



# Muhammad Yasir

**Date of birth:** 03/06/1997 | **Nationality:** Pakistani | **Phone:** (+86) 13162362572 (Mobile) | **Email:**

[yasirciitsahiwal@gmail.com](mailto:yasirciitsahiwal@gmail.com) | **LinkedIn:**

<https://www.linkedin.com/in/muhammad-yasir-48776b166> | **Researchgate:**

<https://www.researchgate.net/profile/Muhammad-Yasir-81> |

**Address:** Shanghai University, Baoshan Campus, 200444, Shanghai, China  
(Home)

## ● ABOUT MYSELF

I, Muhammad Yasir, born and raised in Sahiwal, a beautiful countryside of Pakistan. I am a highly motivated and accomplished individual with Ph.D. in Applied Mathematics which was completed on 2 June 2025, with research specialization in the field of Mathematical General Relativity and Graviton studying the black holes phenomenon. I am enriched with qualities like exceptional problem-solving skills, fluency in English and several South Asian languages, excellent work ethics, motivated to perform well individually and as a team member. My dissertation focused on the intricate interplay between Mathematical General Relativity and astrophysical phenomena, with a specific emphasis on the dynamics of thermal geometries, thermodynamic topology and plasma lensing of specific black holes. My work has contributed to advancing our understanding of the fundamental principles governing these cosmic entities. I also won the Chinese YangYang Research Award in 2023 and Academic Star Award of the Year in 2024. Beyond my academic achievements, I possess strong interpersonal and communication skills, essential for collaboration in a dynamic research environment. I have been actively involved in conducting research and published 24 research papers in well-reputed SCI journals. Through rigorous analysis with international collaborators, I seek to contribute to the novel insights of this captivating field and push the boundaries of theoretical astrophysics.

## ● EDUCATION AND TRAINING

01/07/2022 – 02/06/2025 Shanghai, China

**PHD IN APPLIED MATHEMATICS** Shanghai University

**Address** Shanghai University, 200444, Shanghai, China | **Website** <https://www.shu.edu.cn> |

**Thesis** Mathematical and Physical Analysis of Specific Black Holes

14/08/2018 – 01/09/2020 Lahore, Pakistan

**MASTER OF SCIENCE IN MATHEMATICS** COMSATS University Islamabad

**Address** COMSATS University Islamabad, Lahore, 54000, Lahore, Pakistan | **Website** <https://lahore.comsats.edu.pk> |

**Thesis** Thermodynamic Quantities and Quasinormal Modes of Specific Black Holes

14/08/2016 – 06/07/2018 Sahiwal, Pakistan

**MASTER OF MATHEMATICS** COMSATS University Islamabad

**Address** COMSATS University Islamabad, Sahiwal, 57000, Sahiwal, Pakistan | **Website** <https://sahiwal.comsats.edu.pk>

09/08/2014 – 28/08/2016 Lahore, Pakistan

**BACHELOR OF SCIENCE (2-YEARS)** University of the Punjab

**Address** University of the Punjab, Lahore, 54000, Lahore, Pakistan | **Website** <http://www.pu.edu.pk>

11/08/2012 – 11/09/2014 Sahiwal, Pakistan

**FSC (PRE-ENGINEERING )** BISE SAHIWAL

**Address** Tehsil and District Sahiwal, 57000, Sahiwal, Pakistan | **Website** <https://www.bisesahiwal.edu.pk>

07/08/2010 – 24/07/2012 Sahiwal, Pakistan

**MATRIC (SCIENCE)** BISE MULTAN

**Address** Chak No. 64/4-R Tehsil and District Sahiwal, 57000, Sahiwal, Pakistan | **Website** <https://www.bisemultan.edu.pk>

● **WORK EXPERIENCE**

---

 **UNIVERSITY OF ENGINEERING AND TECHNOLOGY, NEW CAMPUS LAHORE** – LAHORE, PAKISTAN  
**TEACHING FELLOW (MATHEMATICS)** – 04/10/2021 – 04/10/2022

During this period, I learned how to design, prepare, and develop the courses, modules, and teaching materials. I have explored and implemented the new teaching methods to reflect changes in research, assess students' coursework, and moderate examinations.

 **UNIVERSITY OF ENGINEERING AND TECHNOLOGY, NEW CAMPUS LAHORE** – LAHORE, PAKISTAN  
**MATHEMATICS LECTURER (VISITING )** – 29/08/2020 – 03/10/2021

I have delivered lectures on differential equations, numerical analysis lab, applied mathematics, linear algebra, and calculus. I have teaching experience in technology-focused courses that integrate critical thinking and problem-solving through science education. My aim was to equip students with essential skills for success in university and their future careers.

 **LEAD SMART SCHOOL AND ACADEMY** – LAHORE , PAKISTAN  
**MATHEMATICS TEACHER SECONDARY SCHOOL** – 08/08/2018 – 09/08/2020

I served as a science teacher for two years. I am passionate about effective teaching, curriculum, and standard-based lessons. Engaging students with exciting materials and experiences motivates them to learn and pursue technological and natural sciences throughout the school.

 **DYNAMIC DISPATCH COMPANY LLC** – DALLAS, TX, UNITED STATES  
**DISPATCH MANAGER** – 08/05/2022 – 04/12/2023

Worked as a dispatch manager with one year of experience in logistics operations, coordinating schedules, and ensuring timely deliveries.

● **LANGUAGE SKILLS**

---

Mother tongue(s): **URDU**  
Other language(s):

|                              | UNDERSTANDING |         | SPEAKING          |                    | WRITING |
|------------------------------|---------------|---------|-------------------|--------------------|---------|
|                              | Listening     | Reading | Spoken production | Spoken interaction |         |
| <b>ENGLISH</b>               | C1            | C1      | B2                | B2                 | C1      |
| <b>CHINESE LANGUAGE HSK3</b> | B1            | B1      | B2                | B1                 | A2      |

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

● **SKILLS**

---

Maple 2020 | SWPS | Latex: advanced user | Microsoft Office, Microsoft Word, Microsoft Excel, Outlook, Facebook, Google | Word Powerpoint Excel | Mathematical Software: R, MATLAB, Maple, Wolfram Mathematica

● **PUBLICATIONS**

---

2024  
**1. Topological charges via Barrow entropy of black hole in metric-affine gravity**

---

**Muhammad Yasir**, Xia Tiecheng, and Abdul Jawad,  
The European Physical Journal C 84, 946 (2024).  
<https://doi.org/10.1140/epjc/s10052-024-13248-w>  
**Impact Factor: 4.99**

2024

## **2. Quantum-gravitational effects on Joule-Thomson expansion and black hole shadows in F(R) gravity with barrow entropy corrections**

---

**Muhammad Yasir**, Xia Tiecheng, Shahid Chaudhary, and Abdulrahman Bin Jumah,  
Journal of High Energy Astrophysics 44, 356 (2024).  
<https://doi.org/10.1016/j.jheap.2024.10.006>

**Impact Factor: 10.20**

2024

## **3. Thermal analysis and Joule-Thomson expansion of black hole exhibiting metric-affine gravity**

---

**Muhammad Yasir**, Tiecheng Xia, Faisal Javed, and Ghulam Mustafa,  
Chinese Physics C 48, 015103 (2024).  
<https://iopscience.iop.org/article/10.1088/1674-1137/ad0962>

**Impact Factor: 3.60**

2024

## **4. Thermal analysis of black hole in de Rham–Gabadadze–Tolley massive gravity in barrow entropy framework**

---

**Muhammad Yasir**, Tiecheng Xia, and Sudhaker Upadhyay,  
Physica Scripta 99, 065003 (2024).  
<https://inspirehep.net/literature/2783161>

**Impact Factor: 2.90**

2025

## **5. Investigating the effects of particle motion and gravitational lensing of black hole in string-inspired Euler–Heisenberg theory**

---

**Muhammad Yasir**, Farzan Mushtaq, Xia Tiecheng and Faisal Javed,  
Physics of the Dark Universe 48, 101838 (2025).  
<https://doi.org/10.1016/j.dark.2025.101838>

**Impact Factor: 5.00**

2023

## **6. Testing new massive conformal gravity with the light deflection by black hole**

---

**Muhammad Yasir**, Xia Tiecheng, Farzan Mushtaq, and Kazuharu Bamba,  
Nuclear Physics B 993, 116257 (2023).  
<https://www.sciencedirect.com/science/article/pii/S0550321323001864>

**Impact Factor: 4.00**

2021

## **7. Thermodynamic properties of modified hairy and BTZ black holes**

---

**Muhammad Yasir**, Abdul Jawad, and Kazuharu Bamba,  
International Journal of Modern Physics D 30, 2150068 (2021).  
<https://doi.org/10.1142/S0218271821500681>

**Impact Factor: 2.60**

2024

## **8. Consequences of Rényi entropy on the thermal geometries and Hawking evaporation of topological dyonic dilaton black hole**

---

**Muhammad Yasir**, Xia Tiecheng, Muhammad Usman, and Shahid Chaudhary,  
Communications in Theoretical Physics 76, 025402 (2024).  
<https://doi.org/10.1088/1572-9494/ad1987>

**Impact Factor: 2.60**

2025

## 9. Particle dynamics and weak gravitational lensing in the presence of plasma around black hole in Einstein-ModMax theory

---

**Muhammad Yasir**, Farzan Mushtaq, Faisal Javed, Moataz Alosaimi, and Rana Muhammad Zulqarnain, Physics of the Dark Universe 48, 101929 (2025).

<https://doi.org/10.1016/j.dark.2025.101929>

**Impact Factor: 5.00**

2024

## 10. Applications of Thermal Geometries of Black Hole in Metric-Affine Gravity

---

**Muhammad Yasir**, Xia Tiecheng, Allah Ditta, and Shahid Qaisar, International Journal of Theoretical Physics 63, 26 (2024).

<https://doi.org/10.1007/s10773-023-05542-2>

**Impact Factor: 2.10**

2023

## 11. Physical viability of exponential entropy on charged AdS black hole through thermodynamic geometries

---

Abdul Jawad, **Muhammad Yasir**, and Hussnain Raza The European Physical Journal C 83 (2023).

<https://doi.org/10.1140/epjc/s10052-023-12017-5>

**Impact Factor: 4.99**

2022

## 12. Thermodynamic geometry and Joule-Thomson expansion of black holes in modified theories of gravity

---

Shahid Chaudhary, Abdul Jawad, and **Muhammad Yasir**, Physical Review D 105, 024032 (2022).

<https://journals.aps.org/prd/abstract/10.1103/PhysRevD.105.024032>

**Impact Factor: 4.90**

## 13. Particle motion and lensing with plasma of black hole in coincident $f(Q, B_Q)$ gravity coupled to nonlinear electrodynamics

---

Farzan Mushtaq, **Muhammad Yasir** and Xia Tiecheng, The European Physical Journal Plus 140, 1 (2025).

<https://doi.org/10.1140/epjp/s13360-024-05863-z>

**Impact Factor: 3.00**

2024

## 14. Impact of chaplygin-like equation of state on Joule-Thomson expansion and tidal forces of AdS black holes

---

Faisal Javed, Dhruv Arora, **Muhammad Yasir**, Himanshu Chaudhary, Ghulam Mustafa, Xia Tiecheng, and Farruh Atamurotov,

Physics of the Dark Universe 46, 101654 (2024).

<https://doi.org/10.1016/j.dark.2024.101654>

**Impact Factor: 5.00**

2022

## 15. Thermal stability with emission energy and Joule-Thomson expansion of regular BTZ-like black hole

---

Allah Ditta, Xia Tiecheng, G. Mustafa, **Muhammad Yasir**, and Farruh Atamurotov, The European Physical Journal C 82, 756 (2022).

<https://doi.org/10.1140/epjc/s10052-022-10708-z>

**Impact Factor: 4.99**

## ● CONFERENCES & SEMINARS

---

30/08/2024 – 04/09/2024 Fukushima University, Japan

### 1. Meeting on Cosmology and Topological Thermodynamics of Black Holes

---

I attended sessions with expert professors in cosmology and the topological thermodynamics of black holes, where I learned through discussions on modified theories of gravity and black hole thermodynamics.

31/03/2023 – 02/04/2023 Shanghai University, Shanghai, China

### 2. Symposium on Partial Differential Equations in the Yangtze River Delta and Doctoral Forum

---

I participated in discussions on partial differential equations, and learned about current research methodologies, engaging with doctoral students and exchanging valuable insights in the field.

08/11/2022 – 12/11/2022 Dubai University, UAE

### 3. Black Hole Thermodynamics Conference

---

I took part in a conference that concentrated on black hole thermodynamics, which provided me with valuable insights into the most recent research and methodologies in this field.

21/06/2024 – 22/06/2024 Zhejiang Normal University, Jinhua, China

### 4. Conference on Recent Research on Black Holes and Gravitational Waves

---

I attended a conference that examined the most recent advancements and theoretical developments in black hole and gravitational wave research.

19/03/2019 – 22/03/2019 COMSATS University Islamabad, Lahore, Pakistan

### 5. International Conference on Recent Advances in Applied Mathematics (ICRAAM II)

---

I took part in International Conference on Recent Advances in Applied Mathematics (ICRAAM II)

## ● HONOURS AND AWARDS

---

21/03/2019

### Gold Medal – COMSATS University Islamabad, Pakistan

---

Gold Medalist in M.Sc. Mathematics, COMSATS University Islamabad, Sahiwal

01/09/2020

### Class Position – COMSATS University Islamabad, Pakistan

---

Ranked 3rd in MS Mathematics (2018-2020), COMSATS University Islamabad, Lahore

08/12/2023

### Academic Star of the Year Award – Shanghai University, China

---

Shanghai University bestows this award based on research and overall performance

26/11/2023

### Yang Yang Research Award – Shanghai University, China

---

The department of mathematics bestows this award

09/10/2017

### 7th Position – Bahauddin Zakariya University, Multan, Pakistan

---

Got 7th position out of one hundred Universities of Pakistan in "5th CASPAM Regional Student Olympiad of Mathematics (BZU Multan)"

14/09/2019

### Distinction Award – Fauji Foundation Pakistan

---

Got Fauji Foundation Academic Distinction Scholarship in 2019

- **HOBBIES AND INTERESTS**

---

**Playing Volleyball**

---

**Reading Books**

---

- **REFERENCES**

---

**Prof. Xia Tiecheng**

---

Professor ( Department of Mathematics)  
Shanghai University, Shanghai-200444, People's Republic of China.  
Mail ID: [xiatc@shu.edu.cn](mailto:xiatc@shu.edu.cn)

**Dr. Abdul Jawad**

---

Associate Professor (Department of Mathematics)  
COMSATS University Islamabad, Lahore-54000, Pakistan.  
Mail ID: [abdujawad@cuilahore.edu.pk](mailto:abdujawad@cuilahore.edu.pk)

**Prof. Kazuharu Bamba**

---

Professor (Faculty of Symbiotic Systems Science)  
Fukushima University, Fukushima 960-1296, Japan.  
Mail ID: [bamba@sss.fukushima-u.ac.jp](mailto:bamba@sss.fukushima-u.ac.jp)