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Designation & Affiliations:

(a) **Assistant Professor (Senior) and Head**,
 Department of Physics,
 K.L.S. College, Nawada, Bihar-805 110, India
 (A Constituent Unit of Magadh University, Bodhgaya, India)
<https://klscollge.ac.in/faculty.php?dept=PHYSICS>

(b) **Visiting Associate**,
 Inter-University Centre for Astronomy and Astrophysics
 (IUCAA) Pune, Maharashtra-411007

(c) **Associate Editor**,
 Physics & Astronomy International Journal
<http://medcraveonline.com/PAIJ/editorial-board>

(d) **Associate Editor**,
 Journal of Experimental Physics
<http://www.consortiumpublisher.ca>

(e) **Board Member**,
 Science Academique
<https://scienceacademique.com/journal-info/board-members/>

Web Profiles:

<https://inspirehep.net/author/profile/S.Upadhyay.1>
https://www.researchgate.net/profile/Sudhaker_Upadhyay
https://scholar.google.co.in/citations?user=nLT-_VYAAAAJ&hl=en

Global Recognition

- Among **top 2%** of world Scientists list in data provided by Stanford University, California since 2020.

Administrative Experience

- Head of Department (HoD), Department of Physics, K. L. S. College, Nawada from September 23, 2017 to present.
- Nodal Officer, K.L.S. College, Nawada from November 2023 to present.

Post-Ph.D. Experience

- [September 23, 2017 - present, Assistant Professor and HOD](#)
Department of Physics, K.L.S. College, Nawada (A constituent unit of Magadh University, Bodh-Gaya), India.
- [August 1, 2018 - present, Visiting Associate](#)
Inter-University Centre for Astronomy and Astrophysics (IUCAA) Pune, Maharashtra-411007, India.
- [April 01, 2016 - September 22, 2017, Post-Doctoral Fellow](#)
Centre for Theoretical Studies, Indian Institute of Technology Kharagpur, India.
Mentor: Prof. Sayan Kar
- [December 16, 2014 - March 31, 2016, Post-Doctoral Fellow](#)
Department of Physics, Indian Institute of Technology Kanpur, India.
Mentor: Prof. Pankaj Jain
- [May 2014 - December 2014, Research Associate](#)
Dept. of Physics, Banaras Hindu University, Varanasi, India.
Principal Investigator: Prof. Bhabani Prasad Mandal
- [March 2014 - April 2014, Post-Doctoral Fellow](#)
UERJ - Universidade do Estado do Rio de Janeiro, Rua S~ao Francisco Xavier 524, 20550-013 Maracan~a, Rio de Janeiro, Brazil.
Mentor: Prof. Silvio Paolo Sorella
- [April 2013 - February 2014, Post-Doctoral Research Associate](#)
S. N. Bose National Centre for Basic Science, Salt Lake, Kolkata, India.
Mentor: Prof Rabin Banerjee

PhD Supervised/Co-Supervised

1. Name of Student: Abdul Wakeel
Title: Thermodynamic Description of Galaxy Clusters in the Framework of Modified Gravitational Potentials
Institute: Department of Physics, National Institute of Technology Srinagar
Award Year: 2023.
2. Name of Student: Himanshu Kumar Sudhanshu
Title: Thermal Properties of Black Hole in Modified Gravity
Institute: Department of Physics, Magadh University, Bodh Gaya
Award Year: 2024.
3. Name of Student: Ajay Anand
Title: Study and Analysis of Machine Learning and A.I. Based Techniques with Reference to Environment Change Prediction
Institute: Department of I.T., Magadh University, Bodh Gaya
Award Year: 2026.
4. Name of Student: Jyotish Kumar
Title: Thermodynamical study of compact object in modified gravity
Institute: Department of Physics, Magadh University, Bodh Gaya
Status: Submitted.

Research Interests

- Black hole thermodynamics
- Galaxy clustering
- AdS/CFT correspondence
- Astrophysics and Cosmology
- Very special relativity (VSR)
- Quantum gravity
- Super-conformal gauge theories
- Quantum cosmology
- BRST symmetry and its generalization
- Supersymmetry and superspace

Book Written

- S. Upadhyay, “*Sugam Vigyan 1 NCF 2023*” (2026).
Publisher: Bharati Bhawan (Publishers & Distributors), Patna, Bihar 800003.
ISBN-13: 978-81-6854-692-6.
- B. Pourhassan and S. Upadhyay, “*Thermodynamics of Quantum Black Holes: Holography*” (2025).
Publisher: Damghan University Press, Iran.
ISBN-13: 978-622-5209-35-0.
doi:10.22128/dup.2024.762.1007
- S. Upadhyay and B. P. Mandal, “*Finite field dependent BRST symmetry and its applications*” (2014).
Publisher: LAP LAMBERT Academic Publishing, Germany.
ISBN-13: 978-3-659-58813-6.

Book Chapter Written

1. S. Upadhyay, “*Thermodynamics of Black Hole and Thermal Fluctuations*” in A Guide to Black Holes, (2022).
Publisher: Nova Science Publish, New York 2022.
ISBN: 979-8-88697-515-4.
2. S. Upadhyay, “*Becchi-Rouet-Stora-Tyutin Symmetries and Their Generalizations*” in Horizons in World Physics, Volume 304, September (2020).
Publisher: Nova Science Publish, New York 2020.
ISBN: 978-1-53618-440-2.

Research Publications

(a) Published Papers in International Journals

1. V. K. Srivastava, N. Bhatnagar, S. Upadhyay, Y. Myrzakulov, K. Myrzakulov, *Int. J. Mod. Phys. A* 2650151 (2026). (Online ready)
 “Black hole thermodynamics with Barrow holographic entropy: Nonperturbative quantum effects”
 DOI: [10.1142/S0217751X26501514](https://doi.org/10.1142/S0217751X26501514)
 [Impact factor: 1.2]
2. B. Pourhassan, İ. Sakalli, S. Upadhyay, K. Myrzakulov, *Int. J. Mod. Phys. A* 41, 2650116 (2026).
 “Systematic light propagation bias from the Heliosphere and its impact on the Hubble tension”
 DOI: [10.1142/S0217751X26501162](https://doi.org/10.1142/S0217751X26501162)
 [Impact factor: 1.2]
3. H.K. Sudhanshu, D. V. Singh, S. Upadhyay, Deepika, Y. Myrzakulov, K. Myrzakulov, *Int. J. Mod. Phys. A* 41, 2650089 (2026).
 “Thermodynamic phase structure and shadow analysis of 4D AdS skyrmion black holes”
 DOI: [10.1142/S0217751X26500892](https://doi.org/10.1142/S0217751X26500892)
 [Impact factor: 1.2]
4. D. V. Singh, S. Upadhyay, P. Paul, K. Myrzakulov, *Eur. Phys. J. Plus* 141, 364 (2026).
 “Extended thermodynamics and $P - v$ Criticality of Kalb-Ramond black hole coupled with nonlinear electrodynamics”
 DOI: [10.1140/epjp/s13360-026-07612-w](https://doi.org/10.1140/epjp/s13360-026-07612-w)
 [Impact factor: 2.9]
5. D. V. Singh, S. Upadhyay, A. Kumar, Y. Myrzakulov, K. Myrzakulov, H. K. Sudhanshu, *Annals of Physics* 488, 170382 (2026).
 “Thermodynamics, shadow, and quasinormal modes of AdS Ayón-Beato-García massive black hole”
 DOI: [10.1016/j.aop.2026.170382](https://doi.org/10.1016/j.aop.2026.170382)
 [Impact factor: 3.0]
6. S. Upadhyay, J. Kumar, D. V. Singh, Y. Myrzakulov, K. Myrzakulov, A. Ashish, *Int. J. Mod. Phys. A* 41, 2650032 (2026).
 “More exact thermodynamic analysis of topological black holes in R^2 gravity”
 DOI: [10.1142/S0217751X26500326](https://doi.org/10.1142/S0217751X26500326)
 [Impact factor: 1.2]

7. S. Upadhyay, *ANSNE* 10, 200 (2025).
[“Existence and Qualitative Properties of Radial Solutions to a Nonlinear Equation on Lifshitz Black Hole Backgrounds”](#)
 DOI: [10.22128/ansne.2025.3097.1166](#)
8. S. Upadhyay, *ANSNE* 10, 287 (2025).
[“Nonlinear Elliptic Equations in Black Hole Holography: Existence, Uniqueness, and Asymptotics”](#)
 DOI: [10.22128/ansne.2025.3129.1171](#)
9. S. Upadhyay, *ANSNE* 9, 24 (2024).
[“On the Nonlinear Equation of State in Black Hole Thermodynamics”](#)
 DOI: [10.22128/ansne.2025.3060.1154](#)
10. K. S. Upadhyay, S. Upadhyay, B. P. Mandal, *Nucl. Phys. B* 1018, 117078 (2025).
[“Phantom BTZ black holes: Thermal properties under perturbative corrections”](#)
 DOI: [10.1016/j.nuclphysb.2025.117078](#)
 [Impact factor: 2.72]
11. K. Z. Amin, S. Upadhyay, N.-ul-Islam, P. A. Ganai, *Int. J. Geom. Meth. Mod. Phys.* 23, 2550219 (2026).
[“Some electrostatic implications of exponential corrections to black hole entropy”](#)
 DOI: [10.1142/S0219887825502196](#)
 [Impact factor: 2.2]
12. J. Kumar, S. Upadhyay, H. K. Sudhanshu, Y. Myrzakulov, K. Myrzakulov, *Int. J. Mod. Phys. A* 40 (2025) 2550102.
[“Refined thermodynamic analysis of perfect fluid dark matter black holes in a phantom background”](#)
 DOI: [10.1142/S0217751X25501027](#)
 [Impact factor: 1.4]
13. V. K. Srivastava, S. Upadhyay, A. K. Verma, D. V. Singh, Y. Myrzakulov, K. Myrzakulov, *Physics of the Dark Universe* 48, 101915 (2025).
[“Exploring Non-Perturbative Effects on Quasi-Topological Black Hole Thermodynamics ”](#)
 DOI: [10.1016/j.dark.2025.101915](#)
 [Impact factor: 5.0]

14. M. Yasir, T. Lining, F. Mushtaq, X. Tiecheng, S. Upadhyay, A. B. Brzo, B. Pourhassan, *Chinese Journal of Physics* 96 (2025) 1272.
 “Rényi Entropy and the Topological Features of Charged AdS Black Hole”
 DOI: [10.1016/j.cjph.2025.03.022](https://doi.org/10.1016/j.cjph.2025.03.022)
 [Impact factor: 4.6]
15. V. K. Srivastava, A. K. Verma, G. Vaish, S. Upadhyay, *Zeitschrift für Naturforschung A* 80, 113 (2025).
 “A review on extended special and general theory of relativity for superluminal particles and their cosmological applications”
 DOI: [10.1515/zna-2024-0171](https://doi.org/10.1515/zna-2024-0171)
16. A. Kumar, D. V. Singh, S. Upadhyay, *Int. J. Mod. Phys. A* 39 (2024) 2450136.
 “Ayón–Beato–García black hole coupled with a cloud of strings: Thermodynamics, shadows and quasinormal modes”
 DOI: [10.1142/S0217751X24501367](https://doi.org/10.1142/S0217751X24501367)
 [Impact factor: 1.4]
17. A. Kumar, D. V. Singh, S. Upadhyay, *JHAP* 4, Autumn (2024) 85.
 “Impact of Perfect Fluid Dark Matter on the Thermodynamics of AdS Ayón–Beato–García Black Holes”
 DOI: [10.1142/S0217751X24501367](https://doi.org/10.1142/S0217751X24501367)
18. H. K. Sudhanshu, D. V. Singh, S. Upadhyay, Y. Myrzakulov, K. Myrzakulov, *Physics of the Dark Universe* 46 (2024) 101648.
 “Thermodynamics of a newly constructed black hole coupled with nonlinear electrodynamics and cloud of strings”
 DOI: [10.1016/j.dark.2024.101648](https://doi.org/10.1016/j.dark.2024.101648)
 [Impact factor: 5.5]
19. B. Pourhassan, S. Eslamzadeh, İzzet Sakallı, S. Upadhyay, *JHAP* 4 (2024) 15.
 “Holographic Thermodynamics of an Enhanced Charged AdS Black Hole in String Theory’s Playground”
 DOI: [10.22128/jhap.2024.793.1070](https://doi.org/10.22128/jhap.2024.793.1070)
20. M. Yasir, T. Xia, S. Upadhyay, *Phys. Scr.* 99 (2024) 065003.
 “Thermal analysis of black hole in de Rham–Gabadadze–Tolley massive gravity in Barrow entropy framework”
 DOI: [10.1088/1402-4896/ad4071](https://doi.org/10.1088/1402-4896/ad4071)
 [Impact factor: 2.6]
21. B. Pourhassan, H. Farahani, F. Kazemian, İzzet Sakallı, S. Upadhyay, D. V. Singh, *Physics of the Dark Universe* 44 (2024) 101444.
 “Non-perturbative correction on the black hole geometry”
 DOI: [10.1016/j.dark.2024.101444](https://doi.org/10.1016/j.dark.2024.101444)
 [Impact factor: 5.5]
22. S. Chougule, S. Upadhyay, H. K. Sudhanshu, S. Kumar, *JHAP* 3, 45 (2023).
 “Hawking radiation as tunnelling from dilatonic BTZ black hole”
 DOI: [10.22128/JHAP.2023.727.1057](https://doi.org/10.22128/JHAP.2023.727.1057)
23. J. Kumar, S. Upadhyay, H. K. Sudhanshu, *Phys. Scr.* 98 (2023) 095306.
 “Small black string thermodynamics”
 DOI: [10.1088/1402-4896/aceec3](https://doi.org/10.1088/1402-4896/aceec3)
 [Impact factor: 2.9]
24. P. Paul, S. Upadhyay, D. V. Singh, *Eur. Phys. J. Plus* 138, 566 (2023).
 “Charged AdS black holes in 4D Einstein-Gauss-Bonnet massive gravity”
 DOI: [10.1140/epjp/s13360-023-04176-x](https://doi.org/10.1140/epjp/s13360-023-04176-x)
 [Impact factor: 3.4]

25. S. Soroushfar, H. Farahani, S. Upadhyay, *Physics of the Dark Universe* 42 (2023) 101272.
[“Non-perturbative correction to thermodynamics of conformally dressed 3D black hole”](#)
 DOI: [10.1016/j.dark.2023.101272](#)
 [Impact factor: 5.5]
26. P. Paul, S. Upadhyay, Y. Myrzakulov, D. V. Singh, K. Myrzakulov, *Nucl. Phys. B* 993 (2023) 116259.
[“More exact thermodynamics of nonlinear charged AdS black holes in 4D critical gravity”](#)
 DOI: [10.1016/j.nuclphysb.2023.116259](#)
 [Impact factor: 2.8]
27. A.W. Khanday, S. Upadhyay, N. Iqbal and P. A. Ganai, *Phys. Scr.* 98 (2023) 065019.
[“Statistical description of galaxy clusters in Finzi model of gravity”](#)
 DOI: [10.1088/1402-4896/acd5cd](#)
 [Impact factor: 3.081]
28. S. Upadhyay, *JHAP* 3, 57 (2023).
[“Bouncing universe for deformed non-minimally coupled inflation model”](#)
 DOI: [10.22128/jhap.2023.651.1038](#)
29. S. Mandal, S. Upadhyay, Y. Myrzakulov, G. Yergaliyeva, *Int. J. Mod. Phys. A* 38, 2350047 (2023).
[“Shadow of the 5D Reissner-Nordström AdS Black Hole”](#)
 DOI: [10.1142/S0217751X23500471](#)
 [Impact factor: 1.475]
30. M. M. Bagheri-Mohagheghi, B. Pourhassan, M. Adelifard, M. Shokooh-Saremi, S. Upadhyay, *Int. J. Mod. Phys. B* 37, 2350234 (2023).
[“Effect of electromagnetic permeability on transition temperature of superconductivity”](#)
 DOI: [10.1142/S021797922350234X](#)
 [Impact factor: 1.7]
31. B. Pourhassan, M. Dehghani, S. Upadhyay, I. Sakalli, D. V. Singh, *Mod. Phys. Lett. A* 37, 2250230 (2022).
[“Exponential corrected thermodynamics of Born Infeld BTZ black holes in massive gravity”](#)
 DOI: [10.1142/S0217732322502303](#)
 [Impact factor: 1.594]
32. Y. Myrzakulov, K. Myrzakulov, S. Upadhyay, D. V. Singh, *Int. J. Geom. Meth. Mod. Phys.* 20, 2350121 (2023).
[“Quasinormal modes and phase structure of regular AdS Einstein–Gauss–Bonnet black holes”](#)
 DOI: [10.1142/S0219887823501219](#)
 [Impact factor: 1.873]
33. S. Upadhyay, S. Mandal, Y. Myrzakulov, K. Myrzakulov, *Annals of Physics* 450 (2023) 169242.
[“Weak deflection angle, greybody bound and shadow for charged massive BTZ black hole”](#)
 DOI: [10.1016/j.aop.2023.169242](#)
 [Impact factor: 3.036]

34. Abdul W. Khanday, S. Upadhyay, Prince A. Ganai, *Eur. Phys. J. C* 82, 1164 (2022).
 “Effect of GUP on the large scale structure formation in the universe”
 DOI: [10.1140/epjc/s10052-022-11101-6](https://doi.org/10.1140/epjc/s10052-022-11101-6)
 [Impact factor: 4.991]
35. D. V. Singh, A. Shukla, S. Upadhyay, *Annals of Physics* 447, 169157 (2022).
 “Quasinormal modes, shadow and thermodynamics of black holes coupled with non-linear electrodynamics and cloud of strings”
 DOI: [10.1016/j.aop.2022.169157](https://doi.org/10.1016/j.aop.2022.169157)
 [Impact factor: 2.73]
36. S. N. Gashti, J. Sadeghi, S. Upadhyay, *Communications in Theoretical Physics* 74, 085402 (2022).
 “Swampland dS conjecture in Mimetic $f(R, T)$ gravity”
 DOI: [10.1088/1572-9494/ac7a1f](https://doi.org/10.1088/1572-9494/ac7a1f)
 [Impact factor: 1.968]
37. H. K. Sudhanshu, S. Upadhyay, D. V. Singh, S. Kumar, *Int. J. Theor. Phys.* 61, 248 (2022).
 “Corrected Thermodynamics of $(2+1)D$ Black Hole Conformally Coupled to a Massless Scalar”
 DOI: [10.1007/s10773-022-05231-6](https://doi.org/10.1007/s10773-022-05231-6)
 [Impact factor: 1.308]
38. D. V. Singh, V. K. Bhardwaj, S. Upadhyay, *Eur. Phys. J. Plus* 137, 969 (2022).
 “Thermodynamic properties, thermal image and phase transition of Einstein-Gauss-Bonnet black hole coupled with nonlinear electrodynamics”
 DOI: [10.1140/epjp/s13360-022-03208-2](https://doi.org/10.1140/epjp/s13360-022-03208-2)
 [Impact factor: 3.911]
39. A. W. Khanday, S. Upadhyay, H. A. Bagat, P. A. Ganai, *Mod. Phys. Lett. A* 37, 2250111 (2022).
 “Effect of nonfactorizable background geometry on thermodynamics of clustering of galaxies”
 DOI: [10.1142/S0217732322501115](https://doi.org/10.1142/S0217732322501115)
 [Impact factor: 2.066]
40. B. Pourhassan, H. Aounallah, M. Faizal, S. Upadhyay, S. Soroushfar, Y. O. Aitenov, S. S. Wani, *JHEP* 05, 030 (2022).
 “Quantum thermodynamics of an M2-M5 brane system”
 DOI: [10.1007/JHEP05\(2022\)030](https://doi.org/10.1007/JHEP05(2022)030)
 [Impact factor: 5.81]

41. S. Upadhyay, D. V. Singh, *Eur. Phys. J. Plus* 137, 383 (2022).
 “Black hole solution and thermal properties in 4D AdS Gauss-Bonnet massive gravity”
 DOI: [10.1140/epjp/s13360-022-02569-y](https://doi.org/10.1140/epjp/s13360-022-02569-y)
 [Impact factor: 3.911]
42. D. V. Singh, S. Upadhyay, S. Ali, *Int. J. Mod. Phys. A* 37, 2250049 (2022).
 “Rotating Lee-Wick Black Hole and Thermodynamics”
 DOI: [10.1142/S0217751X2250049X](https://doi.org/10.1142/S0217751X2250049X)
 [Impact factor: 1.475]
43. J. Sadeghi, B. Pourhassan, S. Noori Gashti, S. Upadhyay, *Mod. Phys. Lett. A* 37, 2250018 (2022).
 “Smeared mass source wormholes in modified f(R) gravity with the Lorentzian density distribution function”
 DOI: [10.1142/S0217732322500183](https://doi.org/10.1142/S0217732322500183)
 [Impact factor: 2.066]
44. S. Upadhyay, N.-ul-islam, P. A. Ganai, *JHAP* 2, 25 (2022).
 “A modified thermodynamics of rotating and charged BTZ black hole”
 DOI: [10.22128/jhap.2021.454.1004](https://doi.org/10.22128/jhap.2021.454.1004)
45. S. Upadhyay, S. Soroushfar, R. Saffari, *Mod. Phys. Lett. A* 36, 2150212 (2021).
 “Perturbed thermodynamics and thermodynamic geometry of a static black hole in f(R) gravity”
 DOI: [10.1142/S0217732321502126](https://doi.org/10.1142/S0217732321502126)
 [Impact factor: 2.066]
46. A. W. Khanday, S. Upadhyay, P. A. Ganai, *Phys. Scr.* 96, 125030 (2021).
 “Thermodynamics of galaxy clusters in modified Newtonian potential”
 DOI: [10.1088/1402-4896/ac3a4a](https://doi.org/10.1088/1402-4896/ac3a4a)
 [Impact factor: 2.487]
47. J. Sadeghi, B. Pourhassan, S. Noori Gashti, S. Upadhyay, *Phys. Scr.* 96, 125317 (2021).
 “Swampland conjecture and inflation model from brane perspective”
 DOI: [10.1088/1402-4896/ac39bc](https://doi.org/10.1088/1402-4896/ac39bc)
 [Impact factor: 2.487]

48. D. V. Singh, B. K. Singh, S. Upadhyay, *Annals of Physics* 434, 168642 (2021).
 “4D AdS Einstein–Gauss–Bonnet black hole with Yang–Mills field and its thermodynamics”
 DOI: [10.1016/j.aop.2021.168642](https://doi.org/10.1016/j.aop.2021.168642)
 [Impact factor: 2.73]
49. A. W. Khanday, S. Upadhyay, P. A. Ganai, *Gen. Rel. Grav.* 53, 58 (2021).
 “Galactic clustering under power-law modified Newtonian potential”
 DOI: [10.1007/s10714-021-02832-0](https://doi.org/10.1007/s10714-021-02832-0)
 [Impact factor: 2.840]
50. Y. H. Khan, S. Upadhyay, P. A. Ganai, *Mod. Phys. Lett. A* 36, 2130023 (2021).
 “Stability of remnants of Bardeen regular black holes in presence of thermal fluctuations”
 DOI: [10.1142/S0217732321300238](https://doi.org/10.1142/S0217732321300238)
 [Impact factor: 2.066]
51. S. Upadhyay, B. P. Mandal, *Eur. Phys. J. C* 81, 279 (2021).
 “Soft-Collinear Effective Theory: BRST Formulation”
 DOI: [10.1140/epjc/s10052-021-09066-z](https://doi.org/10.1140/epjc/s10052-021-09066-z)
 [Impact factor: 4.991]
52. B. Pourhassan, S. Upadhyay, *Eur. Phys. J. Plus* 136, 311 (2021).
 “Perturbed thermodynamics of charged black hole solution in Rastall theory”
 DOI: [10.1140/epjp/s13360-021-01271-9](https://doi.org/10.1140/epjp/s13360-021-01271-9)
 [Impact factor: 3.911]
53. B. Pourhassan, H. Farahani, S. Upadhyay, *New Astronomy* 86, 101569 (2021).
 “Sound Speed in Extended Chaplygin Fluid”
 DOI: [10.1016/j.newast.2021.101569](https://doi.org/10.1016/j.newast.2021.101569)
 [Impact factor: 1.325]
54. B. Pourhassan, S. Upadhyay, *Physics of the Dark Universe* 29, 100596 (2020).
 “Time dependent dark energy and the thermodynamics of many-body systems”
 DOI: [10.1016/j.dark.2020.100596](https://doi.org/10.1016/j.dark.2020.100596)
 [Impact factor: 4.243]

55. Y. H. Khan, P. A. Ganai, S. Upadhyay, *Eur. Phys. J. Plus* 135, 338 (2020).
 “Stable remnants and quantum gravity effects in nonlinear electric source Culetu black hole”
 DOI: [10.1140/epjp/s13360-020-00630-2](https://doi.org/10.1140/epjp/s13360-020-00630-2)
 [Impact factor: 3.911]
56. Y. H. Khan, P. A. Ganai, S. Upadhyay, *Prog. Theor. Exp. Phys.* 103B06 (2020).
 “Quantum corrected thermodynamics and P – V criticality of self-gravitating Skyrmion black holes”
 DOI: [10.1093/ptep/ptaa135](https://doi.org/10.1093/ptep/ptaa135)
 [Impact factor: 7.492]
57. S. Soroushfar, S. Upadhyay, *Eur. Phys. J. Plus* 135, 338 (2020).
 “Accretion disks around a static black hole in $f(R)$ gravity”
 DOI: [10.1140/epjp/s13360-020-00329-4](https://doi.org/10.1140/epjp/s13360-020-00329-4)
 [Impact factor: 3.911]
58. S. Soroushfar, S. Upadhyay, *Phys. Lett. B* 804, 135360 (2020).
 “Phase transition of a charged AdS black hole with a global monopole through geometrical thermodynamics”
 DOI: [10.1016/j.physletb.2020.135360](https://doi.org/10.1016/j.physletb.2020.135360)
 [Impact factor: 4.771]
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(b) Review article

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 “REVISED FINITE FIELD-DEPENDENT BRST FORMULATION”
 DOI: [AdvEngTech.2.10](https://doi.org/10.1007/978-981-10-2100-0_10)

Education

2012, Ph.D. in Physics

Banaras Hindu University (BHU), Varanasi, India.

Thesis title: “Finite field dependent BRST transformations and its application to gauge field theories”

Thesis Supervisor: Prof. Bhabani Prasad Mandal

2008, Post-graduated in Physics with Ist Division (Gold Medalist)

U. P. Autonomous College, Varanasi, India.

2006, Graduated in Physics and Mathematics with Ist Division

U. P. Autonomous College, Varanasi, India.

2003, Intermediate (10+2) with Ist Division

Board of High School and Intermediate Education Uttar Pradesh, India.

2001, Matriculated with Ist Division

Board of High School and Intermediate Education Uttar Pradesh, India.

Scholastic Achievements

Among world's top 2% scientists list

CNPq Post-doc junior (PDJ) Fellowship in 2014

CSIR-Senior Research Fellowship (SRF)

DST-Junior Research Fellowship (JRF)

National Eligibility Test (NET) 2008 and 2009

Graduate Aptitude Test in Engineering (GATE) 2009

Advance Diploma in Computer Application (DCA)

Awards/Honours Received

- Physics Letters B awarded “certificate of reviewing” since December 2017 (8 reviews) in recognition of the review made for the journal.
- Physics Letters B awarded “certificate of outstanding reviewing” since December 2017 in recognition of the review made for the journal.
- Annals of Physics awarded “certificate of reviewing” since December 2015 (9 reviews) in recognition of the review made for the journal.
- Nuclear Physics B awarded “certificate of reviewing” since December 2022 (2 reviews) in recognition of the review made for the journal.
- Physics Letters A awarded “certificate of reviewing” since December 2020 (2 review) in recognition of the review made for the journal.
- Physica A: Statistical Mechanics and its Applications awarded “certificate of reviewing” since December 2020 (1 reviews) in recognition of the review made for the journal.
- Chinese Journal of Physics awarded “certificate of reviewing” since December 2021 (4 reviews) in recognition of the review made for the journal.
- Paper entitled “Field-dependent quantum gauge transformation” by myself has been selected by the editors of EPL for inclusion in the exclusive ‘Highlights of 2014’ collection.
- Award for University rank # 1 in M.Sc. in 2008.
- Member of student council, Banaras Hindu University, in 2010.

Referee for Journals

- | | |
|---|---|
| ○ Physics Letters B (Elsevier) | ○ Journal of Physics Communications (IOP) |
| ○ European Physical Journal C (EPJC) (Springer) | ○ International Journal of Modern Physics D (World Scientific) |
| ○ Annals of Physics (Elsevier) | ○ General Relativity and Gravitation (Springer) |
| ○ Europhysics Letters (EPL) (IOP) | ○ Modern Physics Letters A (World Scientific) |
| ○ European Journal of Physics (IOP) | |
| ○ International Journal of Theoretical Physics (Springer) | ○ Int. J. of Geometric Methods in Modern Physics (World Scientific) |

Orientation Programme Completed

- ‘97th Orientation Programme’ at Human Resource Development Centre (HRDC), Ranchi University, Ranchi from Sept. 4-24, 2019 and obtained Grade ‘A’.

Refresher Course Completed

1. 16 weeks Annual Refresher Programme in Teaching (ARPIT) course “Refresher Course on Teacher and Teaching in Higher Education” from 01 Dec., 2020 - 31 March, 2021 at SWAYAM with grade “B”.
2. Two week interdisciplinary Refresher course/FDP for “ADVANCED RESEARCH METHODOLOGY Tools and Techniques” from 30 January, 2021 - 14 February, 2021 at Teaching Learning Centre, Ramanujan College University of Delhi with Grade “A+”.
3. Refresher course in the subject “Physics” from 18 September, 2023 - 03 October, 2023 at UGC-HRDC, Kumaun University, Nainital, Uttarakhand with Grade “A+”.
4. Refresher Course in “Ayurveda, Yoga and Bhartiya Gyan Parampara (IDC)” from 23 January, 2025 - 05 February, 2025 at MALAVIYA MISSION TEACHER TRAINING CENTRE (MMTTC), DEVI AHILYA VISHWAVIDYALAYA, INDORE with Grade “A”.

MMTTP Short Term Training Programme (STP)/FDP Completed

1. Online Short term Training Programme on academic Leadership and Institutional Development under Malaviya Mission–Teacher Training Programme (MM-TTP) of UGC organized by Iswar Saran P.G. College, Prayagraj from 04 to 13 June 2025 with grade A+.
2. FDP on NEP-2020: Orientation & Sensitization under Malaviya Mission–Teacher Training Programme (MM-TTP) of UGC, MoE, GoI, organized by UGC- MMTTC, JNV University, Jodhpur, Rajasthan, from 05 to 12 April 2025 with grade A+.
3. Online FDP on Research Writing for Educators under Malaviya Mission–Teacher Training Programme (MM-TTP) of UGC organized by Centre for Faculty Development and Educational Technology (CFDET), IIT(BHU), Varanasi from 17 to 22 February 2025.

Conferences

(a) Invited Talk

1. “3rd International Conference on Holography and its Applications (ICHA3, 2024)”, Damghan University, Iran on August 17-18, 2024.
2. “2nd International Conference on Holography and its Applications (ICHA2, 2023)”, Damghan University, Iran on January 25-26, 2023.
3. “International Conference on Holography and its Applications (ICHEP1, 2022)”, Damghan University, Iran on July 6-7, 2022.
4. “1st International Conference on Holography and its Applications (ICHA1, 2022)”, Damghan University, Iran on March 9-10, 2022.
5. “Physics Research Workshop 2016”, Indian Institute of Technology Kanpur, India since February 6-7, 2016.
6. Department of Physics, IISER Bhopal, India since April 9-10, 2015.

(b) Oral Presentation

1. “Field Theory: Recent Trends and Applications”, IISER Kolkata, India since Aug. 7-8, 2013.
2. “Recent Developments in Cosmology”, Department of Physics/DST-CIMS, Institute of Science, BHU, Varanasi, India since April 6-8, 2018
3. Workshop on “Recent Developments in Quantum Field Theories”, Department of Physics, Institute of Sciences, BHU, Varanasi, India since Feb. 24- March 1, 2016.
4. “International conference on New Trends in Field Theories”, Department of Physics, BHU, Varanasi, India since Nov. 1-5, 2014.
5. “Associates day”, S. N. Bose National Centre for Basic Sciences, Salt Lake, Kolkata, India on Dec. 20, 2013.
6. “International conference on New Trends in Field Theories”, Department of Physics, BHU, Varanasi, India since Nov. 23-26, 2012.
7. “8th International conference on Progress in Theoretical Physics”, Mentouri University, Constantine, Algeria since Oct. 23-25, 2011.
8. “4th one conference on New Trends in Research”, Department of Physics, BHU, Varanasi, India on March 3, 2011.
9. “XIX DAE symposium in HEP”, LNMIIT, Jaipur, India since December 13 -18, 2010.
10. “2nd One-day conference on new trends in research”, Department of Physics, BHU, Varanasi, India on January 17, 2009.
11. “3rd One-day conference on new trends in research”, Department of Physics, BHU, Varanasi, India on March 30, 2010.

(d) Conference Attended

1. “Topical Conference on Gravity and Cosmology - Eastern Region (TCGC-ER)” Theory Division of Saha Institute of Nuclear Physics, Kolkata, India on Dec. 13, 2013.
2. “6th one day Conference on Recent Trends in Research” Department of Physics, BHU, Varanasi, India on Dec. 20, 2012.
3. “QFT 2011” organized by Max Planck Partner Group in Quantum Field Theory, IISER Pune, India since Feb. 23-27, 2011.
4. “S. D. Joglekar memorial conference in High Energy Physics”, IIT-Kanpur, India since Feb. 17-19, 2011.
5. “New Trends in Field Theory”, Department of Physics, BHU, Varanasi since Nov. 1-2, 2008.

(e) Poster Presentation

1. “Field Theory: Recent Trends and Applications”, IISER, Kolkata, Aug. 22-25, 2011.
2. “International conference on New Trends in Field Theories”, Department of Physics, BHU, Varanasi, India, Feb. 7-12, 2011.

Webinar/Conference/Seminar/FDP

(a) Invited Speaker/Resource person

1. Resource person in Five day faculty development program on ”Quantum Computing and Quantum Information”, GLA University Mathura, India during 12-17 august 2024.
2. International conference on “Advancement in Core and Frontier of Physics”, GLA University Mathura, India since February 05-07, 2022.
3. Faculty Development program on “Exploring the Black Hole Solution in Modified Gravity”, GLA University Mathura, India since August 23-29, 2021.
4. Guest speaker in IPR Conference on “Plagiarism in a Research Paper”, GLA University Mathura, India on April 29, 2021.
5. Resource person in Live Hands-on Faculty Development Programme Training on “Teaching Learning and Research Aptitude”, GLA University Mathura, India since September 21-26, 2020.

(b) Webinar Attended

1. ICTS program “Quantum Fields, Geometry and Representation Theory 2021 (Online)”, ICTS, Bengaluru, India, since July 5-23, (2021).
2. ICTS program “Non Hermitian Physics (Online)”, ICTS, Bengaluru, India, since March 22-26, (2021).
3. International Webinar on “Recent Developments in Modified Gravity and Cosmology (RDCM-2021)”, Department of Mathematics, BITS-Pilani, Hyderabad, India from March 09-11, 2021.
4. One day National Level Webinar on “RESEARCH PLANNING : PROPOSAL, PROJECT & IMPLEMENTATION FOR CAREER ADVANCEMENT”, S. N. Sinha College, Warisaliganj, India & IIARI on March 3, 2021.
5. International Webinar on “Recent Advances in Science and Technology”, Indira Gandhi Institute of Technology, Sarang, Odisha from November 6-8, 2020.
6. Webinar on “Fundamentals and Applications of Physics”, Department of Physics, Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), New Delhi on October 31, 2020.
7. Webinar on “SPACE WEATHER: IONOSPHERIC AND TECHNOLOGICAL IMPACT”, Dept. of Physics, Doon University, Dehradun, in association with UFA on October 6, 2020.

(c) Faculty Development Program Attended

1. Faculty Development program on “Exploring the Black Hole Solution in Modified Gravity”, GLA University Mathura, India since August 23-29, 2021.
2. AICTE training and learning (ATAL) Academy Faculty Development Program on “Physics of Nanoelectronics”, IIT Kanpur, India since August 2-6, 2021.
3. One Week Faculty Development Program on “Emerging Trends in Applied Physics”, Department of Physics, Faculty of Science, SGT University, Gurugram, India since July 5-9, 2021.
4. One week national level online FDP on “Number Theory & Its Applications”, Department of Humanity & Science, GATES Institute of Technology, Andhra Pradesh, India from June 14-19, 2021.

(d) Faculty Development Program (FDP)/ Seminar/ Conference Organized

1. 3-days on-line International Conference on “Astroparticle Physics, Gravitation and Cosmology (APGC 2025)” from 26-28 June, 2025 organized in joint collaboration of K.L.S. College, Nawada, GLA University, Mathura, Damghan University, Damghan, ARSD College, Delhi as a Convener.
2. One Day Seminar on “Reforms in Higher Education: Rethinking Education Model” K.L.S. College, Nawada on July 29, 2024 organized as a Convenor.
3. Faculty Development program on “Exploring the Black Hole Solution in Modified Gravity”, GLA University Mathura, India since August 23-29, 2021.

(e) Workshop Attended

1. Five Days “e-Workshop on LaTeX”, Department of Mathematics, School of Science, GITAM, Bengaluru, India from July, 5-9, 2021.
2. Online Workshop on “21-cm Cosmology & Reionization”, Indian Institute of Science (Bangalore), India from April 19-23, 2021.
3. 5-day National Workshop on “Data Science and Advanced Computing”, School of Advanced Sciences (SAS), VIT-AP University, Andhra Pradesh, India from March 13-14, 2021 (Level-I) and March 19-21, 2021 (Level-II).
4. Online Workshop on “Accelerated Data Science”, NSM Nodal Centre, IIT Kharagpur and NVIDIA from February 20-21, 2021.
5. Online One-week National Workshop on “Advanced Physical Tools and Techniques for Materials Characterization”, Department of Physics, Mahatma Gandhi Central University, Motihari, Bihar from July 28- August 03, 2020.

Schools

1. “Winter School on High Energy Physics” (under UGC networking program), Department of Physics, Banaras Hindu University, Varanasi, India since Jan. 23- Feb. 12, 2013.
2. “SERC Main School in Theoretical High Energy Physics” Department of Physics, Panjab University, Chandigarh, India since April 2-22, 2010.
3. “SERC Preparatory School in Theoretical High Energy Physics”, IIT, Madras, India since Oct. 4-30, 2009.

Workshops

1. “Workshop on High Energy Physics Phenomenology (WHEPP)” Indian Institute of Technology Kanpur, India since December 4-13, 2015.
2. International workshop on “Quantum Integrable System”, S. N. Bose National Centre for Basic Sciences, Kolkata, India since December 2-6, 2013.
3. “Workshop on Differential Geometry”, DST-Centre for Interdisciplinary Mathematical Sciences (CIMS), BHU, Varanasi, India since May 2-11, 2011.
4. “UGC Networking Workshop on Recent Trends in Nuclear and Particle Physics”, Department of Physics, BHU, Varanasi, India since March 7-13, 2011.

Teaching

1. At present, I am involved in teaching Physics at UG level since Sept. 23, 2017 at K.L.S. college, Nawada.
2. A “Value Added Course on Quantum Mechanics with Mathematica” at GLA University Mathura, India on November 14-25, 2023.
3. A “Value Added Course on Technical Writing using Latex” at GLA University Mathura, India on November 21-30, 2022.
4. I have taken a course on “Advanced Mathematical Techniques” at CTS, IIT Kharagpur, West Bengal.
5. I have taught a course on “BRST quantization” at S. N. Bose National Centre For Basic Sciences, Salt Lake, Kolkata.
6. Two semesters Graduate lab. courses have been taken by me at Banaras Hindu University, Varanasi.
7. I have taken a course of Masters at S. N. Bose National Centre For Basic Sciences, Salt Lake, Kolkata.

Referees

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