

# CURRICULUM VITAE

NAME : DR. TUHINA MANNA

**Personal Details:** Date of Birth: 03.11.1988  
Father's Name: Tushar Kanti Manna  
Nationality : Indian  
Category: General

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## ACADEMIC QUALIFICATIONS:

Name of exam.	Year	Board / University	Subjects Taken
10 <sup>th</sup> standard	2005	ICSE	Eng, Beng, Math, Science, Geo, Hist. & Civics, Com
12 <sup>th</sup> 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 <sup>st</sup> class First	Mathematics
NET Qualified	June 2014	CSIR 35 (All India Rank)	Mathematical sciences
PHD	11 <sup>th</sup> June 2019 At: Jadavpur University		Title of Thesis: "Relativistic Models of Compact Stars and Gravitational Lensing of Wormholes"

## Experience :

1. Working as a Research Associate at Inter-University Centre for Astronomy and Astrophysics, Pune since 2022.
2. Working at St. Xavier's College as an Assistant Professor in the Department of Mathematics since 6<sup>th</sup> January, 2020.
3. Worked at St. Xavier's College as an Assistant Professor in the Department of Commerce Evening from 5<sup>th</sup> January, 2015 to 5<sup>th</sup> 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 19<sup>th</sup> August 2013 to 2<sup>nd</sup> January 2015.

## Research Papers Published In SCOPUS Indexed Journals:

1. Title of Paper: "Strong lensing in the exponential wormhole spacetimes"  
Authors: Tuhina Manna, Farook Rahaman, Tanmoy Chowdhury

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Publication date: 31<sup>st</sup> March 2023

Journal : *New Astron.* 102 (2023) 102040

DOI: 10.1016/j.newast.2023.102040 (publication), 10.2139/ssrn.4349260

2. Title of Paper: “**Thin accretion disks around traversable wormholes**”

Authors: Farook Rahaman, Tuhina Manna, Rajibul Shaikh, Somi Aktar, Monimala Mondal

Publication date: 25<sup>th</sup> August 2021

Journal : *Nucl.Phys.B* 972 (2021) 115548

DOI: 10.1016/j.nuclphysb.2021.115548 (publication)

3. Title of Paper: “**Shadows of Lorentzian traversable wormholes**”

Authors: Farook Rahaman, Ksh Newton Singh, Rajibul Shaikh, Tuhina Manna, Somi Aktar

Publication date: 25<sup>th</sup> August 2021

Journal : *Classical and Quantum Gravity*

ISSN: 0264-9381 (print) 1361-6382 (web)

Impact Factor: 3.487

4. Title of paper: “**Solar System Tests in Einstein-Æther gravity**”

**Authors:** Tuhina Manna, Farook Rahaman, Amna Ali, Bidisha Samanta.

Publication date : 5<sup>th</sup> March 2021

**Journal:** Canadian Journal of Physics (NRC Research Press)

ISSN (print): 1208-6045 ; ISSN (online): 0008-4204 ; Impact Factor: 0.964 (2014)

5. 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)

6. Title of paper: “**Solar system tests in Rastall gravity**”

**Authors:** Tuhina Manna, Farook Rahaman, Monimala Mondal

**Publication date:** 7<sup>th</sup> 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

7. Title of the paper: “**Gravitational lensing, precession of periapsis and time delay due to wormhole in quintessence polytropic spacetime**”.

**Publication date:** 20<sup>th</sup> October 2019

Journal Name: Modern Physics Letters A

(Impact Factor: 2.066(2020). Publisher: World Scientific

**Citation:** *Mod.Phys.Lett.A* 34(2019)no.32,1950264 (DOI: 10.1142/S021773231950264X)

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8. Title of paper: “Strong lensing of a regular black hole with an electrodynamic source”.  
Authors: Tuhina Manna, Farook Rahaman, Sabiruddin Molla, Jhumpa Bhadra, Hasrat Hussain Shah.

Publication date: 30<sup>th</sup> 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

9. 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)

10. 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)

11. 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

; Publisher: Springer Berlin Heidelberg

**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)

12. 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)

13. 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)

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## Paper Presentation:

### 1. International Level:

a) **Paper titled:** “Strong Lensing of a Regular Black Hole with an Electrodynamics Source” on 7<sup>th</sup> September 2020.

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

b) **Paper 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. Indian / State Level:**Paper titled:** “Charged Perfect Fluid Sphere in Higher Dimensional Spacetime”

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

**Languages Known :** English, Bengali, Hindi.

- **Computer Skills:** Good knowledge of C, C++ ; SPSS, Maple, Mathematica and Latex.

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

