy Density in Relativistic Fluids with  $f(R)$  Background*, Proc. 14th Reg. Conf. Math. Phys. 76-83 (2017).

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## Workshops, Conferences and Seminars

- 2010–Present **Weekly Departmental Seminar Series** in Department of Mathematics, at University of the Punjab, Lahore – Pakistan.
- Oct., 2010 **Lecture Series on Black Holes**, at University of the Punjab, Lahore–Pakistan; Oct. 10 – 11, 2010.
- Nov., 2010 **Lecture Series on Cosmology**, at University of the Punjab, Lahore–Pakistan; Nov. 23 – 27, 2010.
- Feb., 2011 **5<sup>th</sup> World Conference on 21<sup>st</sup> Century Mathematics**, at Abdus Salam School of Mathematical Sciences, GCU, Lahore – Pakistan; Feb. 09 – 13, 2011.
- Nov., 2011 **NUST Conference on Mathematical Sciences**, at National University of Science and Technology, Islamabad–Pakistan; Nov. 17 – 19, 2011.
- Dec., 2011 **One Day Conference on Gravitation**, at University of the Punjab, Lahore – Pakistan; Dec. 17, 2011.
- Feb., 2013 **IV Italian-Pakistani Workshop on Relativistic Astrophysics**, at National University of Science and Technology, Islamabad–Pakistan; Feb. 15 – 17, 2013.
- March, 2013 **6<sup>th</sup> World Conference on 21<sup>st</sup> Century Mathematics**, at Abdus Salam School of Mathematical Sciences, GCU, Lahore–Pakistan; Nov. 06 – 09, 2013.
- Nov., 2013 **Lecture Series on Cosmology**, PU, Lahore – Pakistan.
- Jan., 2014 **Symmetries, Differential Equations and Applications II**, at National University of Science and Technology, Islamabad–Pakistan; Jan. 27 – 30, 2014.
- Sept., 2014 **1<sup>st</sup> National Conference on Mathematical Sciences** at University of Malakand, Malakand–Pakistan; Sept. 05 – 09, 2014.

- Feb., 2015 **International Conference on Relativistic Astrophysics**, at University of the Punjab, Lahore–Pakistan; Feb. 10 – 14, 2015.
- March, 2015 **1<sup>st</sup> UMT National Conference on Pure and Applied Mathematics**, at University of Management and Technology, Lahore–Pakistan; March 07 – 08, 2015.
- Nov., 2015 **14<sup>th</sup> Regional Conference on Mathematical Physics**, at Quaid-i-Azam University, Islamabad–Pakistan; Nov. 09 – 14, 2015.
- Dec., 2015 **International Conference on Recent Advances in Applied Mathematics**, Department of Mathematics, COMSATS University Islamabad, Lahore Campus, Lahore–Pakistan; Dec. 17–18, 2015.
- March, 2016 **1<sup>st</sup> UMT International Conference in Pure and Applied Science**, Centre for Mathematics and its Applications, University of Management Technology, Lahore–Pakistan; March 05 – 07, 2016.
- July, 2016 **21<sup>st</sup> International Conference on General Relativity and Gravitation (GR21)**, Columbia Astrophysics Laboratory, Columbia University, New York-USA; July 10 – 15, 2016.
- Nov., 2016 **One Day conference on Gravitation and Cosmology**, PU, Lahore-Pakistan.26
- Nov., 2016 **Workshop on Relativistic Astrophysics and Cosmology**, Department of Mathematics, COMSATS University Islamabad, Lahore Campus; November 24 – 25, 2016.
- Dec, 2016 **Research Seminar Program**, University of Management and Technology, Sialkot – Pakistan.
- Dec, 2016 **One Day Workshop on Differential Geometry, Vectors and Tensors (Resource Person)**, Govt. Post Graduate College for Women, Gujranwala–Pakistan.
- Dec, 2016 **Bi-Monthly Seminar Series**, University of Management and Technology, Lahore – Pakistan
- June, 2017 **Southern Cross 2017: Surveying the Cosmos, The Science from Massively Multiplexed Surveys** at Australian Astronomical Observatory, Sydney–Australia; June 05 – 09, 2017.
- Oct., 2017 **2<sup>nd</sup> UMT International Conference on Pure and Applied Sciences**, at

- University of Management and Technology, Lahore–Pakistan; Oct. 05–07, 2017.
- Nov., 2017 **2017 International Conference on Mathematics and its Applications**, Government College University Lahore–Pakistan; Nov. 13 – 15, 2017.
- March, 2018 **6<sup>th</sup> International Conference on Education, Science Beyond Classroom**, at University of Education, Lahore–Pakistan; March 15 – 17, 2018.
- March, 2018 **Information, Black Holes and Quantum Theory: Theoretical physics at the Crossroads**, at ASSMS, Government College University, Lahore–Pakistan; March 26 – 30, 2018.
- April, 2018 **4<sup>th</sup> UMT International Conference on Pure and Applied Mathematics**, at University of Management and Technology, Lahore–Pakistan; March 31– April 02, 2018.
- May, 2018 **12<sup>th</sup> Spontaneous Workshop on Cosmology**, at Institut d'Etude Scientifique de Cargèse (IESC) Corsica, Cargèse, France; May 14 – 19, 2018.
- Jan., 2019 **1<sup>st</sup> PU International Conference on Gravitation and Cosmology** at University of the Punjab, Lahore, Pakistan; January 27 – 31, 2019.
- March, 2019 **5<sup>th</sup> UMT International Conference on Pure and Applied Mathematics** at University of Management and Technology, Lahore–Pakistan; March 29 – 31, 2019.
- August, 2019 **One Day Workshop on “How to Procure”** at Department of Economics, University of the Punjab, Lahore – Pakistan; August 07, 2019.
- Nov. 2019 **One Day International Seminar on Recent Trends in Pure and Applied Mathematics** at Department of Mathematics, Government College University, Faisalabad – Pakistan; Nov. 09, 2019.
- Dec., 2019 **One Day Workshop on Geometry and its Applications** at NISA Girls College, Sialkot–Pakistan; Dec. 13, 2019
- Feb., 2020 **6<sup>th</sup> UMT International Conference on Pure and Applied Mathematics** at University of Management and Technology, Lahore–Pakistan; Feb. 21 – 23, 2020.
- Sep., 2020 **International Webinar on Applied Mathematics and Modelling** at Department of Mathematics, Virtual University of Pakistan, Lahore – Pakistan; Sep. 24, 2020
- Oct., 2020 **1<sup>st</sup> International Conference on Recent Advances in Mathematics** at

University of Education, Lahore–Pakistan; Oct. 15 – 16, 2020.

Jan., 2021 **One Day Seminar on Mathematical Physics** at University of Education, Bank Road Campus, Lahore–Pakistan; Jan. 28, 2021.

March, 2021 **International Webinar on Recent Developments in Cosmology and Modified Gravity**, BITS- Pilani, Hyderabad Campus, India; March 09 – 11, 2021.

May, 2021 **International Workshop on Relativistic Astrophysics and Gravitation** at Ulugh Beg Astronomical Institute of the Uzbek Academy of Sciences, Tashkent, Uzbekistan; May 12 – 14, 2021.

Aug., 2021 **XIVth School of Cosmology – thematic school of CNRS Theory of Gravitation and Variation in Cosmology** at Centre International de Rencontres Mathématiques, Aix Marseille University, Marseille, France; July. 26 – 30, 2021.

Sept. 2021 **Neoteric Development of Cosmology and Gravitational Theories**, Mungsaji Maharaj Mahavidyalaya, Darwha, India; September 29, 2021 (*Resource Person*)

Oct. 2021 **27th International Conference of International Academy of Physical Sciences on Advances in Relativity and Cosmology** at BITS- Pilani, Hyderabad Campus, India; October 26 – 28, 2021.

Nov. 2021 **4th PU International Conference on Gravitation and Cosmology** at University of the Punjab, Lahore, Pakistan; November 22 – 25, 2021

Dec., 2021 **One Day Workshop on Real Analysis and Vector Calculus** at NISA Girls College, Sialkot–Pakistan; Dec. 10, 2021

Dec., 2021 **6<sup>th</sup> One Day Symposium on Applied Mathematics and its Applications** at University of Management and Technology, Sialkot–Pakistan; Dec., 19, 2021.

Nov., 2022 **One-day Online Webinar on “Recent Research in Gravity”** at Zhejiang Normal University, Jinhua, China; Nov. 30, 2022.

Dec., 2022 **Two Days International Webinar, Recent Trends in Applied Mathematics and Physics** at Lahore College for Women University, Lahore–Pakistan; Dec., 09 – 10, 2022.

Dec., 2022 **Madrid Winter Workshop** at Complutense University of Madrid, Madrid – Spain; Dec. 13 – 15, 2022

June., 2023 **One Day Seminar on Pure and Applied Mathematics**, at Department of Mathematics, University of Management and Technology, Lahore–Pakistan; June 17, 2023.

June., 2023 **3<sup>rd</sup> Garrison International Conference on Pure and Applied Mathematics**, Department of Mathematics, Lahore Garrison University, Lahore–Pakistan; June 21 – 22, 2023.

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## List of Journal Publications (Indexed by ISI-JCR)

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### 2023

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- 2023 **Z. Yousaf**, H. Asad, B. Almutairi and A. Malik: *Electromagnetic Effects on Anisotropic Expansion-Free Fluid Content*, *Communications in Theoretical Physics* **XX**, YYYY (2023). (in press)  
DOI: <https://doi.org/10.1088/1572-9494/aceeed>
- 2023 **Z. Yousaf**, M.Y. Khlopov, B. Almutairi, M. M. M. Nasir: *Topologically Charged Complex Systems in an Energy-Momentum Squared Gravity*, *Annals of Physics*, **XX**, YYYYY (2023). (in press)  
DOI: <https://doi.org/10.1016/j.aop.2023.169448>
- 2023 M. Yousaf, M. Z. Bhatti, and **Z. Yousaf**: *Cylindrical Wormholes and Electromagnetic Field*, *Nuclear Physics, Section B*, **995**, 116328 (2023).
- 2023 M. Z. Bhatti, **Z. Yousaf**, and I. Sabir: *Expansion free Spherical Anisotropic Solutions*, *International Journal of Modern Physics D*, **XX**, 2350082 (2023). (in press)  
DOI: 10.1142/S0218271823500827
- 2023 K. Bamba, **Z. Yousaf**, M.Z. Bhatti, R. Nazer, Y. Hashimoto: *Collapsing Dynamics of Relativistic Fluid in Modified Gravity Admitting a Conformal Killing Vector*, *European Physical Journal C*, **83**, 739 (2023).
- 2023 A. Malik, T. Naz, **Z. Yousaf**, A. Almas, K. Saleem: *Singularity-free Anisotropic Compact Star in  $f(R, \phi)$  Gravity via Karmarkar Condition*, *International Journal of Geometric Methods in Modern Physics*, **XX**, YYYYY (2023). (in press) DOI: [10.1142/S021988782450018X](https://doi.org/10.1142/S021988782450018X)

- 2023 M. Z. Bhatti, **Z. Yousaf** and M. Nazir: *Thin-Shell Wormholes with Electromagnetic Effects in  $f(R, T)$  Gravity*, *International Journal of Geometric Methods in Modern Physics*, **XX**, YYYYYY (2023). (in press)
- 2023 U. Farwa and **Z. Yousaf**: *Role of Decoupling Measure on the Complexity Factor and Isotropization of the Charged Anisotropic Spheres*, *Chinese Journal of Physics*, **85**, 285 (2023).
- 2023 **Z. Yousaf**, B. Almutairi, U. A. Khokhar, A. S. Khan: *Impact of Polytropic Fluid on a usual Gravitational Source*, *Chinese Journal of Physics*, **85**, 375 (2023).
- 2023 M. Z. Bhatti, **Z. Yousaf** and M. Yousaf: *Dynamical analysis of charged spherical star in  $f(R - \beta R_c \tanh(R/R_c) + \lambda_i RT)$  gravity*, *Gravitation & Cosmology*, **XX**, YYYYYY (2023). (in press)
- 2023 M.Z. Bhatti, **Z. Yousaf**, and M. Yousaf: *Stability Analysis of Axial Geometry with Anisotropic Background in  $f(R, T)$  Gravity*, *Modern Physics Letters A*, **XX**, YYYYYY (2023). (in press)
- 2023 **Z. Yousaf**, M. Z. Bhatti, H. Aman and A. Malik: *Bouncing Cosmology with 4D-EGB Gravity*, *International Journal of Theoretical Physics*, **62**, 155 (2023).
- 2023 Adnan Malik, T. Naz, A. Qadeer, M. F. Shamir, and **Z. Yousaf**: *Investigation of Traversable Wormhole Solutions in Modified  $f(R)$  Gravity with Scalar Potential*, *European Physical Journal C*, **83**, 522 (2023).
- 2023 F. Maqsood, **Z. Yousaf**, M. Z. Bhatti and S. Rehman: *Analysis of Isotropic Pressure condition in Chameleonic Brans–Dicke gravity*, *International Journal of Modern Physics D*, **32**, 2350055 (2023).
- 2023 **Z. Yousaf**, M. Z. Bhatti and U. Farwa: *Role of Strong Matter-Field Coupling on Axial Complex Systems*, *Fortschritte der Physik - Progress of Physics*, **2023**, 2300013 (2023).
- 2023 **Z. Yousaf**, M.Z. Bhatti, S. Khan, A. Malik, H. I. Alrebdi and A.-H. A.-Aty.: *Stability of Anisotropy Pressure in Self-gravitational Systems in  $f(G)$  Gravity*, *Axioms*, **12**, 257 (2023).
- 2023 **Z. Yousaf**, M. Z. Bhatti and U. Farwa: *Complexity Factor of Static Axial Complex Structures in  $f(R, T)$  Gravity*, *Symmetry - Basel*, **15**, 531 (2023).

- 2023 M.Z. Bhatti, **Z.Yousaf**, and Z. Tariq: *Dynamics of Charged Hyperbolically Symmetric Matter in Modified Gravity*, *Classical and Quantum Gravity*, **40**, 065011 (2023).
- 2023 **Z.Yousaf**, M.Z. Bhatti, H. Aman and PK Sahoo: *Non-Singular Bouncing Model in Energy Momentum Squared Gravity*, *Physica Scripta*, **98**, 035002 (2023).
- 2023 **Z.Yousaf**, M.Z. Bhatti, S. Rehman and K. Bamba: *Dynamics of Self-gravitating Systems in Non-linearly Magnetized Chameleonic Brans-Dicke Gravity*, *General Relativity and Gravitation*, **55**, 31 (2023).
- 2023 M.Z. Bhatti, M. Yousaf, and **Z.Yousaf**: *Novel Junction Conditions in  $f(G, T)$  Modified Gravity*, *General Relativity and Gravitation*, **55**, 16 (2023).
- 2023 **Z.Yousaf**, M.Z. Bhatti and A. Farhat: *Existence of Energy Density Homogeneity for Radiating Spheres in  $f(G, T)$  Gravity*, *Canadian Journal of Physics*, **101**, 76 (2023).
- 2023 **Z. Yousaf**, M.Z. Bhatti, M. M. M. Nasir: *Complexity of Charged Anisotropic Spherically Symmetric Fluids in  $f(G)$  Gravity*, *Communications in Theoretical Physics* **75**, 035401 (2023).
- 2023 **Z.Yousaf**, A. Farhat and A. Adeel: *Energy Density Inhomogenization in Relativistic Spheres with Maxwell- $f(G, T)$  Theory*, *Indian Journal of Physics*, **97**, 1921 (2023).
- 2023 M.Z. Bhatti, **Z. Yousaf** and M. Salman: *Quasi-Homologous Evolution of Celestial Objects in  $f(T)$  Gravity*, *Chinese Journal of Physics*, **81**, 270 (2023).
- 2023 **Z.Yousaf**, M.Z. Bhatti and S. Rehman: *Self-gravitating Spherically Symmetric Systems with  $Q_h$  Condition in Chameleonic Brans-Dicke Gravity*, *Zeitschrift für Naturforschung A (ZNA)*, **78**, 161 (2023).
- 2023 A. Malik, **Z. Yousaf**, M. Jan, M. R. Shahzad, Z. Akram: *Analysis of Charged Compact Stars in  $f(R, T)$  Gravity using Bardeen Geometry*, *International Journal of Geometric Methods in Modern Physics*, **20**, 2350061 (2023).
- 2023 M. M. M. Nasir, M.Z. Bhatti, **Z. Yousaf**: *Influence of EMSG on Complex Systems: Spherically Symmetric, Static case*, *International Journal of Modern Physics D*, **32**, 2350009 (2023).



2023 M.Z. Bhatti, **Z. Yousaf** and A. Rehman: *Cylindrical Gravastars Coupled with an Isotropic Matter in Modified Gravity*, *Indian Journal of Physics*, **97**, 2227 (2023).

2023 **Z. Yousaf**, M.Z. Bhatti and A. Farhat: *Causes of Energy Density Inhomogenization with  $f(G)$  Formalism*, *Pramana – Journal of Physics*, **97**, 27 (2023).

2023 **Z. Yousaf**, A.M. Galal, M.Z. Bhatti and A. Farhat: *Sources of Irregular Energy Density in Energy Momentum Squared Gravity with Charge*, *New Astronomy*, **98**, 101930 (2023).

2023 M.Z. Bhatti, **Z. Yousaf**, and M. Nazir: *Static Cylindrically Symmetric Wormhole Models in  $f(R,T)$  Gravity*, *New Astronomy*, **98**, 101897 (2023).

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## 2022

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2022 M.Z. Bhatti, **Z. Yousaf**, M. Yousaf: *Study of Nonstatic Anisotropic Axial Structures through Perturbation*, *International Journal of Modern Physics D*, **31**, 2250116 (2022).

2022 M.Z. Bhatti, **Z. Yousaf** and A. Rehman: *Horizon Thermodynamics in  $f(R,G)$  Gravity* *Fortschritte der Physik - Progress of Physics*, **2022**, 2200113 (2022).

2022 **Z. Yousaf**, M.Z. Bhatti and M. Rasheed: *Spherically Symmetric Wormholes in Minimally Coupled  $f(R,T)$  Gravity*, *Physica Scripta*, **97**, 125307 (2022).

2022 H. Asad and **Z. Yousaf**: *Study of Anisotropic Fluid Distributed Hyperbolically in  $f(R,T,Q)$  gravity*, *Universe*, **8**, 630 (2022).

2022 **Z. Yousaf**, M.Z. Bhatti, and S. Khan: *Analysis of Hyperbolically Symmetric Fluid Configurations in Modified Gauss-Bonnet Gravity* *European Physical Journal C*, **82**, 1077 (2022).

2022 U. Sheikh, **Z. Yousaf**, and N. Ramzan: *On Dynamical Stability and Information Loss of a Collapsing String Fluid in Rainbow Gravity*, *Modern Physics Letters A*, **37**, 2250165 (2022).

- 2022 U. Farwa, **Z. Yousaf**, and M. Z. Bhatti: *Measure of Complexity for Axial Self-gravitating Static Fluids*, *Physica Scripta*, **97**, 105307 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf** and A. Rehman: *A Novel Definition of Complexity in Torsion Based Theory*, *European Physical Journal C*, **82**, 714 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf** and A. Rehman: *Gravastars with Cylindrical Spacetime in  $f(G,T)$  Gravity*, *Pramana – Journal of Physics*, **96**, 224 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and S. Khan: *Stability Analysis of Isotropic Spheres in Einstein Gauss-Bonnet Gravity*, *Annalen der Physik*, **2022**, 2200252 (2022).
- 2022 M. Z. Bani-Fwaz, M.Z. Bhatti, **Z. Yousaf**, U. Farwa and A.M. Galal: *Study of Generalized Lemaitre-Tolman- Bondi Spacetime in Palatini  $f(R)$  Gravity*, *European Physical Journal C*, **82**, 631 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and H. Aman: *Cosmic Bounce with Power Law  $f(G,T)$  Model*, *International Journal of Geometric Methods in Modern Physics*, **19**, 2250206 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and H. Aman: *The Bouncing Cosmic Behavior with Logarithmic Law  $f(G,T)$  Model*, *Chinese Journal of Physics*, **79**, 275 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and S. Khan: *Analysis of Charged Self-gravitational Complex Structures Evolving Quasi-Homologously*, *International Journal of Modern Physics D*, **31**, 2250099 (2022).
- 2022 **Z. Yousaf**, M. Z. Bhatti and U. Farwa: *Dissipative Collapse of Cosmic Structures in Modified Gravity*, *Chinese Journal of Physics*, **78**, 363 (2022).
- 2022 **Z. Yousaf**, G.G.L. Nashed, M. Z. Bhatti and H. Asad: *Significance of Charge on the Dynamics of Hyperbolically Distributed Fluids*, *Universe*, **8**, 337 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and A. Farhat: *Various Phases of Irregular Energy Density in Charged Spheres*, *Annals of Physics*, **442**, 168935 (2022).

- 2022 M. Ilyas, A. R. Athar, **Z. Yousaf**, et al. (VI): *Compact Relativistic Geometries in  $f(R, G)$  Gravity*, *International Journal of Geometric Methods in Modern Physics*, **19**, 2250126 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf**, M. Yousaf: *Effects of Non-minimally Coupled  $f(R, T)$  Gravity on the Stability of a Self-gravitating Spherically Symmetric Fluid*, *International Journal of Geometric Methods in Modern Physics*, **19**, 2250120 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf** and M. Yousaf, *Stability Analysis of Restricted Non-Static Axial Geometry in  $f(R, T)$  Gravity*, *Chinese Journal of Physics*, **77**, 2617 (2022).
- 2022 **Z. Yousaf**, K. Bamba, Z. Akhtar and W. Javed: *Few Thermodynamical Features of Charged Accelerating Rotating Black Holes*, *International Journal of Geometric Methods in Modern Physics*, **19**, 2250102 (2022).
- 2022 **Z. Yousaf**, K. Bamba and M.Z. Bhatti: *Symmetry Properties and Some Extensions of LTB Metric via Structure Scalars*, *International Journal of Modern Physics D*, **31**, 2250043 (2022).
- 2022 M. Ilyas, A. R. Athar, **Z. Yousaf**, B. Masud and F. Khan: *The Bouncing Behavior in  $f(R)$  Gravity*, *Indian Journal of Physics*, **96**, 4007 (2022).
- 2022 **Z. Yousaf**, M. Z. Bhatti and H. Asad: *Matter-Curvature Gravity Modification and Formation of Cylindrical Isotropic Systems*, *Pramana*, **96**, 111 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf**, M. Yousaf and K. Bamba: *Dynamical Analysis of Charged Fluid under Non-Minimally Coupled Gravity Theory*, *International Journal of Modern Physics D*, **31**, 2240002 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf** and S. Khan: *Quasi-homologous Evolution of Relativistic Charged Objects within  $f(G, T)$  Gravity*, *Chinese Journal of Physics*, **77**, 2168 (2022).
- 2022 F. Maqsood, **Z. Yousaf**, M. Z. Bhatti: *Electromagnetic Field and Spherically Symmetric Dissipative Fluid Models*, *Pramana*, **96**, 105 (2022).
- 2022 **Z. Yousaf**, M. Z. Bhatti and H. Asad: *Consequences of Electric Charge on Anisotropic Hyperbolically Symmetric Static Spacetime*,

- Physica Scripta*, **97**, 055304 (2022).
- 2022 I. A. Aslam, **Z. Yousaf** and M. O. Ahmad, *Structure Scalars and Dissipative Fluids in Modified theory*, *Chinese Journal of Physics*, **77**, 2136 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and M.M.M. Nasir: *On the Study of Complexity for Charged Self-Gravitating Systems*, *Chinese Journal of Physics*, **77**, 2078 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and H. Aman: *Cosmic Bounce with  $\alpha(e^{(-\beta G)} - 1) + 2\lambda T$  Model*, *Physica Scripta*, **97**, 055306 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf** and S. Hanif: *Electromagnetic Influence on Hyperbolically Symmetric Sources in  $f(T)$  Gravity*, *European Physical Journal C*, **82**, 340 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti, S. Khan and P.K. Sahoo:  *$f(G, T_{\alpha\beta} T^{\alpha\beta})$  Theory and Complex Cosmological Structures*, *Physics of the Dark Universe*, **36**, 101015 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and H. Asad: *Electromagnetic Effects on Cylindrical Grava-stars-Like Strings in  $f(R, T, R_{\mu\nu} T^{\mu\nu})$  Gravity*, *International Journal of Geometric Methods in Modern Physics*, **19**, 2250070(2022).
- 2022 **Z. Yousaf**, M. Z. Bhatti and MMM Nasir: *Role of  $f(G)$  Gravity in the Study of Non-static Complex Systems*, *Canadian Journal of Physics*, **100**, 185 (2022).
- 2022 **Z. Yousaf**, K. Bamba, M. Z. Bhatti and U. Farwa: *Quasi-static Approximation in the Study of Compact Stars*, *Chinese Journal of Physics*, **77**, 2014 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and S. Khan: *Non-Static Charged Complex Structures in  $f(G, T^2)$  Gravity*, *European Physical Journal Plus*, **137**, 322 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf** and A. Rehman: *Analysis of Charged Gravastar in  $f(R, G)$  Gravity*, *International Journal of Modern Physics D*, **31**, 2150124 (2022).
- 2022 M. Z. Bhatti, **Z. Yousaf** and M. Yousaf: *Dynamical Analysis for Cylindrical Geometry in Non-minimally Coupled  $f(R, T)$  Gravity*, *International Journal of Geometric Methods in Modern Physics*, **19**, 2250018

(2022).

- 2022 M.Z. Bhatti, **Z. Yousaf** and A. Rehman: *Cylindrical Gravastar like-Structures in  $f(G)$  Gravity*, *Galaxies*, **10**, 40 (2022).
- 2022 **Z. Yousaf**: *Spatially Hyperbolic Gravitating Sources in  $\Lambda$ -Dominated Era, Universe*, **8**, 131 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti and H. Asad: *Hyperbolically Symmetric Sources in  $f(R,T)$  Gravity*, *Annals of Physics*, **437**, 168753 (2022).
- 2022 **Z. Yousaf**, M.Z. Bhatti, M.Y. Khlopov, and H. Asad: *A Comprehensive Analysis of Hyperbolic Fluids in Modified Gravity*, *Entropy*, **24**, 150 (2022).
- 2022 **Z. Yousaf**, M. Y. Khlopov, M.Z. Bhatti and H. Asad: *Hyperbolically Symmetric Static Charged Cosmological Fluid Models*, *Monthly Notices of the Royal Astronomical Society*, **510**, 4100 (2022).
- 2022 **Z. Yousaf**: *Structure of Spherically Symmetric Objects: A Study Based on Structure Scalars*, *Physica Scripta*, **97**, 025301 (2022).
- 2022 **Z. Yousaf**, K. Bamba, M. Z. Bhatti and U. Farwa: *Quasi Static Evolution of Compact Objects in Modified Gravity*, *General Relativity and Gravitation*, **54**, 7 (2022).
- 2022 M.Z. Bhatti, **Z. Yousaf**, S. Hanif: *Hyperbolically Symmetric Sources, A Comprehensive Study in  $f(T)$  Gravity*, *European Physical Journal Plus*, **137**, 65 (2022).
- 2022 **Z. Yousaf**, M. Z. Bhatti and U. Farwa: *Evolution of Axially and Reflection Symmetric Source in Energy Momentum Squared Gravity*, *European Physical Journal Plus*, **137**, 49 (2022).

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## 2021

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- 2021 M. Z. Bhatti, **Z. Yousaf** and Z. Tariq, *Hyperbolically Symmetric Sources in Palatini  $f(R)$  Gravity*, *European Physical Journal C*, **81**, 1070 (2021).

- 2021 M. Z. Bhatti, **Z. Yousaf** and T. Ashraf: *Charged Gravastars in Modified Gauss-Bonnet Gravity*,  
*Modern Physics Letters A*, **36**, 2150233 (2021).
- 2021 **Z. Yousaf**, M.Z. Bhatti and A. Ali: *Electromagnetic field and Quasi-Homologous Constraint for Spherical Fluids in  $f(R,T)$  Gravity*,  
*European Physical Journal Plus*, **136**, 1013 (2021).
- 2021 M.Z. Bhatti, **Z. Yousaf** and F. Hussain: *Generalized Lemaitre-Tolman-Bondi Spacetime under the Influence of Electric Charge and Palatini  $f(R)$  Gravity*,  
*European Physical Journal C*, **81**, 853 (2021).
- 2021 **Z. Yousaf**, M. Z. Bhatti and U. Farwa: *Axially and Reflection Symmetric Systems and Structure Scalars in  $f(R,T)$  Gravity*,  
*Annals of Physics*, **433**, 168601 (2021).
- 2021 M.Z. Bhatti, **Z. Yousaf**, S. Khan: *Role of Quasi-Homologous Condition to Study of Complex Systems in  $f(G,T)$  Gravity*  
*European Physical Journal Plus*, **136**, 975 (2021).
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## Dissertation / Project / Synopsis Evaluation

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## 2023

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2023 **Name:** Ms. Aiman Jalil  
**Year:** 2023, **Roll No.:** S21BMATH3E01054, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Homothetic Vectors Fields of Some Non-Conformally Flat Static*



*Plane Symmetric Perfect Fluid Spacetimes in  $f(T)$  Gravity,*

**Supervisor Name:** Prof. Dr. Muhammad Ramzan

**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

2023 **Name:** Ms. Sadaf Iqbal

**Year:** 2023, **Roll No.:** CIIT/FA21-RMT-030/LHR, **Program:** MS/MPhil Thesis

**Thesis Title:** *Effects of Exponential Entropy on Thermodynamic Geometries,*

**Supervisor Name:** Dr. Shamaila Rani

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2023 **Name:** Ms. Sidra Karim

**Year:** 2023, **Roll No.:** CIIT/FA21-RMT-032/LHR, **Program:** MS/MPhil Thesis

**Thesis Title:** *Cosmographic and Matter Bounce Scenario in Modified Torsion Gravity,*

**Supervisor Name:** Dr. Shamaila Rani

**Affiliation:** COMSATS University Islamabad, Lahore Campus

2023 **Name:** Mr. Abu Bakar

**Year:** 2023, **Roll No.:** CIIT/FA21-RMT-059/LHR, **Program:** MS/MPhil Thesis

**Thesis Title:** *Study of Cosmic Expansion through Several Equations of States*

**Supervisor Name:** Dr. Shamaila Rani

**Affiliation:** COMSATS University Islamabad, Lahore Campus

2023 **Name:** Ms. Sana Aslam

**Year:** 2023, **Roll No.:** S21BMATH3E01062, **Program:** MS/MPhil Thesis

**Thesis Title:** *Lie Algebra of Killing Vector Fields of Bianchi Type-I Perfect Fluid Solutions in  $f(T)$  Theory of Gravity*

**Supervisor Name:** Prof. Dr. Muhammad Ramzan

**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

2023 **Name:** Ms. Irum Tahir

**Year:** 2023, **Roll No.:** S21BMATH3E01050, **Program:** MS/MPhil Thesis

**Thesis Title:** *Classification of Proper Non-Static Plane Symmetric Spacetimes in  $f(R)$  Gravity via Killing Vector Fields*

**Supervisor Name:** Prof. Dr. Muhammad Ramzan

**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

2023 **Name:** Mr. Muhammad Shahbaz Nawaz

**Year:** 2023, **Roll No.:** S21BMATH3E01013, **Program:** MS/MPhil Thesis

**Thesis Title:** *Lie Classification of Bianchi Type-I Perfect Fluid Spacetimes in  $f(R, T)$  Gravity via isometries*

**Supervisor Name:** Prof. Dr. Muhammad Ramzan

**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

2023 **Name:** Mr. Rao Muhammad Zeshan Touheed



**Year:** 2023, **Roll No.:** S21BMATH3E01011, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Conformal Vector Fields of Some Vacuum Classes of Static Spherically Symmetric Spacetimes in  $f(T, B)$  Gravity*  
**Supervisor Name:** Prof. Dr. Muhammad Ramzan  
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2023 **Name:** Mr. Shahid Iqbal  
**Year:** 2023, **Roll No.:** 011-19010109-017, **Program:** PhD Synopsis  
**Thesis Title:** *Symmetries of Some Static Spacetimes in  $f(Q)$  Gravity*  
**Supervisor Name:** Prof. Dr. Muhammad Ramzan  
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2023 **Name:** Mr. Abdul Qadeer  
**Year:** 2023, **Roll No.:** 21014109011, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Study Traversable Wormhole Solutions in  $f(R, \phi)$  Gravity Via Karmarkar Condition*  
**Supervisor Name:** Dr. Adnan Malik  
**Affiliation:** University of Management and Technology, Sialkot Campus

2023 **Name:** Ms. Aiman Rauf  
**Year:** 2023, **Roll No.:** 21014109035, **Program:** MS/MPhil Thesis  
**Thesis Title:** *A Study of Dynamics of Some Cosmological Solutions and Bouncing Scenario in Modified  $f(R, T)$  Gravity*  
**Supervisor Name:** Dr. Adnan Malik  
**Affiliation:** University of Management and Technology, Sialkot Campus

2023 **Name:** Mr. Muhammad Uzair  
**Year:** 2023, **Roll No.:** msf2100272, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Weak Lensing, Hawking Radiation And Greybody Bound for Magnetized Black Hole with Generalized Modmax Nonlinear Electrodynamics*  
**Supervisor Name:** Dr. Wajiha Javed  
**Affiliation:** University of Education, Township Campus, Lahore

2023 **Name:** Mr. Muhammad Wasif  
**Year:** 2023, **Roll No.:** NA, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Bounds on Modified  $f(R, G, T)$  Gravity Models from Energy Conditions*  
**Supervisor Name:** Dr. Muhammad Ilyas  
**Affiliation:** Gomal University, Dera Ismail Khan

2023 **Name:** Mr. Mujeeb ur Rehman  
**Year:** 2023, **Roll No.:** 1226-Phy-20, **Program:** MS/MPhil Thesis  
**Thesis Title:** *New Rotating AdS/dS Black Hole Solutions in Modified  $f(R)$  Gravity*  
**Supervisor Name:** Dr. Muhammad Ilyas  
**Affiliation:** Gomal University, Dera Ismail Khan

2023 **Name:** Mr. Wasib Ali  
**Year:** 2023, **Roll No.:** 21-UE-04867, **Program:** MS/MPhil Thesis  
**Thesis Title:** *A Study of Compact Stars using String Matter in Rainbow Gravity*  
**Supervisor Name:** Dr. Umber Sheikh  
**Affiliation:** University of Education, Faisalabad Campus, Faisalabad

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## 2022

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2022 **Name:** Mr. Murtaza Ali  
**Year:** 2022, **Roll No.:** NA, **Program:** PhD Thesis  
**Thesis Title:** *On Spacetime Symmetries in Some Theories of Gravity*  
**Supervisor Name:** Prof. Dr. Muhammad Ramzan & Prof. Dr. Ghulam Shabbir  
**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

2022 **Name:** Mr. Abu Bakr Mehmood  
**Year:** 2022, **Roll No.:** 2014-12-0003, **Program:** PhD Thesis  
**Thesis Title:** *A Study of Non-static Planar and Cylindrical Perfect Fluid Spacetimes in  $f(R,T)$  Gravity*  
**Supervisor Name:** Dr. Muhammad Faryad & Prof. Dr. Muhammad Ramzan  
**Affiliation:** Lahore University of Management Sciences, Lahore, Pakistan

2022 **Name:** Ms. Aasma Nazir  
**Year:** 2022, **Roll No.:** S21BMATH3E01054, **Program:** PhD Thesis  
**Thesis Title:** *Proper Curvature Collineations of Some Spacetimes in  $f(R)$  Theories of Gravity*  
**Supervisor Name:** Prof. Dr. Muhammad Ramzan  
**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

2022 **Name:** Ms. Asma Bibi  
**Year:** 2022, **Roll No.:** NA, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Different Aspects Of Relativistic Charged Compact Stars In Modified Gravity*  
**Supervisor Name:** Dr. Muhammad Ilyas  
**Affiliation:** Gomal University, Dera Ismail Khan

2022 **Name:** Ms. Nasreen Ghafoor  
**Year:** 2022, **Roll No.:** NA, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Influence Of Modification of Gravity On Static Spherical Wormhole Models*

**Supervisor Name:** Dr. Muhammad Ilyas  
**Affiliation:** Gomal University, Dera Ismail Khan

2022 **Name:** Ms. Andleeb Rani  
**Year:** 2022, **Roll No.:** MSF2000207, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Non-Commutative Wormhole Solution in  $f(Q)$  Gravity,*  
**Supervisor Name:** Prof. Dr. Muhammad Azam  
**Affiliation:** University of Education, Township Campus, Lahore

2022 **Name:** Ms. Rida Akram  
**Year:** 2022, **Roll No.:** MSF1900047, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Anisotropic Models For Dark Matter Fluid with Quadratic Equation of State,*  
**Supervisor Name:** Prof. Dr. Muhammad Azam  
**Affiliation:** University of Education, Township Campus, Lahore

2022 **Name:** Ms. Umme Habiba  
**Year:** 2022, **Roll No.:** MSF1900125, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Charged Anisotropic Stellar Models in Vaidya and Tikekar Spheroidal Geometry,*  
**Supervisor Name:** Prof. Dr. Muhammad Azam  
**Affiliation:** University of Education, Township Campus, Lahore

2022 **Name:** Mr. Umair Anwar  
**Year:** 2022, **Roll No.:** CIIT/F A20-RMT- 040/LHR, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Cosmic Aspects of  $f(R, A)$  Gravity in the Presence of Scale Factors*  
**Supervisor Name:** Dr. Abdul Jawad  
**Affiliation:** COMSATS University Islamabad, Lahore Campus

2022 **Name:** Mr. Muhammad Rizwan Azhar  
**Year:** 2022, **Roll No.:** CIIT/FA20-RMT- 032/LHR, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Cosmological Consequences of Equation of State Parameterizations in Mimetic Gravity*  
**Supervisor Name:** Dr. Abdul Jawad  
**Affiliation:** COMSATS University Islamabad, Lahore Campus

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## 2021

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2021 **Name:** Mr. Saeed Nawaz  
**Year:** 2017, **Roll No.:** 117-DS-94, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Mathematical Modeling of Compact Relativistic Charged Spheres in*

*Gauss-Bonnet Gravity*

**Supervisor Name:** Dr. Muhammad Ilyas

**Affiliation:** Gomal University, Dera Ismail Khan

2021 **Name:** Mr. Mudassar Abbas

**Year:** 2021, **Roll No.:** 011-19010109-017, **Program:** MS/MPhil Thesis

**Thesis Title:** *Study Of Anisotropic Charged Compact Stars in  $f(R, \Phi)$  Gravity*

**Supervisor Name:** Dr. Adnan Malik

**Affiliation:** University of Management and Technology, Sialkot Campus

2021 **Name:** Mr. Usman Arif

**Year:** 2021, **Roll No.:** 011-19010109-017, **Program:** MS/MPhil Thesis

**Thesis Title:** *Stellar Structures in  $f(R, \Phi)$  Gravity with Tolman-Kuchowicz Space-time*

**Supervisor Name:** Dr. Adnan Malik

**Affiliation:** University of Management and Technology, Sialkot Campus

2021 **Name:** Mr. Akeel Ur Rehman

**Year:** 2021, **Roll No.:** 011-19010109-017, **Program:** MS/MPhil Thesis

**Thesis Title:** *Exact Solutions Of Locally Rotationally Symmetric Bianchi Type-I Universe in  $f(R, \varphi)$  Gravity*

**Supervisor Name:** Dr. Adnan Malik

**Affiliation:** University of Management and Technology, Sialkot Campus

2021 **Name:** Ms. Iqra Hussain

**Year:** 2022, **Roll No.:** MSF1900101, **Program:** MS/MPhil Thesis

**Thesis Title:** *Gravitational Lensing for Quantum Corrected Schwarzschild Black Hole in Plasma Medium,*

**Supervisor Name:** Dr. Wajiha Javed

**Affiliation:** University of Education, Township Campus, Lahore

2021 **Name:** Ms. Nazia Munir

**Year:** 2021, **Roll No.:** 19010109025, **Program:** MS/MPhil Thesis

**Thesis Title:**  *$f(R, \varphi)$  Cosmology using Exponential Law Technique*

**Supervisor Name:** Dr. Adnan Malik

**Affiliation:** University of Management and Technology, Sialkot Campus

2021 **Name:** Ms. Uzma Naqvi

**Year:** 2021, **Roll No.:** 19010109036, **Program:** MS/MPhil Thesis

**Thesis Title:** *Anisotropic Spheres via Embedding Approach in  $f(R, \varphi)$  Gravity*

**Supervisor Name:** Dr. Adnan Malik

**Affiliation:** University of Management and Technology, Sialkot Campus

2021 **Name:** Mr. Muhammad Jamil Khan

**Year:** 2021, **Roll No.:** NA, **Program:** PhD Thesis

**Thesis Title:** *Some Space-times Symmetries in  $f(R,T)$  Theory of Gravity*  
**Supervisor Name:** Prof. Dr. Muhammad Ramzan & Prof. Dr. Ghulam Shabbir  
**Affiliation:** The Islamia University of Bahawalpur, Bahawalpur

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**2020**

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2020

<b>2019</b>
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- 2019 **Name:** Ms. Romana Mujahid  
**Year:** 2019, **Roll No.:** 011-17006109-010, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Irrotational Black Hole and Curvature Terms*  
**Affiliation:** University of Management and Technology, Sialkot Campus
- 2019 **Name:** Ms. Amina Amin  
**Year:** 2019, **Roll No.:** 011-17006109-011, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Curvature Effects of Rotational Black holes*  
**Affiliation:** University of Management and Technology, Sialkot Campus
- 2019 **Name:** Mr. Kamil Nawaz  
**Year:** 2019, **Roll No.:** 011-17006109-012, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Stable Regimes of Anisotropic Fluids*  
**Affiliation:** University of Management and Technology, Sialkot Campus
- 2019 **Name:** Ms. Sidra Arouj  
**Year:** 2019, **Roll No.:** 011-17006109-017, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Linearizing Equations Of Motion Through Perturbation Scheme*  
**Affiliation:** University of Management and Technology, Sialkot Campus
- 2019 **Name:** Mr. Muzaffar Ali  
**Year:** 2019, **Roll No.:** 011-17006109-045, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Non-Linear Analysis Of Anisotropic Systems*  
**Affiliation:** University of Management and Technology, Sialkot Campus
- 2019 **Name:** Mr. Saqib Mahmood  
**Year:** 2019, **Roll No.:** 011-18008109-005, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Stars and their Stability*  
**Affiliation:** University of Management and Technology, Sialkot Campus

2019 **Name:** Mr. Sagheer Ahmad  
**Year:** 2019, **Roll No.:** 011-18008109-011, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Compact Systems*  
**Affiliation:** University of Management and Technology, Sialkot Campus

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## 2018

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2018 **Name:** Mr. Muhammad Zahid Mughal  
**Year:** 2018, **Roll No.:** 16004109-002, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Stability of Compact Stars in General Relativity*  
**Affiliation:** University of Management & Technology, Sialkot

2018 **Name:** Mr. Usama Zahid  
**Year:** 2018, **Roll No.:** 16005109013, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Role Of Raychaudhuri Equation in the Modeling Of Stars*  
**Affiliation:** University of Management and Technology, Sialkot Campus

2018 **Name:** Ms. Rida Munir  
**Year:** 2018, **Roll No.:** 16005109002, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Role of Dissipative Spherical Stars and the Polynomial Ricci Scalar Function*  
**Affiliation:** University of Management and Technology, Sialkot Campus

2018 **Name:** Ms. Zonera Aas  
**Year:** 2018, **Roll No.:** 16005109024, **Program:** MS/MPhil Thesis  
**Thesis Title:** *Role Of Shear Evolution Equation in the Modeling of Stellar Bodies*  
**Affiliation:** University of Management and Technology, Sialkot Campus

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## 2017

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2017 **Name:** Ms. Arooj Fatima  
**Session:** 2017, **Roll No.:** MPHILMATH-F13-E21, **Program:** MS/MPhil Thesis  
**Thesis Title:** Quantum Corrections for Charged Regular Black Holes  
**Supervisor Name:** Dr. Wajiha Javed  
**Affiliation:** University of Education, Lahore

2017 **Name:** Mr. Jahazaib Hassan  
**Year:** 2017, **Roll No.:** 0568-BH-MATH-13, **Program:** BS Thesis  
**Thesis Title:** Study of the Behavior of Inflationary Model through Perturbed Parameters  
**Supervisor Name:** Dr. Rabia Saleem  
**Affiliation:** Government College University, Lahore

2017 **Name:** Mr. Muhammad Ali Taj

**Year:** 2017, **Roll No.:** 0272-M.PHIL-MATH-15, **Program:** BS Thesis  
**Thesis Title:** Thermodynamics and Stability Analysis of the Exotic Fluids  
**Supervisor Name:** Dr. Wajiha Javed  
**Affiliation:** Government College University, Lahore

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## 2016

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- 2016 **Name:** Mr. Ahmad Munir  
**Year:** 2016, **Roll No.:** 572-BH-MATH-12, **Program:** BS  
**Thesis Title:** *FRW Model of the Expanding Universe*  
**Supervisor Name:** Dr. Rabia Saleem  
**Affiliation:** Government College University, Lahore
- 2016 **Name:** Ms. Maham Lodhi  
**Year:** 2016, **Roll No.:** 561-BH-MATH-12, **Program:** BS  
**Thesis Title:** *On the Schwarzschild Black Hole*  
**Supervisor Name:** Dr. Rabia Saleem  
**Affiliation:** Government College University, Lahore
- 2016 **Name:** Ms. Sidra Nasir  
**Session:** 2016, **Roll No.:** 1254-BH-MATH-12, **Program:** BS  
**Thesis Title:** *Cosmic Behavior via Physical Parameters*  
**Affiliation:** Government College University, Lahore
- 2016 **Name:** Mr. Riasat Ali  
**Year:** 2016, **Roll No.:** MPHILMATH-F14-E20, **Program:** MS/MPhil  
**Thesis Title:** *The Phenomenon of Charged Vector Particle Tunneling*  
**Supervisor Name:** Dr. Rabia Saleem  
**Affiliation:** University of Education, Township Campus, Lahore