

CURRICULUM VITAE

NAME: DR. TUHINA MANNA

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Academics:

Name of exam.	Year	Board / University	Subjects Taken
10 th standard	2005	ICSE	Eng, Beng, Math, Science, Geo,Hist.& Civics, Com
12 th standard	2007	ISC	Eng, Beng, Mathematics, Physics, Chemistry
B.SC	2010	University of Calcutta	Mathematics(H), Phys.+Chem.(G)
M.SC	2012	University of Calcutta 1 st class First	Mathematics
NET Qualified	June 2014	CSIR 35 (All India Rank)	Mathematical sciences
PHD	11 th June 2019 At: Jadavpur University		Title of Thesis: "Relativistic Models of Compact Stars and Gravitational Lensing of Wormholes"

Experience :

1. Research Associate at Inter-University Centre for Astronomy and Astrophysics, Pune from 2022-2025.
2. Working at St. Xavier's College as an Assistant Professor in the Department of Mathematics since 6th January, 2020.
3. Worked at St. Xavier's College as an Assistant Professor in the Department of Commerce Evening from 5th January, 2015 to 5th January 2020.
4. Worked at Sri Shikshayatan College, simultaneously as a Part-time Lecturer in the Department of Mathematics, and as a Guest Lecturer in the BBA Department (Business Mathematics and Statistics) from 19th August 2013 to 2nd January 2015.

Research Papers Published In SCOPUS Indexed Journals:

1. Title of Paper: **Deflection of charged massive body around charged wormholes**
Authors: Farook Rahaman, Abdul Aziz, Tuhina Manna, Anikul Islam, Naeem Ahmad Pundeer et al.
Publication date : 12th May, 2025
Journal: J.Korean Phys.Soc. 86 (2025) 12, 1204-1224, J.Korean Phys.Soc. 2025 (2025)
DOI: 10.1007/s40042-025-01382-x
2. Title of Paper: **Deflection of massive body around wormholes in Einstein–Kalb–Ramond spacetime**

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Authors: Tuhina Manna, Farook Rahaman, Abdul Aziz, Anikul Islam, Naeem Ahmad Pundeer
Publication date : 10th July, 2023
Journal: Phys.Dark Univ. 42 (2023) 101287, Phys.Dark Univ. 42 (2023) 101287
DOI: 10.1016/j.dark.2023.101287 (publication)

3. Title of Paper: “**Strong lensing in the exponential wormhole spacetimes**”
Authors: Tuhina Manna, Farook Rahaman, Tanmoy Chowdhury
Publication date: 31st March 2023
Journal : *New Astron.* 102 (2023) 102040
DOI: 10.1016/j.newast.2023.102040 (publication), 10.2139/ssrn.4349260
4. Title of Paper: “**Thin accretion disks around traversable wormholes**”
Authors: Farook Rahaman, Tuhina Manna, Rajibul Shaikh, Somi Aktar, Monimala Mondal
Publication date: 25th August 2021
Journal : *Nucl.Phys.B* 972 (2021) 115548
DOI: 10.1016/j.nuclphysb.2021.115548 (publication)
5. Title of Paper: “**Shadows of Lorentzian traversable wormholes**”
Authors: Farook Rahaman, Ksh Newton Singh, Rajibul Shaikh, Tuhina Manna, Somi Aktar
Publication date: 25th August 2021
Journal : *Classical and Quantum Gravity*
ISSN: 0264-9381 (print) 1361-6382 (web)
Impact Factor: 3.487
6. Title of paper: “**Solar System Tests in Einstein-Æther gravity**”
Authors: Tuhina Manna, Farook Rahaman, Amna Ali, Bidisha Samanta.
Publication date : 5th March 2021
Journal: *Canadian Journal of Physics* (NRC Research Press)
ISSN (print): 1208-6045 ; ISSN (online):0008-4204 ; Impact Factor: 0.964 (2014)
7. Title: “**Charged Perfect Fluid Sphere in Higher Dimensional Spacetime**”
Authors: Dr.Farook Rahaman, Dr.Piyali Bhar, Dr.S. Ray, G.S. Khadekar
Publication date: October 2020
Citation: *Indian J Phys* 94, 1679–1690 (2020)
(DOI: 10.1007/s12648-019-01600-w) Impact Factor : 1.947 (2020)
8. Title of paper: “**Solar system tests in Rastall gravity**”
Authors: Tuhina Manna, Farook Rahaman, Monimala Mondal
Publication date: 7th March 2020
Journal : Journal Name: *Modern Physics Letters A*
Citation: *Mod.Phys.Lett.A* 35 (2019) 07, 2050034
(Impact Factor: 2.066 (2020). Publisher: World Scientific

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9. Title of the paper: “**Gravitational lensing, precession of periaapsis and time delay due to wormhole in quintessence polytropic spacetime**”.
Publication date: 20th October 2019
Journal Name: Modern Physics Letters A
(Impact Factor: 2.066 (2020). Publisher: World Scientific
Citation: *Mod.Phys.Lett.A34(2019)no.32,1950264* (DOI: 10.1142/S021773231950264X)
10. Title of paper: “Strong lensing of a regular black hole with an electrodynamics source”.
Authors: Tuhina Manna, Farook Rahaman, Sabiruddin Molla, Jhumpa Bhadra, Hasrat Hussain Shah.
Publication date: 30th April 2018
Journal Name: General Relativity and Gravitation ; Publisher: Springer US
Citation: *Gen Relativ Gravit (2018) 50: 54.*
Print ISSN :0001-7701 ; Online ISSN :1572-9532 ; Impact Factor: 1.721
11. Title of paper: “Dark energy stars: Stable configurations”
Journal: Canadian Journal of Physics (NRC Research Press)
Authors: Tuhina Manna, Piyali Bhar, Farook Rahaman, Ayan Banerjee.
Publication date 2018
Citation: *Can.J.Phys. 96 (2018) no.6, 594-602* (DOI : 10.1139/cjp-2017-0526)
ISSN (print): 1208-6045 ; ISSN (online):0008-4204 ; Impact Factor: 0.964 (2014)
12. Title: “A new class of relativistic model of compact stars of embedding class I”
Authors: Tuhina Manna, Piyali Bhar, Ksh. Newton Singh.
Name of Journal: International Journal of Modern Physics D ; Publisher: World Scientific
Citation: *International Journal of Modern Physics D (2017) 26 :1750090*
(DOI: 10.1142/S0218271817500900)
ISSN (print): 0218-2718 ; ISSN (online): 1793-6594 ; Impact Factor: 2.476 (2017)
13. Title: “Wormhole supported by dark energy admitting conformal motion”.
Authors: Tuhina Manna, Farook Rahaman, Piyali Bhar, Ayan Banerjee.
Name of Journal: European Physical Journal C
Citation: *Eur. Phys. J. C (2016) 76:708*
DOI 10.1140/epjc/s10052-016-4547-1
Print ISSN :1434-6044 ; Online ISSN :1434-6052 ; Impact Factor: 5.331 (2016)
14. Title: “Modelling of anisotropic compact stars of embedding class one”
Co-authors: Piyali Bhar, S.K. Maurya, Y.K. Gupta.
Name of Journal: European Physical Journal A ;
Publisher: Springer Berlin Heidelberg
Citation: *Eur. Phys. J. A (2016) 52: 312.* (DOI 10.1140/epja/i2016-16312-x.)
Print ISSN 1434-6001; Online ISSN 1434-601X ;Impact Factor: 2.833 (2016)

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15. Title: “Anisotropic compact star with Tolman IV gravitational potential”
Co-authors: Piyali Bhar, Ksh. Newton Singh.
Name of Journal: Astrophysics and Space Science ;
Publisher: Springer Netherlands
Citation: *Astrophys Space Sci (2016) 361:284. (DOI 10.1007/s10509-016-2876-z.)*
Print ISSN 0004-640X ; Online ISSN 1572-946X ; Impact Factor: 1.622 (2016)

Invited talk/Paper Presentation:

1. International Level:

a) Paper presented titled : “Strong Lensing of a Regular Black Hole with an Electrodynamics Source”
on 7th September 2020.

At: *IWARA 2020 Video-Conference - 9th International Workshop on Astronomy and Relativistic Astrophysics* held at Mexico City, from 6th to 12th September, 2020.

b) Paper presented titled : “ Wormhole supported by dark energy admitting conformal motion”

At: The *International Conference on Mathematical Analysis and Application in Modeling* organized by Department of Mathematics, Jadavpur University in association with Indian Statistical Institute (Kolkata) and Biomathematical Society of India on January 9-12, 2018.

2. National / State Level:

a) Invited talk titled: Deflection of Massive body around wormholes

At: National Conference on Emerging trends in Mathematical Sciences: Analysis, Modelling, Computation and Algebra (NCETMS-AMCA-2026) organised by Department of Mathematics, Jadavpur University, Kolkata-700032 from 12th to 13th March 2026.

b) Paper presented titled: “Charged Perfect Fluid Sphere in Higher Dimensional Spacetime”

At: *108th Foundation Day Celebration, 2015*, organized by Calcutta Mathematical Society on September 6-7, 2015.

Technical Skills

- **Programming Languages:** Python, C, C++
- **Mathematical & Statistical Software:** Maple, Mathematica, IBM SPSS Statistics
- **Document Preparation:** LaTeX

I hereby declare that all the facts stated by me are correct to the best of my knowledge.

Tuhina Manna