

# **Curricular Vitae**

**Dr. Indranath Bhattacharyya**

**Associate Professor in Mathematics**

**Barasat Government College**

**1. Date of Birth:** 02 /06 /1974

**2. Sex:** Male

**3. Marital Status:** Married

**4. Citizen:** Indian

**5. Residential Address:**

Flat-202, 125/1 Jugipara Road, South Dumdum,  
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**6. Education**

- B.Sc. (Hons) in Mathematics, University of Calcutta, India, 1996
- M.Sc. in Applied Mathematics, University of Calcutta, India, 1999 [An year gap due to illness.]
- Ph.D. (Science) in Applied Mathematics, University of Calcutta, India, 27 May, 2008

**7. Research Experience**

- Junior Research Fellow (CSIR, India) in the Department of Applied Mathematics, University of Calcutta, 27 August 2003 to 31 August 2005.
- Senior Research Fellow (CSIR, India) in the Department of Applied Mathematics, University of Calcutta, 1 September 2005 to 11 June 2006.
- Visited High Energy Physics Section, International Center for Theoretical Physics, Trieste, Italy as Junior Scientist, 19 October to 16 December 2005.
- Visited Max Planck Institute for Physics, Munich, Germany, 31 March to 30 April 2008.

## 8. Employment:

Sl No	Designation	Employer	Period of service		Scale of pay
			From	To	
1.	Lecturer in Mathematics	Director, National Institute of Science & Technology, Orissa	13.11.2000	– 23.08.2003	
2.	Assistant Professor in Mathematics	Additional Chief Secretary / Principal Secretary / Secretary	12.06.2006	– 05.04.2011 [Govt. College of Engg. & Ceramic Technology, Kolkata]	15600 – 39100
3.		Department of Higher Education, Science & Technology	08.04.2011	– 31.12.2011 [Darjeeling Government College, Darjeeling]	
4.		and Bio-Technology	02.01.2012	– 12.12.2012 [Regional Education Office, Jalpaiguri Division]	
5.	Assistant Professor in Mathematics	Govt. of West Bengal	13.12.2012	– 10.03.2015 [A.P.C. Roy Govt. College, Siliguri]	
6.			12.03.2015	– 11.06.2018 [Barasat Govt. College, Barasat]	
7.	Associate Professor in Mathematics		12.06.2018	– Till date [Barasat Govt. College, Barasat]	37400 – 67000

## 9. Research Publications:

1. I. Bhattacharyya, 'Motion of a symmetric top: precession to nutation', *IJAIR* **7**, 1 (2018)
2. I. Bhattacharyya, 'A Brief Review of the Dynamical Universe in the Early and Late Stages', *IJSRST* **4**, 90 (2018)
3. I. Bhattacharyya, 'Existence of Neutrino Mass: A New Mathematical Formulation', *IJSRST* **4**, 30 (2018)
4. I. Bhattacharyya, 'Decay of photon with high as well as low energy', *OAIJSE* **2**, 49 (2017)
5. I. Bhattacharyya, 'Origin of the universe from a Black Hole: A theoretical model', *Fund. J. Mod. Phys.* **23**, 9 (2016)
6. I. Bhattacharyya, 'Superluminal neutrinos in the framework of extended standard model', *Fund. J. Mod. Phys.* **5**, 59 (2013)
7. I. Bhattacharyya, 'Can massless neutrinos oscillate in presence of matter?', arXiv: **0910.5801 [hep-ph]**, *Fund. J. Math. Phys.* **3**, 23 (2013)
8. I. Bhattacharyya, 'Neutrino mass generation in the SO(4) model', arXiv: **0811.1440 [hep-ph]**, *Commun. Theor. Phys* **54**, 310 (2010)
9. I. Bhattacharyya, 'Plasma Neutrino Process in Strong Magnetic Field', arXiv: **hep-ph/0512116**, *AIP Conf. Proceed.* **939**, 269 (2007)
10. I. Bhattacharyya, 'Electron Neutrino Bremsstrahlung in Electro-Weak Theory', arXiv: **hep-ph/0512107**, *J. Phys. G.* **32**, 2167 (2006)
11. I. Bhattacharyya, 'Neutrino Bremsstrahlung Process in highly Magnetized Degenerate Electron Gas', arXiv: **hep-ph/0512115**, *J. Phys. G.* **32**, 925 (2006)
12. I. Bhattacharyya, 'Neutrino Emissions in Stellar Evolution through Electro-Weak Interaction', *Proceed. 29th International Cosmic Ray Conference, Pune* **5**, 43 (2005)
13. I. Bhattacharyya, 'Neutrino Synchrotron Radiation in Electro-Weak Interaction', *Astropart. Phys.* **24**, 100 (2005)
14. I. Bhattacharyya, 'Photo-Columb neutrino process', *Astropart. Phys.* **22**, 369 (2005)

## 10 List of conferences / seminar participated

S.No	Title of the Paper presented	Title of Conference / Seminar	Organized by
1	<i>Oscillation of massless neutrinos in matter: a mathematical puzzle</i>	One Day National Seminar on Mathematical and Theoretical Physics, Number Theory and Related Topics (NSMTPNT-2019) (16 Feb. 2019)	Calcutta Mathematical Society
2	<i>Neutrino mass beyond standard model: a mathematical modelling</i>	National Conference on Mathematical Analysis and Mathematical Modelling (NCMAMM-2018) (7-8 Dec. 2018)	Calcutta Mathematical Society
3	<i>Expanding universe: a mathematical model</i>	National Conference on Emerging Trends on Mathematics and Mathematical Sciences (NCETMMS) ( 17 – 19 Dec. 2015)	Calcutta Mathematical Society
4	<i>Universe in the inflationary phase: Revisited</i>	National Seminar on Mathematical Physics (30 January 2016)	Calcutta Mathematical Society
5	<i>The mathematical framework of cosmological singularities</i>	National Seminar on Analysis & Applications (10 – 11 March 2016)	Dept. of Mathematics, West Bengal State University
6	<i>Motion of a symmetric top: precession to nutation</i>	International Conference on Applications of Mathematics in Topological Dynamics, Physical, Biological and Chemical Systems (ICAMTDPBCS -2016) (09 – 11 Dec. 2016)	Calcutta Mathematical Society
7	<i>Cosmological singularities in the phantom energy era</i>	International Seminar on ‘Cosmology, Relativity and Gravity Waves’ (15-16 Feb. 2017)	Asiatic Society, Kolkata
8	<i>The possibility of the existence of superluminal neutrinos: A theoretical framework</i>	Emerging Trends in Applied Mathematics ( 12 -14 Feb. 2014)	Department of Applied Mathematics, University of Calcutta
9	<i>The onset of the bipolar flavor conversion of the supernova neutrinos</i>	XIX DAE-BRNS High Energy Physics Symposium-2010 (13 – 18 Dec. 2010)	DAE High Energy Physics Group
10	<i>Majoron emission in Astrophysics</i>	International Conference on Frontier of Mathematics and Applications (ICFMA-2008) (16 –18 Jan. 2008)	Department of Mathematics, University of Burdwan
11	<i>Plasma Neutrino Process in Strong Magnetic Field</i>	International Workshop on Theoretical High Energy Physics (IWTHEP) (15-20 March 2007)	Department of Physics, IIT Roorkee
12	<i>Decay of photon in presence of magnetic field</i>	National Conference on Mathematics and Applications – Recent Trends (MART-2007) (10-12 January 2007)	Department of Mathematics, University of Burdwan
13	<i>Some Neutrino Emission Processes in Electro-weak Interaction</i>	Advances in Mathematics and Applications (NSAMA-2006) (18-20 January 2006)	Department of Mathematics, University of Burdwan
14	<i>Neutrino Emissions in Stellar Evolution through Electro-Weak Interaction</i>	29th International Cosmic Ray Conference, Pune (03-10 August 2005)	Tata Institute of Fundamental Research
15	<i>Neutrino Synchrotron Radiation in Electro-Weak Interaction</i>	Two Day Symposium on Quantum Mechanics in the Perspective of Modern Trends (17-18 February 2005)	Department of Applied Mathematics, University of Calcutta

## **11. Present Research Interest:**

- Supernova Neutrino
- Neutrino mass generation beyond standard model
- Cosmological singularities