

Dr. Bikash Chandra Paul



M. Sc., Ph. D., FRAS (London, UK)

Professor,

Members of Learned Societies: Life Member of Indian Association of General Relativity and Gravitation (IAGRG),

Council Member of IAGRG (2010-2014)

1. Contact Address:

Phone +91-9434539881 (M)
Mailing Address Prof. B. C. Paul, Department of Physics, University of North Bengal,
P.O.- NBU Campus, Dist- Darjeeling, West Bengal, Pin -734013, India.
e-Mail bcpaul@associates.iucaa.in, bcpaul@nbu.ac.in

Subject Specialization: *Theoretical Physics (Astrophysics & Cosmology), M. Sc. (Physics, Specialization : Electronics & Radio Physics)*

2. Areas of Research Interest: *Theoretical Physics (Astrophysics & Cosmology)*

Cosmology : *Relativistic Cosmology, Quantum Cosmology, Accelerating Universe, Dark matter, Dark energy, Modified Gravity, Emergent Universe Model, Dynamical Wormholes, Primordial Black Holes;*

Astrophysics : *Relativistic models of Neutron Star, Black Holes, Data Analysis :X-Ray Pulsar.*

(i) No. of Ph.D. students: (a) **Supervised: 09** (b) **Ongoing: 03**

(ii) No. of M.Phil. students: (a) **Supervised: NA** (b) **Ongoing: NA**

(iii) No. of Publications: (a) **Journal(s) : 110**

(b) **Book(s) : 01**

(c) **Book Chapter (s): 05**

(d) **Others: 05**

3. Achievement & Awards:

- **Fellow of Royal Astronomical Society (FRAS), London, UK on October 09, 2020.**
- **Member of International Astronomical Union (IAU) from June 10, 2020.**
- **TWAS-UNESCO Associateship (2007-2011, 2013-2017) : Visited Centre of Excellence CAS, Beijing and Kavli Institute of Theoretical Physics China (KITPC), Peoples Republic of China.**

- *Visiting Associate of Inter-University Centre for Astronomy & Astrophysics (IUCAA), Pune (August 01, 2006 onwards)*
- *Visiting Associate of Institute of Mathematical Sciences (IMSc), Chennai (2013-2016)*
- *Visiting Associate of S N Bose National Centre for Basic Sciences (SNBNCBS), Kolkata (2014 - 2017)*
- *Post-Doctoral Fellowship in South Africa (Aug-Oct, 1996).*
- *ISRO Fellowship (26.09.84-02.04.85)*
- **UGC NET Qualified (1984), UGC Junior Research Fellow and Senior Research Fellowship (1985-1990)**
- *UGC Minor Research Projects, NBU (2005, 2007, 2009-2011)*
- *National Scholarship (on B. Sc. (Hons.)) Result*
- *N F Rly Merit Scholarship (HSLC result)*
- **B. Sc. (Honours in Physics) University Silver Medal (University Rank : Second)**
- **M. Sc. (Physics) University Gold Medal & T.P Roy Memorial Medal (University Rank : First)**

4. Professional Experiences:

Research in Astrophysics and Theoretical Physics : 36 years

Post Graduate Faculty (Physics) : 22 years

- **Professor (29.01.2015-continuing)**
- *Associate Professor (29.01.2012 - 28.01.2015)*
- *Reader (29.01.2009-28.01.2012)*
- *Senior Lecturer, Physics Department, NBU (27.08.03-28.01.2009)*
- *Lecturer, Physics Department, NBU (27.08.1999 – 26.08.2003)*
- *Sr. Research Assistant at North Bengal University (02.04.1991- 26.08.1999 *) During 1991-1996, also involved academically in Teaching PG courses of NBU*
- **Assistant Regional Director (ARD), at IGNOU, Regional Office for West Bengal and Sikkim (Bikash Bhavan 4th Floor, Salt Lake, Kolkata) (*Work Experience one year On lien 1.10.1992-30.09.1993)**
- *Lecturer, Sikkim Govt. College, Sikkim (14.11.1990- 01.04.1991)*
- *Post Graduate Teacher, K. V. Khaprail, Sukna, 03.07.1990-13.11.1990)*

5. Other Experiences:

- *Dy. Director of Preparatory SERC School on Theoretical High Energy Physics (THEP) at NBU (2012)*
- *Organised National Level Seminar at NBU as Jt. Co-ordinator (March 2001) and as a Secretary of several seminars (FTAG-IV, Frontier's in Physics, Hundred Year Celebration of Einstein's Three papers etc.) (Jan. 3-5, 2005), School on Recent Advances in Cosmology (Feb. 21-26, 2011).*
- *Coordinator, Celebrating Centenary Year of General Relativity at IRC, North Bengal University (January 2015)*
- *Coordinator of IUCAA sponsored Winter school on General Relativity and its applications (Nov 2015)*
- *Organized a number of Public Outreach Program in collaboration with North Bengal Science Centre, Matigara, International Year of Astronomy (IYA-2009), Small Telescope Making Workshop for School Children (May 2009) was arranged at IRC, NBU including Popular Lectures delivered by Eminent*

Astrophysicists : Profs. J. V. Narlikar, M. Narlikar, S. Ananthkrishnan, A. K. Kembhavi, Naresh Dadhich, Dipankar Bhattacharyya (IUCAA, Pune), Dr. D. P. Duari (M P Birla Planetarium, Kolkata).

- *Organized Refresher Course as a Course Coordinator (Jan. 4 - 24, 2012) in Physics and other in Inter-Disciplinary Subject Physics and Mathematics at UGC ASC, NBU (Jan 09-29, 2013)*
- *Honourary Dy. Director, ASC, NBU (June 2012-March 2014) : Organized a number of Orientation Programs (OP) of UGC ASC as a Coordinator during (2012-2014)*
- *Organized Group Monitoring Workshop : DST FAST track-NBU as Local Coordinator (Aug. 22-24, 2013)*
- *IUCAA Sponsored Workshop on X-Ray Astronomy - Coordinator, IRC, NBU (Mar. 23-25, 2013)*
- *Coordinator, Workshop on Disaster Management, UGC ASC, NBU (Mar. 29-30, 2013)*
- *Workshop on Astronomy DATA Analysis- IRC, NBU as Coordinator (Dec. 16-17, 2013)*
- *22nd West Bengal Science Congress (Feb 28-Mar 01, 2015) (as a Vice President)*
- *45th Annual Convocation of North Bengal University (26.02.2015) taken part as a Registrar (Officiating), North Bengal University*
- *Coordinator, IUCAA Resource Centre (18.06.2007-31.3.2019)*
- *Coordinator, IUCAA Centre for Astronomy Research & Development (ICARD) from 01.04.2019*
- *Coordinator of one day Awareness Program on Importance of Intellectual Property Rights jointly organized by North Bengal University and PHD Chamber of Commerce and Industries, New Delhi (Nov. 11, 2019)*
- *Organized Workshop on Astrophysics and Astronomy for Women in India at Diamond Harbour Women's University, Sirsa (Jan 31 – Feb 01, 2020).*
- *Jt. Coordinator - Organized Workshop on Astrophysics and Astronomy for Women in India, (January 31-Feb. 01, 2020) at Diamond Harbour Women's University, Sarisha, Diamond Harbour, 24-Parganas*
- *Coordinator, First Webinar Meeting at ICARD, NBU : Introductory Seminar on Astrophysics and Cosmology (September 16, 2020)*

6. Visited the Foreign University/Institutes for Research work :

- *International Centre for Theoretical Physics (ICTP), Trieste, ITALY participated Summer School in High Energy Physics and Cosmology (June 16-July 20, 1991).*
- *Visiting PDF at Zululand University, South Africa (Aug 11 - Oct 30, 1996)*
- *IAU 8th Asian Pacific Regional Meeting -2002, National Science Centre, Tokyo, Japan (July 2-5, 2002).*
- *Visiting Scientist at Zululand University and Kwa-Zulu Natal University, South Africa (June 2 – July 9, 2004).*
- *Visited Chinese Academy of Science (CAS) Beijing, China (June 5-17, 2006, Oct. 22-Dec. 15, 2007, June 02-July 25, 2014).*
- *Visited Institut d'Astrophysique de Paris, France (June 26-July 13, 2006)*
- *Short term visitor ICTP, Trieste, Italy (July 3-August 17, 2007, June 7-23, 2009)*
- *Visited University of Geneva, Geneva, Switzerland (Dec 13-18, 2016)*
- *Visited University of Portsmouth, United Kingdom (Dec. 15-20. 2019)*

7. Administrative Experiences:

- *Head, Department of Physics, NBU (Feb 9, 2010-Feb 8, 2012)*
- *Deputy Director, UGC Academic Staff College, NBU (June 2012-March 31, 2015)*
- *Registrar (Officiating) (April 3, 2014-May 29, 2014)*
- *Registrar (Officiating) (August 2014-Feb 28, 2015)*
- *Head, Department of Physics, NBU (Feb 8, 2016-Feb 7, 2018)*
- *Dean (PG Faculty of Sciences, NBU) (July 2017-June 2020, June 2020-January 2021)*

8. Other information:

- **Chaired Sessions :**
 - *Workshop on Strings and Cosmology (Oct 27-Nov. 1, 2004) at IUCAA, Pune*
 - *Primordial Features and Non-Gaussianities (PFNG-2010) at HRI, Allahabad (Dec. 15-18, 2010)*
 - *Workshop Chair, Classical Gravity (including gravity Wave) at 27th Meeting of IAGRG, Hemwati Nandan Bahuguna Garhwal University, Srinagar (March 7-9, 2013)*

9. Collaborative work with

- *IUCAA, Pune,*
- *Lucknow University, UP*
- *Jadavpur University, Jadavpur*
- *IEST, Shibpur (formerly BESU)*
- *S N Bose National Centre for Basic Sciences, Kolkata*
- *Jamia Milia Islamia, New Delhi*
- *Raman Research Institute, Bengaluru*
- *Bangalore University, Bengaluru*
- *University of Zululand, South Africa*
- *University of Kwa-Zulu Natal, South Africa*
- *Chinese Academy of Sciences, Beijing*
- ***Massachusetts Institute of Technology (MIT), USA***

10. Different Committees at North Bengal University :

- President, NBU Teacher's Council (2015-16)*
- Jt. Secretary, NBU Teacher's Council (2011-13)*
- Member of Faculty Council for P.G. studies in Sciences, NBU*
- Member for the Board of Under-Graduate studies in Physics at NBU*
- Member of P.G. Board of studies in Physics at NBU*
- Member of Project Monitoring Unit (RUSA-2016) at NBU*
- Member of Development Committee of UNB*
- Consultation Program in the light of National Curriculum Framework 2005 – SCERT (WB) and Siliguri B. Ed. College,*
- Member of UG Board of Studies, Gour Banga University*
- Member of PG Syllabus Committee at NBU, Panchanan Barma University, Coochbehar*
- PG BOS Member, Physics Department, Sikkim University (2015-2018)*
- Member of PG Board of Studies, CPBU, Coochbehar*
- Member of Distance Education Monitoring Committee, NBU*

- n. NBU Executive Council Member (as a Dean (Science), 2017-2020)
- o. NBU Court Member (HOD Physics 2010-12, 2016-18)
- p. Dean (PG Faculty of Science) University of North Bengal (2017-2020, 2020-2021)

11. Research Projects:

I. Major Project Completed: 02

- **SERB Project entitled “ Theoretical and Observational Aspects of Compact Objects “ (Nov 17, 2017-Dec 31, 2020)**
- UGC Major Research Project on “Cosmologies, Dark matter & Dark Energy” (2013-2016) Funded by UGC, New Delhi (Report : [Front Page](#) and [Detail Report](#) F No.42-783/2013(SR))

II. Minor Projects : 05

Number of Completed UGC Minor Research Project & University Projects : 05

12. Reviewed Papers in Journals

- i) *Pramana (Journal of Physics),, Int. Journal of Theoretical Physics, , Proceedings of the National Academy of Sciences, Physical Sciences (NASA). New Astronomy, Classical and Quantum Gravity, Journal of Cosmology and Astroparticle Physics (JCAP), Euro. Phys. J. C.*
- ii) *Editorial Board Member of American Journal of Modern Physics.*

13. Virtual Meetings (During and POST Covid-19 Pandemic situation]

1. Virtual Meeting on Compact Stars and QCD 2020- ICTS, Bangalore (August 17-21, 2020)
2. Physics of the Early Universe-An online Precursor – (August 31- September 03, 2020) -ICTS Bangalore.
3. Invited talk –Gravitational Wave –A multi-messenger in Astronomy- International PRMS Mahavidyalaya Jamboni, Bankura (September 29, 2020)
4. International Webinar on Recent Advances in Science and Technology (RAST-2020)- (Nov. 06-08, 2020) Indira Gandhi Institute of Technology, Sarang, Odisha
5. Naya Kshitij : NEP 2020 for Higher Education (Nov. 7, 2020), Teaching learning Centre (TLC), BITS, Pilani Campus
6. Hermes Science Team Astrophysics with Cubesats- (Nov. 18-19, 2020)
7. Virtual Conference of CERN Switzerland-Island Hopping 2020 from Wormholes to Averages (Nov. 16-20, 2020)

14. List of Publications:

S. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	B. C. Paul, D. P. Datta, S. Mukherjee	<i>Chaotic Inflationary Scenario in an Anisotropic Universe</i>	Mod. Phys. Letts. A	1	149	1986
2.	B. C. Paul, D. P. Datta, S. Mukherjee	<i>Early Universe in Modified Starobinsky Model</i>	Mod. Phys. Letts. A	3	843	1988
3.	B. C. Paul, S. Mukherjee	<i>Higher Dimensional Cosmology with Gauss-Bonnet terms</i>	Physics Teacher	31	183	1989
4.	B. C. Paul	<i>Amader ViswaBramhanda</i>	NBU Physics alumni Association Souvenir			1991
5.	B. C. Paul	<i>The Inflationary Models of the Early Universe</i>	North Bengal University (Ph. D.)	Thesis		1990
6.	B. C. Paul, S. Mukherjee	<i>Higher Dimensional Cosmology with Gauss-Bonnet terms and the Cosmological Constant Problem</i>	Phys. Rev. D	42	2595	1990
7.	S. Mukherjee, B. C. Paul, A. Kshirsagar, N. Dadhich	<i>Gravitational Instantons with Scalar field</i>	Phys. Rev. D	45	2772	1992
8	B. C. Paul, S. Mukherjee, A. Beesham	<i>Wormholes in Higher Dimensions with Gauss-Bonnet terms</i>	Pramana, A Journal of Physics	44	133	1995
9.	B. C. Paul, G. P. Singh A. Beesham, S. Mukherjee	<i>Primordial Black Hole Pair Creation in R^2 - theory</i>	Procee. Of Hanno Rund Conference, Ed.: S. D. Maharaj		80-84	1996
10.	B. C. Paul, A. Beesham	<i>Higher Derivative theory with Viscosity</i>	8th Marcel Grossmann Meeting (June 22-27, 1997)-ed. T. Piran and R. Ruffini	World Scientific		1997
11.	S. Mukherjee, B. C. Paul, N. Dadhich	<i>General Solutions for Relativistic Star</i>	Class. & Quantum Grav.	14	3475	1997
12.	B. C. Paul, S. Mukherjee, A. Beesham	<i>Qualitative Analysis of Causal cosmological Models in (1 + 1) Dimensions</i>	University of Zululand Internal Report			1998
13.	B. C. Paul, G. P. Singh A. Beesham, S. Mukherjee	<i>Primordial Black Hole Pair Creation in R^2- theory</i>	Mod. Phys. Lett. D	13	2289	1998
14	B. C. Paul, S. Mukherjee, A. Beesham	<i>Viscous Cosmological Models in (1 + 1) Dimensions</i>	Int. J. Mod. Phys. D	7	567	1998
15.	B. C. Paul, S. Mukherjee, A. Beesham	<i>Higher Derivative theory with Viscosity</i>	Int. J. Mod. Phys. D	7	499	1998
16.	B. C. Paul, S. Mukherjee, A. Beesham	<i>Dissipative Cosmology in (1 + 1) Dimensions</i>	NBU Science & Technology Review	10	44-53	1999

17.	B. C. Paul	<i>Exact Scalar field Cosmologies in a Higher Derivative theory</i>	Pramana, A Journal of Physics	53	853	1999
18	B. C. Paul, <i>S. Mukherjee</i>	<i>Open Inflation in Higher Derivative Theory</i>	THE UNIVERSE : Visions and Perspectives - eds. N. K. Dadhich and A. K. Kembhavi	Chap- 23	253- 260	2000
19.	B. C. Paul	<i>Probability for Primordial Black Holes in a Higher Dimensional Universe</i>	Phys. Rev. D	61	02403	2000 2
20.	B. C. Paul	<i>Viscous Cosmologies with extra dimensions</i>	Phys. Rev. D	64	02730	2001 2
21.	B. C. Paul	<i>On the mass of a uniform density star in Higher Dimensions</i>	Classical and Quantum Gravity	18	2637	2001
22.	<i>S. Chakraborty,</i> B. C. Paul	<i>Inflation in Bianchi models and Cosmic no-hair theorem</i>	Physical Review D	64	12750	2001 2
23.	B. C. Paul	<i>Inflationary Cosmologies in an anisotropic Brane world</i>	Phys. Rev. D	64	12400	2001 1
24.	B. C. Paul , <i>S. Mukherjee,</i> <i>R. Tavakol</i>	<i>Instantons in Higher Derivative theories</i>	Procee. IAU 8th Asian Pacific Regional Meeting eds. S. Tkeuchi, J Hearnshu, T. Hanwa	Vol : II	313	2002
25.	B. C. Paul, A. Saha	<i>Probability for Primordial black holes in Higher derivative theories</i>	Int. J. Mod. Phys. D	11	493	2002
26.	B. C. Paul, <i>S. Mukherjee,</i> <i>R. Tavakol</i>	<i>Singular Instantons in higher derivative theories</i>	Phys. Rev. D	65	06402	2002 0
27.	B. C. Paul, <i>S. Mukherjee</i>	<i>Gravitational Instantons – Recent developments</i>	Mod. Phys. Letts. A	17	1123	2002
28.	B. C. Paul, <i>S. Chakraborty</i>	<i>Inflaton field and Primordial black hole</i>	Int. J. Mod. Phys. D	11	1435	2002
29.	B. C. Paul	<i>Inflation in Bianchi Models and the Cosmic no hair theorem in Brane world</i>	Phys. Rev. D	66	12401	2002 9
30.	B. C. Paul	<i>Chaotic Inflationary Universe on Brane</i>	Phys. Rev. D	68	12750	2003 1
31.	B. C. Paul, M. Sami	<i>Note on Inflation with a Tachyonic rolling on the Gauss-Bonnet Brane</i>	Phys. Rev. D	70	02730	2004 1
32.	B. C. Paul	<i>Relativistic Star solution in Higher dimensions</i>	Int. J. Mod. Phys. D	13	229	2004
33.	<i>S. Mukherjee,</i> B. C. Paul, <i>S. D. Maharaj,</i> <i>A. Beesham</i>	<i>Emergent Universe in Starobinsky Model</i>	ArXiv: gr-qc/0506103			2005
34.	B. C. Paul	<i>Chaotic Inflationary Scenario On Brane</i>	Procee. International Conference on Contem. Issues in Nuclear and Particle Physics, Jadavpur University	Feb 4-7, 2005		2005
35.	B. C. Paul, <i>A. Beesham</i>	<i>Power-law Inflation and the Cosmic no hair theorem in</i>	Int. J. Mod. Phys. D	14	893	2005

		<i>Brane world</i>				
36.	B. C. Paul, <i>R. Tikekar</i>	<i>A Core Envelope model of Compact stars</i>	Gravitation & Cosmology	11	244	2005
37.	<i>D. Paul, B. C. Paul</i>	<i>Probability for a Primordial Black hole Pair in 1/R-Gravity</i>	Phys. Rev. D	72	064012	2005
38.	B. C. Paul, <i>Dilip Paul</i>	<i>Inflationary Universe with Tachyon field</i>	Int. J. Mod. Phys. D	14	1831	2005
39.	B. C. Paul	<i>An Overview of Cosmology</i>	Proceeding of UGC Sponsored State Level Seminar on IYP : Approaches & Understanding March 26-27,2006			2006
40.	<i>S. Mukherjee,</i> B. C. Paul, <i>N. K. Dadhich,</i> <i>S. D. Maharaj,</i> <i>A. Beesham,</i>	<i>Emergent Universe with Exotic Matter</i>	Class and Quantum Grav.	23	6927	2006
41.	B. C. Paul	<i>Chaotic Inflationary Universe on Brane</i>	Procee. Of IAGRG (2006)-ed. R. Bali.			2006
42.	B. C. Paul, D. Paul	<i>Probability of Primordial Black Hole Pair Creation in a Modified Gravitational theory</i>	Physical Review D	74	084015	2006
43.	<i>P. S. Debnath,</i> B. C. Paul	<i>Cosmological Models with variable Gravitational and Cosmological constant in R²-Gravity</i>	Int. J. Mod. Phys. D	15	189	2006
44.	B C Paul, P. Thakur, <i>A. Saha</i>	<i>Holographic Dark Energy Models with Generalized Chaplygin Gas</i>	ICTP :Report IC/IR/2007/006.			2007
45.	<i>P. S. Debnath,</i> B. C. Paul, <i>A. Beesham</i>	<i>Viscous cosmologies with variable Lambda in higher derivative gravity</i>	Phys. Rev. D	76	123505	2007
46.	B. C. Paul, <i>P. Thakur,</i> <i>A. Saha</i>	<i>Modified Chaplygin Gas as a Scalar field and Holographic Dark Energy Model</i>	arXive:0809.3491			2008
47.	B. C. Paul	<i>Effect of Higher Dimensions on Compact Stars</i>	Procee. Workshop on Physics of the Warped Extra Dimensions-ed. S. Kar		155-159	2008
48.	B. C. Paul, A. Saha, <i>S. Ghose</i>	<i>Probability for Primordial Black Holes in a Multidimensional Universe with non-linear scalar curvature terms</i>	Phys. Rev. D	78	084007	2008
49.	B. C. Paul, <i>Dilip Paul</i>	<i>Anisotropic Bianchi-I Universe with Phantom field</i>	PRAMANA-Journal of Physics,	71	1247	2008
50.	<i>D. Paul, B.C. Paul,</i> <i>X. H. Meng</i>	<i>Inflation with Hyperbolic Potential in the Brane-world model</i>	Pramana Journal of Physics	72	903-914.	2009
51.	B. C. Paul, P. S. <i>Debnath, S. Ghose</i>	<i>Accelerating Universe in Modified Theories of Gravity</i>	Phys. Rev. D	79	083534	2009

52.	P. Thakur, S. Ghose, B. C. Paul	<i>Modified Chaplygin Gas and constraints on its B parameter from Cold Dark Matter and Unified Dark Matter Energy cosmological Models</i>	Mon. Not. Roy. Astron. Soc. (MNRAS)	397	1935-1939	2009
53.	P. K. Chattopadhyay, B. C. Paul	<i>Relativistic Star Solutions in Higher Dimensional Pseudo-spheroidal Space-time</i>	Pramana, Journal of Physics	74	513	2010
54.	B. C. Paul, S. Ghose	<i>Emergent Universe Scenario in the Einstein-Gauss-Bonnet Gravity with Dilaton</i>	Gen. Rel. Grav.	42	795	2010
55.	B. C. Paul, P. Thakur, S. Ghose	<i>Constraints on Exotic Matter needed for An Emergent Universe</i>	Mon. Not. Roy. Astron. Soc.	407	415-419.	2010
56.	B. C. Paul, A. Saha,	<i>Gravitational Instantons in R4 Gravity for Open Inflation</i>	Class. Quantum Grav.	27	215004	2010
57.	S. Ghose, B. C. Paul	<i>On the Viability of some Emergent universe models</i>	Exploring the Cosmos - ed. A. Bhadra, LAMBERT Academic Pub, 2011, (ISBN : 978-3-8443-9165-7, 2011)			2011
58.	B. C. Paul	<i>Holographic Dark Energy Models with Chaplygin Gas</i>	Cosmology/Book 1 ISBN 978-953-307-423-8 (2011)	Chapter-V		2011
59.	B. C. Paul, S. Ghose, P. Thakur	<i>Emergent Universe from A composition of Matter, Exotic Matter and Dark Energy</i>	Monthly Notice of the Royal Astronomical Society	413	686-690	2011
60.	B.C. Paul, P. K. Chattopadhyay, S. Karmakar, R. Tikekar	<i>Relativistic Strange Star with Anisotropy</i>	Mod. Phys. Lett. A	26	575-587	2011
61.	B C Paul, P. K. Chattopadhyay	<i>Relativistic Anisotropic Strange Stars in Pseudo spheroidal space-time</i>	11th APRIM, 2011 NARIT Conference Series Vol. 1 eds. S. Komonjinda, Y. Kovalev, S. Ruffolo	Vol-1	258-264	2012
62.	P. K. Chattopadhyay, B. C. Paul	<i>Relativistic Strange Stars with anisotropy and B-parameter in Pseudo-spheroidal Space-Time</i>	Neutron Stars and Pulsars: Challenges & Opportunities after 80 years, Procee. IAU symposium No. 291 (2012)	291	362-364	2012
63.	B. C. Paul, P. Thakur, A. Saha	<i>Modified Chaplygin Gas in Horava-Lifshitz Gravity and constraints on its B – parameter</i>	Phys. Rev. D	85	024039	2012
64.	P. K. Chattopadhyay, Rumi Deb, B. C. Paul	<i>Relativistic Solution for a Class of Static Compact Charged Star in Pseudo Spheroidal space-time</i>	Int. J. Mod. Phys. D	21	1250071	2012
65.	Rumi Deb, B. C. Paul, R. Tikekar	<i>Relativistic Models of A Class of Compact Objects</i>	Pramana, J of Physics	79	211	2012
66.	S. Ghose, P. Thakur, B. C. Paul	<i>Observational Constraints on the Model Parameters of a Class of Emergent Universe</i>	Monthly Notice of the Royal Astronomical Society (MNRAS)	421	20-24	2012
67.	B. C. Paul,	<i>Observational Constraints on</i>	Pramana J. Physics	81	691-	2013

	<i>P. Thakur, M. M. Verma</i>	<i>Modified Chaplygin Gas in Horava-Lifshitz Gravity with dark radiation</i>			718	
68.	<i>P. Pradhan, C. Maitra, Biswajit Paul and B. C. Paul</i>	<i>Revisiting SWJ2000.6+3210 : A persistent Be X-ray pulsar</i>	<i>Mon. Not. Roy. Astron. Soc.</i>	436	945-952	2013
69.	<i>B. C. Paul , P. Thakur</i>	<i>Observational Constraints on Modified Chaplygin Gas from Cosmic Growth</i>	<i>Jour. Cosmo. Astropart. Phys. (JCAP)</i>	11	052	2013
70.	<i>Bikash Chandra Paul, Rumi Deb</i>	<i>Relativistic solutions of anisotropic compact objects</i>	<i>Astrophys. Space Sci.</i>	354	421-430	2014
71.	<i>S. Ghose, A. Saha, B. C. Paul</i>	<i>Holographic Dark Energy with Generalized Chaplygin Gas in Higher Dimensions</i>	<i>International Journal of Modern Physics D</i>	23	1450015	2014
72.	<i>R. Kar, T. Goswami, B. C. Paul, A. Misra</i>	<i>On Magnon mediated Cooper pair formation in Ferromagnetic Superconductors</i>	<i>AIP Advances</i>	4	087126	2014
73.	<i>Pragati Pradhan, C. Maitra, Biswajit Paul, Nazma Islam, B. C. Paul</i>	<i>Variations in the Pulsation and spectral characteristics of OAO 1657-415</i>	<i>Monthly Notice of the Royal Astronomical Society (MNRAS)</i>	442	2691-2700	2014
74.	<i>B. C. Paul</i>	<i>Dark Matter and Dark Energy in the Universe</i>	<i>Bibechana</i>	11	8-16	2014
75.	<i>P. K. Chattopadhyay, R. Deb, B C Paul</i>	<i>Relativistic Charged Star Solutions in Higher Dimensions</i>	<i>International J. Theor. Physics</i>	53	1666-1684	2014
76.	<i>B. C. Paul, P. K. Chattopadhyay, S. Karmakar</i>	<i>Relativistic anisotropic star and its maximum mass in higher dimensions</i>	<i>Astrophys. Space. Sci.</i>	356	327-337	2015
77.	<i>P. Pradhan, B. Paul, H. Raichur, B. C. Paul</i>	<i>Variability of pulse profile of a rotation powered pulsar PSR B1509-58</i>	<i>Non-linear Dynamics and its application, published by Book Center (ISBN:978-81-921612-6-6)</i>		240-247	2015
78.	<i>Pragati Pradhan, Biswajit Paul, HarshaRaichur, B.C. Paul</i>	<i>Variations of the Harmonic Components of the X-ray Pulse profile of PSR B1509-58</i>	<i>Research in Astronomy & Astrophysics</i>	15	28-36	2015
79.	<i>D. Panigrahi, B. C. Paul, S. Chatterjee</i>	<i>Constraining Modified Chaplygin Gas Parameters</i>	<i>Gravitation and Cosmology,</i>	21	83-92	2015
80.	<i>Ujjal Debnath , Bikash Chandra Paul</i>	<i>Evolution of primordial black hole in $f(T)$ gravity with modified Chaplygin gas</i>	<i>Astrophys. Space Sci.</i>	355	147-153	2015
81.	<i>B. C. Paul and A. S. Majumdar</i>	<i>Emergent Universe with Interacting fluids and Generalized Second Law of Thermodynamics</i>	<i>Classical and Quantum Gravity</i>	32	115001	2015
82.	<i>Pragati Pradhan, Biswajit Paul, B. C. Paul, Enrico Bozzo, Tomaso M. Belloni</i>	<i>Is 4U 0114+65 an Eclipsing HMXB ?</i>	<i>Mon. Not. Roy. Astron. Soc.</i>	454	4467-4475	2015

83.	B. C. Paul	<i>An Introduction to Astronomical Data Analysis</i>	Edited Book : Scholars's Press ISBN 978-3-639-85990-4	1-177	1-177	2015
84.	B. C. Paul, S. Ghosh	<i>Estimation of Observational Constraints of the parameters in Emergent Universe Model</i>	An Introduction to Astronomical Data Analysis : ed.- B. C. Paul	Chap-5	96-114	2015
85.	B. C. Paul, P. Thakur	<i>Observational Constraints on Chaplygin Gas: A Review</i>	An Introduction to Astronomical Data Analysis: ed. -B. C. Paul	Chap-7	149-177	2015
86.	P. K. Chattopadhyay and B. C. Paul	<i>Density dependent B parameter of relativistic stars with anisotropy in Pseudo-spheroidal spacetime</i>	Astrophys. Space Sci.	361	145	2016
87.	S. Das, R. Sharma, B. C. Paul, R. Deb	<i>Dissipative Gravitational Collapse of an (an)isotropic Star</i>	Astrophys. & Space Sci.	361	1	2016
88.	P. S. Debnath and B. C. Paul	<i>Viscous Cosmologies with Modified Chaplygin Gas</i>	Int. Journal of Applied Physics (ISSN 2350-0301)	3	Issue: 2	2016

89.	B. C. Paul, P. Thakur and A. Saha	<i>Observational Constraints on Extended Chaplygin gas Cosmologies</i>	Pramana, A Journal of Physics	89	29	2017
90.	B. C. Paul and P. Thakur	<i>Observational Constraints on EoS parameter of Emergent Universe</i>	Astrophys. Space Sci. (2016)	362	73	2017
91.	P. S. Debnath and B. C. Paul	<i>Emergent Universe with Dissipative effects</i>	Mod. Phys. Letts. A	32	1750216	2017
92.	Rakesh Kar, B. C. Paul, Anirban Misra	<i>Unconventional Superconductivity in iron pnictides : Magnon Mediated pairing</i>	Physica C : Superconductivity and its applications	545	18-25	2018
93.	B. C. Paul and A. S. Majumdar	<i>Emergent Universe with wormholes in massive gravity</i>	Class. & Quantum Gravity	35	065001	2018
94.	B. C. Paul and Sagar Dey	<i>Relativistic star in higher dimensions with Finch and Skea Geometry</i>	Astrophys. Space Sci.	363	11	2018
95.	Binay Rai, P. Pradhan, B. C. Paul	<i>A report on Type II X-ray bursts from SMC X-1</i>	Research in Astronomy and Astrophysics	18	148	2018
96.	P. S. Debnath, A. Beesham and B. C. Paul	<i>Non-Linear viscosity in Brane-world cosmology with a Gauss-Bonnet term</i>	Class. & Quantum Gravity	35	115010	2018
97.	A. Chanda, S. Dey and B. C. Paul	<i>Anisotropic Compact Objects in F(T) gravity with Finch-Skea Geometry</i>	Eur. Phys. J., C	79	502	2019
98.	B. C. Paul, A. Chanda	<i>Observational constraints on Emergent Universe model with non-linear fluid</i>	General Relativity and Gravitation	51	71 (1-17)	2019
99.	Rikpratik Sengupta, Prasenjit Paul, Bikash Chandra Paul and Saibal Ray	<i>Inflation in anisotropic brane universe using tachyon field</i>	Int. Journal of Modern Physics D	28	1941010	2019

100.	Binay Rai and Bikash Chandra Paul	<i>NUSTAR and Swift observations of AMXP Swift J1756.9–2508 during its 2018 Outburst</i>	Monthly Notice of the Royal Astronomical Society	489	5858-5865	2019
101.	S Dey and B C Paul	<i>Higher Dimensional Charged Compact Objects in Finch-Skea Geometry</i>	Classical and Quantum Gravity	37	0750-17	2020
102.	B. C. Paul, S. D. Maharaj, A. Beesham	<i>Reconstruction of Modified Gauss-Bonnet Gravity for Emergent Universe</i>	Classical and Quantum Gravity			2021
103.	Binay Rai and B. C. Paul	<i>Spectral analysis of BeXB 2S 1417-624 using Nustar and swift observations</i>	MNRAS	MN-20-0521-MJ		2020
104.	P. S. Debnath, B. C. Paul	<i>Observational constraints of emergent universe in $f(R, T)$ gravity with bulk viscosity</i>	Int. Journal of Geo. Methods in Modern Physics	S-19-00460		2020
105.	P. Pradhan (MIT, USA), B. Paul (RRI), E. Bozzo (Univ. of Geneva), C. Maitra (Germany) and B. C. Paul	<i>Comprehensive broadband study of accreting neutron stars with Suzaku: Is there a bimodality in the X-ray spectrum?</i>	Mon. Notice Royal Astronomical Society (MNRAS) arXiv preprint arXiv:2101.01727, 2021	accepted		2021
106.	P S Debnath and B. C. Paul	<i>Bouncing scenario with causal cosmology</i>	Astrophys. Space Sci.	accepted		2021
107.	A. Saha, S. Ghose, B. C. Paul	<i>Renyi holographic dark energy in higher dimension Cosmology</i>	Annals of Phys.	accepted		2021
108.	B. C. Paul, R. Sengupta, P. Paul, S. Ray	<i>Skyrme Fluid in Anisotropic Universes with a Cosmological Constant</i>	Euro. Phys. J C			2020
109.	S. Dey, A. Chanda, B. C. Paul	<i>Compact Objects in $f(R, T)$ gravity with Finch-Skea Geometry</i>	Euro. Phys. J Plus	accepted		2021
110.	A. Chanda, S. Dey, B. C. Paul	<i>Wormholes in $f(R; T)$ Modified theory of Gravity</i>	Class. Quantum Grav.			2021

II. Popular Science Lecture/Article :

1. *On Stellar Evolution and on Solar Eclipse (August 1999) at North Bengal Science Centre, Organised by NBSC Siliguri on 11.8.99.*
2. *Amader Viswa Bramhanda – B. C. Paul, NBU Physics Alumni Association Souvenir 1991.*
3. *50 Years of Space Exploration – Matigara Science Centre, Siliguri (Oct. 4, 2007).*
4. *Mystery of the Universe and LHC - Matigara Science Centre (Dec , 2008)*
5. *Viswa Bramhanda O LHC - Surya Sen Maha Vidyalaya , Siliguri (Dec 19, 2008)*
6. *On Non-Conventional Energy Sources – Nature from Crisis to cure at ABN Seal College, (March 8-9, 2008)*
7. *Satellite Communication : A giant leap for mankind – NBSC, Siliguri (16.2.2010)*
8. *Past and Present of Indian Astronomy -at North Bengal Science Centre, Matigara on Feb. 29, 2012*
9. *Past and Present of Indian Astronomy- OP at UGC HRDC, NBU (2013,2014, 2015)*
10. *MYSTERY of the universe & GOD PARTICLE, Don Bosco School, Siliguri (Aug 07, 2015)*
11. *Why HIGG'S BOSON or GOD PARTICLE? - Physics Department, Tari Tarpada Mahavidyalay, Bagdogra College on Dec. 03,2015.*
12. *Space Exploration in India – OP UGC, HRDC, NBU 24 Aug, 2015*
13. *Counselling : Need of the Hours – Lecture at UGC HRDC, NBU on Feb. 04,2016*
14. *Women's in Science-Lecture given at the Refresher Course in Women, Studies, ASC, NBU*
15. *Gravitational Wave-A New Window in Astronomy - Siliguri Institute of Technology (SIT), Sukna, Post National Science-Day Lecture on March 17,2016*

III. Invited Talks Presented:

15. *Higher Dimensional Cosmology with Gauss-Bonnet terms and the Cosmological Constant Problem - at the University of Durban, SOUTH AFRICA , (1996).*
16. *Dissipative Cosmology in $(1 + 1)$ Dimensions - at the NBU-IUCAA Workshop on Inhomogeneous Cosmological Models and Seminar on Conceptual Problems in Relativity & Cosmology at NBU (Nov 14-18, 1996).*
17. *Gravitational Instanton with scalar field – at the XVI th IAGRG Conference held at Sardar Patel University, Gujarat (Dec 10-11, 1991).*
18. *Cosmology in Higher Dimensions – at Centre for Theoretical Studies at IIT, Kharagpur (Feb 20, 2001)*
19. *Cosmological Constant Problem – at Introductory School on Astronomy & Astrophysics held at Siliguri College, Siliguri (Nov. 16-20, 2002).*
20. *Compact Stars in Higher Dimensions- Seminar on Compact Star and Quark Gluon Plasma at NBU (18 August 2003).*
21. *Tachyonic Potential in Higher Derivative Theories- Workshop on Field Theoretic Aspects of Gravity (FTAG-IV) held at Pelling (March 2-6, 2004).*
22. *On Dark Matter- Zululand University, South Africa (June 22, 2004).*
23. *Compact Stars in higher dimensions – Univ. of Kwa-Zulu Natal, Durban (June 25, 2004).*
24. *Emergent Universe Scenario - Workshop on Strings and Cosmology at ITP and KITPC, Peoples Republic of China (Nov. 13, 2007).*
25. *"Emergent Universe : Theory and Observations"- ACRU/Mathematics seminar*

University of KwaZulu-Natal (Westville Campus) South Africa - Oct. 12, 2017

26. *Gravitational Wave: A new window in Astronomy – Invited talk at PRMS Mahavidyalaya, Jamboni, Bankura, 29.9.2020*

IV. Papers Presented in Seminar/Conference :

26. *Inflationary Universe Scenario in an Anisotropic Kantowski-Sachs Model – UGC National Seminar on Transport problem & Cosmology at Department of Mathematics, NBU (Oct 7-11,1985).*
27. *Chaotic Inflationary Scenario in an Anisotropic Universe – IPS National Symposium on Particle Physics & Cosmology, Abs. No. 23 (page 31-33) (Mar 10- 13, 1986) at IACS, Jadavpur.*
28. *Anisotropy in the Starobinsky Inflationary Scenario Procee. Of VIII th HEP symposium TF-I, p-41, Vol.I(Nov. 11-17, 1986) held at SINP, Calcutta.*
29. *Higher Dimensional Cosmology with Gauss-Bonnet terms XV th IAGRG Coonference and National Seminar on Quantum Gravity & Cosmology, Abs. No. EU2 (p-12) (Nov. 4-7, 1989) at NBU.*
30. *Wormholes with Gauss-Bonnet terms in a Higher Dimensional theory – XVI th Conference of IAGRG, Abs. No. 20 (Dec 10-11, 1991) at Sardar Patel University, Gujarat.*
31. *Wormholes in Higher Dimensions With Gauss-Bonnet terms Procee.of the Xth DAE High Energy Physics Symposium, Abs. No. T8, (p-114) (Dec 26-31, 1992) at TIFR, Bombay.*
32. *Primordial Black Holes in Higher Derivative gravity -Workshop on Inhomogeneous Cosmological Models held at NBU (Dec 14-18, 1996).*
33. *Causal Thermodynamics in Mann’s theory GR-15, Abs. No. 67 (p-133) IUCAA, Pune (Dec 16-21, 1997).*
34. *Solution for a class of Spherically symmetric Relativistic Star - GR-15, Abs. No. 23 (p -153) IUCAA, Pune (Dec 16-21, 1997).*
35. *Higher Derivative theory with Viscosity - GR-15, Abs. No. 16 (p:186-187) IUCAA, Pune (Dec 16-21, 1997).*
36. *An overview on Higher Dimensional Cosmology with Gauss-Bonnet terms and the Cosmological Constant Problem - Invited talk presented at the Orientation Meeting on Exact Solutions , D D U Gorakhpur University, Gorakhpur (Jan 18-19, 1999).*
37. *Quantum Creation of Open Universe, B. C. Paul and S. Mukherjee,Procee. of ICGC held at IIT, Kharagpur (Mentioned in Pramana 55 (2000) 606.*
38. *Probability of Primordial black holes pair creation in the universe ($D = 4, D > 4$) Workshop on Topic in General Relativity at IUCAA, Pune (Oct. 12-20, 2000).*
39. *Primordial black holes pair in higher dimensional universe – Conceptual Issues in Relativity, Cosmology and Astrophysics (Mar 28-30, 2001), NBU*
40. *Quantum creation of open universe Regional Workshop on General Relativity, Kalyani University (Nov 21-22, 2001).*
41. *Singular Instantons in Higher derivative theories IAU 8th Asian Pacific regional Meeting at National Science Centre, Tokyo, Japan (July 2- 5, 2002).*
42. *Cosmic No hair theorm and Brane world – IAGRG Meeting held at IUCAA (Dec 10-14, 2002).*
43. *Chaotic Inflationary Universe in a brane world model – Vth International Conference on Gravitation and Cosmology (ICGC-2004) (Jan 5-10, 2004) at Kochi, Kerala.*
44. *Brane and Chaotic Inflationary Universe Scenario 23rd Conf.Of IAGRG and Symp. On Recent Trends in General Relativity, Cosmology and Astrophysics (Dec. 7-10, 2004) at Rajasthan University, Rajasthan.*
45. *Probability of primordial black hole pair creation in modified gravity - Physics in the trails of Einstein (Nov. 21-22, 2005) SINP, Kolkata.*
46. *Chaotic Inflationary Scenario OnBrane - International Conference on Contem. Issues in Nuclear and Particle Physics (Feb 4-7, 2005) at Jadavpur University, Kolkata.*
47. *Chaotic Inflationary Universe on Brane - Talk presented at 22nd IAP Colloquium :*

- Inflation+25 years at Institut d'Astrophysique de Paris, France (June 26-30, 2006).*
48. *On Holographic Dark Energy Models -ICGC at IUCAA,Pune (Dec 17-21, 2007).*
 49. *Emergent Universe Scenario in the Einstein-Gauss-Bonnet Gravity with Dilaton -25th IAGRG at SINP Kolkata (Jan 28-31, 2008)*
 50. *Probability for Primordial Black Holes in Multidimensional Universe with non-linear scalar curvature terms - 25th IAGRG at SINP Kolkata (Jan 28-31, 2008).*
 51. *Emergent Universe : Theory and Observations – Workshop on Astronomy :Theory Observations and Interpretation (April 5-9, 2010) at NBU*
 52. *Lecture-1: Basic Cosmology, Lecture-2: Dark Matter and Dark energy in the School on Recent Advances in Cosmology at NBU (Feb. 21-26, 2011)*
 53. *On the viability of some Emergent Universe models, S. Ghose and B. C. Paul, HECRC Seminar on Relativistic Astrophysics & Astroparticle Physics*
 54. *Emergent Universe : Theory and Observations – Invited Lecture at IISc, Bangalore (April 27, 2010), AAPCOS at Hotel Mayfair (SINP) on March 7-12, 2012.*
 55. *Womens in Science and Technology- Refresher course in Women and social Justice (May 2-22,2013) at NBU UGC ASC May 10, 2013.*
 56. *Relativistic Models of Compact Objects with Charge-14.01.2015, CTP, Jamia Millia Islamia, New Delhi*
 57. *Creation of Emergent Universe with Wormhole – Oral presentation in 28th Texas Symposium on Relativistic Astrophysics (Dec. 13-18, 2015) at Geneva, Switzerland*
 58. *Cosmology : The past and the present Universe- AAPCOS-2015 at Saha Institute for Nuclear Physics, Kolkata (Oct. 14-15, 2015)*
 59. *Creation of Emergent Universe with Wormhole- 28th Texas Symposium at University of Geneva, Switzerland (Dec. 13-18, 2015)*
 60. *Emergent Universe : Theory and Observations- Invited talk at Introductory Workshop on Astrophysics & Cosmology at Aliah University (Sept. 27-28, 2016)*
 61. *Emergent Universe- A brief report – Current development in Quantum Field Theory & Gravity On 125th Birth Anniversary of S N Bose, (2018)*
 62. *Observed Universe and Dark Matter and Dark Energy -First IUCAA Resource Centre and CPBU, Coochbehar joint Program October 8-9 (2018)*
 63. *Gravitational Wave -Workshop on Astronomy and Astrophysics (March 29-31, 2019) IUCAA Pune and Sikkim University Joint Program*
 64. *Emergent Universe- Present Status – Cosmology- The Next Decade Workshop (Jan 22-25, 2019) at Inter National Centre for Theoretical Science (ICTS-TIFR) , Bangalore*
 65. *Emergent Universe via Wormhole – 30th Texas Symposium at University of Portsmouth, UK (Dec. 14-20, 2019).*
 66. *Gravitational Wave- A new Window in Astronomy, Exploring Cosmos, HECRC, NBU (Feb. 28, 2020)*

Dr. Bikash Chandra Paul, Professor, Physics Department, North Bengal University