

Dr. Bikash Chandra Paul

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

Professor,

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

Council Member of IAGRG (2010-2014)

1. Contact Address:

Phone +91-353-2776338 (O)

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: *Research: Theoretical Physics (Astrophysics & Cosmology),*

M. Sc. (Physics, Specialization : Electronics & Radio Physics)

2. Date of Birth : **January 16, 1962 (Siliguri, West Bengal)**

3. Academic Qualifications:

Ph. D. 1990	Thesis : The Inflationary Models of The Early Universe (Supervisor : Professor Sailoananda Mukherjee) Theoretical Physics, NBU
NET, 1984	UGC, New Delhi
M. Sc. (1983) (Exam in 1984)	Physics (Special Paper : Electronics and Radiophysics) Physics Department, NBU (First Class, Rank : First) Awarded Univ. Gold Medal and T. P. Roy Memorial Medal
B. Sc. (Hons.),1981	Physics (Honours) , Chemistry & Mathematics Siliguri College, North Bengal University First Class, Rank : Second, Awarded Univ. Silver Meda

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

I. Cosmology : *Relativistic Cosmology, Accelerating Universe, Dark matter & Dark Energy, Modified Gravity, Emergent Universe, Dynamical Wormholes, Primordial Black Holes;*

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

(i) No. of Ph.D. students Guided : (a) Supervised: 10

(b) Submitted : 01 (2022)

(c) Registered Ph. D. Student: 08

<i>Sl. No.</i>	<i>Name of Students awarded Ph. D.</i>	<i>Now working</i>
<i>1.</i>	<i>Dr. Dilip Paul (2010)</i>	<i>Islampur College</i>
<i>2.</i>	<i>Dr. Partha Sarathi Debnath (2011)</i>	<i>APC Govt. Science College</i>
<i>3.</i>	<i>Dr. Pradip Kumar Chattopadhyay (2013)</i>	<i>Coochbehar Panchanan Barma University</i>
<i>4</i>	<i>Dr. Souvik Ghosh (2013)</i>	<i>Post doc at HRI, Allahabad</i>
<i>5</i>	<i>Dr. Arindam Saha (2014)</i>	<i>Jalpaiguri Engineering College</i>
<i>6.</i>	<i>Dr. Prasenjit Thakur (2015)</i>	<i>Alipurduar University</i>
<i>7.</i>	<i>Dr. Pragati Pradhan (2016)</i>	<i>Post doc at MIT, USA</i>
<i>8.</i>	<i>Dr. Rakesh Kar (2017)</i> <i>Inter-department Ph. D. : Physics and Chemistry</i>	<i>Teacher</i>
<i>9.</i>	<i>Dr. Rumi Deb (2018)</i>	<i>Teacher</i>
<i>10</i>	<i>Dr. Binay Rai (2022)</i>	<i>Awarded in 2022</i>

Registered Ph. D. Students :

<i>Sl.No.</i>	<i>Name of Student</i>	<i>Submitted/Ongoing</i>
1.	<i>Sagar Dey</i>	2022
2.	<i>Anirban Chanda</i>	
3.	<i>Bikash Chandra Roy</i>	
4.	<i>Bibhash Das</i>	
1.	<i>Manoj Ghisjing</i>	
2.	<i>Pryanka Mandal</i>	
3.	<i>Ruchi Tamamg</i>	
4.	<i>Md. Tabrez</i>	

(ii) *List of Publications:* *Number Published : 131 (September 05, 2022)*

(a) *Journal(s) : 120* (b) *Book(s) : 01* (c) *Book Chapter (s): 05* (d) *Others: 05*

5. Achievement & Awards:

- *Fellow of Royal Astronomical Society (FRAS), London, UK on October 09, 2020.*
- *Member of International Astronomical Union (IAU) Paris 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 University of Zululand, 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), NBU University Silver Medal (University Rank : Second)*
- *M. Sc. (Physics) University Gold Medal & T.P Roy Memorial Medal (University Rank : First)*

6. Professional Experiences:

Research in Astrophysics and Theoretical Physics : 38 years

Post Graduate Faculty (Physics) : 23 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 & Sikkim (Bikash Bhavan 4th Floor, Salt Lake, Kolkata) (* 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)***

7. Administrative Experiences:

- ***Dean (PG Faculty of Sciences, NBU) (July 2017-June 2020) & Extended for another 7 months : (June 2020-January 2021)***
- ***Registrar (Officiating), NBU (April 3, 2014-May 29, 2014)***
- ***Registrar (Officiating), NBU (Aug. 2014-Feb 28, 2015)***
- ***Coordinator, IUCAA Centre for Astronomy Research and Development (ICARD), NBU (2001-2021, 2021-2024) continuing) (Formerly IUCAA Resource Centre).***
- ***Head, Department of Physics, NBU (Feb 08, 2016-Feb 07, 2018)***
- ***Head, Department of Physics, NBU (Feb 09, 2010-Feb 08, 2012)***
- ***Deputy Director, UGC Academic Staff College (Presently UGC HRDC, NBU (June 2012-March 31, 2014)***

Other Administrative 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 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. Ananthakrishnan, 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) conducted 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 jointly IRC, NBU and DHWU on Astrophysics and Astronomy for Women in India, (January 31-Feb. 01, 2020) at Diamond Harbour Women's University (DHWU), Sarisha, Diamond Harbour, 24-Parganas sponsored by IUCAA, Pune*
- *Coordinator, First Webinar Meeting at ICARD, NBU : **Introductory Seminar on Astrophysics and Cosmology (September 16, 2020)***

8. 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 West Vile University, Durban for an invited talk (1996)*
- *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 Kwa-Zulu Natal, Durban and University of Zululand, South Africa (24 September 2017 to 24 October 2017)*
- *Visited University of Portsmouth, United Kingdom (Dec. 15-20, 2019)*

Activities in Research Society:

- **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)*
 - *Chaired Session-VII in the International Webinar on Recent Developments in Modified Gravity & Cosmology at BITS, Hyderabad Campus (March 9-11, 2021).*

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 :

- a. President, NBU Teacher's Council (2015-16)*
- b. Jt. Secretary, NBU Teacher's Council (2011-13)*
- c. Member of Faculty Council for P.G. studies in Sciences, NBU*

- d. Member for the Board of Under-Graduate studies in Physics at NBU
- e. Member of P.G. Board of studies in Physics at NBU
- f. Member of Project Monitoring Unit (RUSA-2016) at NBU
- g. Member of Development Committee of UNB
- h. Consultation Program in the light of National Curriculum Framework 2005 – SCERT (WB) and Siliguri B. Ed. College,
- i. Member of UG Board of Studies, Gour Banga University
- j. Member of PG Syllabus Committee at NBU, Panchanan Barma University, Coochbehar
- k. PG BOS Member, Physics Department, Sikkim University (2015-2018)
- l. Member of PG Board of Studies, CPBU, Coochbehar
- m. Member of Distance Education Monitoring Committee, NBU
- n. NBU Executive Council Member (as a Dean (Science), 2017-2020)
- o. NBU Court Member (as HOD Physics 2010-12, 2016-18, Dean (Science))
- p. Dean (PG Faculty of Science) University of North Bengal (2017-2020, 2020-2021)

- q. Invited Expert in the Committee for preparation of “Comprehensive Glossary of Engineering (English-Hindi-Bangla) March 23-27, 2022 Ministry of Education, Department of higher Education, Govt. of India held at SIT, Siliguri.

11. Research Projects:

I. Major Project Ongoing: 01

File No. SERB Project CRG/2021/000183

“Beyond General Relativity and the Observed Universe with Dark matter and Dark Energy” (Mar 19, 2022-Mar 18, 2025) (Rs. 22.6 Lakh sanctioned)

II. Major Project Completed: 02

- **SERB Project File No. EMR/2016/005734**

“Theoretical and Observational Aspects of Compact Objects” (Nov 17, 2017-Dec 31, 2020) (Nov 17, 2017-Dec 31, 2020) Rs.13.59 Lakh(sanctioned)

- **UGC Major Research Project on “Cosmologies, Dark matter & Dark Energy” (2013-2016) Funded by UGC, New Delhi No.42-783/2013(SR)) (Rs. 9 Lakh sanctioned)**

II. Minor Projects : 05

Number of Completed UGC Minor Research Project & University Projects : 02+03

12. Reviewed Papers in Journals

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), IJMPD (World Scientific), Gen. Rel. Gravity, American Journal of Modern Physics.

13. 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. *ViswaBramhanda O LHC - SuryaSenMahaVidyalaya ,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 a 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*

Invited Talks Presented:

16. *Higher Dimensional Cosmology with Gauss-Bonnet terms and the Cosmological Constant Problem - at the University of Durban, SOUTH AFRICA , (1996).*
17. *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).*
18. *Gravitational Instanton with scalar field – at the XVI th IAGRG Conference held at Sardar Patel University, Gujarat (Dec 10-11, 1991).*
19. *Cosmology in Higher Dimensions – at Centre for Theoretical Studies at IIT, Kharagpur (Feb 20, 2001)*
20. *Cosmological Constant Problem – at Introductory School on Astronomy & Astrophysics held at Siliguri College, Siliguri (Nov. 16-20, 2002).*
21. *Compact Stars in Higher Dimensions- Seminar on Compact Star and Quark Gluon Plasma at NBU (18 August 2003).*
22. *Tachyonic Potential in Higher Derivative Theories- Workshop on Field Theoretic Aspects of Gravity (FTAG-IV) held at Pelling (March 2-6, 2004).*
23. *On Dark Matter- Zululand University, South Africa (June 22, 2004).*

24. *Compact Stars in higher dimensions – Univ. of Kwa-Zulu Natal, Durban (June 25, 2004).*
25. *Emergent Universe Scenario - Workshop on Strings and Cosmology at ITP and KITPC, Peoples Republic of China (Nov. 13, 2007).*
26. *"Emergent Universe : Theory and Observations"- ACRU/Mathematics seminar University of KwaZulu-Natal (Westville Campus) South Africa - Oct. 12, 2017*
27. *Gravitational Wave: A new window in Astronomy – Invited talk at PRMS Mahavidyalaya, Jamboni, Bankura, 29.9.2020*

Papers Presented in Seminar/Conference :

28. *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).*
29. *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.*
30. *Anisotropy in the Starobinsky Inflationary Scenario Procee. Of VIII th HEP symposium TF-1, p-41, Vol.I(Nov. 11-17, 1986) held at SINP, Calcutta.*
31. *Higher Dimensional Cosmology with Gauss-Bonnet terms XV th IAGRG Conference and National Seminar on Quantum Gravity & Cosmology, Abs. No. EU2 (p-12) (Nov. 4-7, 1989) at NBU.*
32. *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.*
33. *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.*
34. *Primordial Black Holes in Higher Derivative gravity -Workshop on Inhomogeneous Cosmological Models held at NBU (Dec 14-18, 1996).*
35. *Causal Thermodynamics in Mann's theory GR-15, Abs. No. 67 (p-133) IUCAA, Pune (Dec 16-21, 1997).*
36. *Solution for a class of Spherically symmetric Relativistic Star - GR-15, Abs. No. 23 (p -153) IUCAA, Pune (Dec 16-21, 1997).*
37. *Higher Derivative theory with Viscosity - GR-15, Abs. No. 16 (p:186-187) IUCAA, Pune (Dec 16-21, 1997).*
38. *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).*
39. *Quantum Creation of Open Universe, B. C. Paul and S. Mukherjee,Procee. of ICGC held at IIT, Kharagpur (Mentioned in Pramana 55 (2000) 606.*
40. *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).*
41. *Primordial black holes pair in higher dimensional universe – Conceptual Issues in*

Relativity, Cosmology and Astrophysics (Mar 28-30, 2001), NBU

42. *Quantum creation of open universe Regional Workshop on General Relativity, Kalyani University (Nov 21-22, 2001).*
43. *Singular Instantons in Higher derivative theories IAU 8th Asian Pacific regional Meeting at National Science Centre, Tokyo, Japan (July 2- 5, 2002).*
44. *Cosmic No hair theorem and Brane world – IAGRG Meeting held at IUCAA (Dec 10-14, 2002).*
45. *Chaotic Inflationary Universe in a brane world model – Vth International Conference on Gravitation and Cosmology (ICGC-2004) (Jan 5-10, 2004) at Kochi, Kerala.*
46. *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.*
47. *Probability of primordial black hole pair creation in modified gravity - Physics in the trails of Einstein (Nov. 21-22, 2005) SINP, Kolkata.*
48. *Chaotic Inflationary Scenario OnBrane - International Conference on Contem. Issues in Nuclear and Particle Physics (Feb 4-7, 2005) at Jadavpur University, Kolkata.*
49. *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).*
50. *On Holographic Dark Energy Models -ICGC at IUCAA,Pune (Dec 17-21, 2007).*
51. *Emergent Universe Scenario in the Einstein-Gauss-Bonnet Gravity with Dilaton -25th IAGRG at SINP Kolkata (Jan 28-31, 2008)*
52. *Probability for Primordial Black Holes in Multidimensional Universe with non-linear scalar curvature terms - 25th IAGRG at SINP Kolkata (Jan 28-31, 2008).*
53. *Emergent Universe : Theory and Observations – Workshop on Astronomy :Theory Observations and Interpretation (April 5-9, 2010) at NBU*
54. *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)*
55. *On the viability of some Emergent Universe models, S. Ghose and B. C. Paul, HECRC Seminar on Relativistic Astrophysics & Astroparticle Physics*
56. *Emergent Universe : Theory and Observations – Invited Lecture at IISc, Bangalore (April 27, 2010), AAPCOS at Hotel Mayfair (SINP) on March 7-12, 2012.*
57. *Womens in Science and Technology- Refresher course in Women and social Justice (May 2-22,2013) at NBU UGC ASC May 10, 2013.*
58. *Relativistic Models of Compact Objects with Charge-14.01.2015, CTP, Jamia Millia Islamia, New Delhi.*
59. *Creation of Emergent Universe with Wormhole – Oral presentation in 28th Texas Symposium on Relativistic Astrophysics (Dec. 13-18, 2015) at Geneva, Switzerland.*
60. *Cosmology : The past and the present Universe- AAPCOS-2015 at Saha Institute for Nuclear Physics, Kolkata (Oct. 14-15, 2015)*
61. *Creation of Emergent Universe with Wormhole- 28th Texas Symposium at University of*

Geneva, Switzerland (Dec. 13-18, 2015)

62. *Emergent Universe : Theory and Observations- Invited talk at Introductory Workshop on Astrophysics & Cosmology at Aliah University (Sept. 27-28, 2016)*
63. *Emergent Universe- A brief report – Current development in Quantum Field Theory & Gravity On 125th Birth Anniversary of S N Bose, (2018)*
64. *Observed Universe and Dark Matter and Dark Energy -First IUCAA Resource Centre and CPBU, Coochbehar joint Program October 8-9 (2018)*
65. *Gravitational Wave -Workshop on Astronomy and Astrophysics (March 29-31, 2019) IUCAA Pune and Sikkim University Joint Program*
66. *Emergent Universe- Present Status – Cosmology- The Next Decade Workshop (Jan 22-25, 2019) at Inter National Centre for Theoretical Science (ICTS-TIFR) , Bangalore*
67. *Emergent Universe via Wormhole – 30th Texas Symposium at University of Portsmouth, UK (Dec. 14-20, 2019).*
68. *Gravitational Wave- A new Window in Astronomy, Exploring Cosmos, HECRC, NBU (Feb. 28, 2020)*
69. *GW : A new Window in Modern Astronomy – Invited talk at Physics Department, NIT, Durgapur (Feb. 03, 2020).*

Virtual Meetings (During and POST Covid-19 Pandemic situation Webinar)

70. *Virtual Meeting on Compact Stars and QCD 2020- ICTS, Bangalore (August 17-21, 2020)*
71. *Physics of the Early Universe-An online Precursor – (August 31- September 03, 2020) -ICTS Bangalore.*
72. *Invited talk –Gravitational Wave –A multi-messenger in Astronomy- International PRMS Mahavidyalaya Jamboni, Bankura (September 29, 2020)*
73. *International Webinar on Recent Advances in Science and Technology (RAST-2020)- (Nov. 06-08, 2020) Indira Gandhi Institute of Technology, Sarang, Odisha*
74. *Naya Kshitij : NEP 2020 for Higher Education (Nov. 7, 2020), Teaching learning Centre (TLC), BITS, Pilani Campus*
75. *Hermes Science Team Astrophysics with Cubesats- (Nov. 18-19, 2020)*
76. *Virtual Conference of CERN Switzerland-Island Hopping 2020 from Wormholes to Averages (Nov. 16-20, 2020)*
77. *International webinar on Recent Development in Modern Gravity and Cosmology (RDCM-2021, Mar 09-11, 2021)- Invited talk on “Emergent Universe via Dynamical Wormhole.”*
78. *GRAVITEX 2021 : International Conference on Gravitex: Theory and Experiments – Invited talk on “EU via wormhole:” August 9-12, 2021 held at Astrophysics Research Group (ARC), University of Kwazulu-Natal, Durban, South Africa.*

14. List of Publications of Dr. Bikash Chandra Paul (1986-2022):

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
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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	024032	2000
20.	B. C. Paul	<i>Viscous Cosmologies with extra dimensions</i>	Phys. Rev. D	64	027302	2001
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	127502	2001
23.	B. C. Paul	<i>Inflationary Cosmologies in an anisotropic Brane world</i>	Phys. Rev. D	64	124001	2001
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	064020	2002
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29.	B. C. Paul	<i>Inflation in Bianchi Models and the Cosmic no hair theorem in Brane world</i>	Phys. Rev. D	66	124019	2002
30.	B. C. Paul	<i>Chaotic Inflationary Universe on Brane</i>	Phys. Rev. D	68	127501	2003
31.	B. C. Paul, M. Sami	<i>Note on Inflation with a Tachyonic rolling on the Gauss-Bonnet Brane</i>	Phys. Rev. D	70	027301	2004
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
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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 R^2-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
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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

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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)	Chapte r-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. Chattopahyay	<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. Chattopahyay, 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	691-718	2013

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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,</i>	<i>Is 4U 0114+65 an Eclipsing HMXB ?</i>	<i>Mon. Not. Roy. Astron. Soc.</i>	454	4467 - 4475	2015

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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.	<i>P. K. Chattopadhyay and B. C. Paul</i>	<i>Density dependent B parameter of relativistic stars with anisotropy in Pseudo-spheroidal spacetime</i>	Astrophys. Space Sci.	361	145	2016
87.	<i>S. Das, R. Sharma, B. C. Paul, R. Deb</i>	<i>Dissipative Gravitational Collapse of an (an)isotropic Star</i>	Astrophys. & Space Sci.	361	1	2016
88.	<i>P. S. Debnath and B. C. Paul</i>	<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.	<i>P. S. Debnath and B. C. Paul</i>	<i>Emergent Universe with Dissipative effects</i>	Mod. Phys. Letts. A	32	17502 16	2017
92.	<i>Rakesh Kar, B. C. Paul, Anirban Misra</i>	<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	06500 1	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.	<i>Binay Rai, P. Pradhan, B. C. Paul</i>	<i>A report on Type II X-ray bursts from SMC X-1</i>	Research in Astronomy and Astrophysics	18	148	2018
96.	<i>P. S. Debnath, A. Beesham and B. C. Paul</i>	<i>Non-Linear viscosity in Brane-world cosmology with a Gauss-Bonnet term</i>	Class. & Quantum Gravity	35	11501 0	2018
97.	<i>A. Chanda, S. Dey and B. C. Paul</i>	<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.	<i>Rikpratik Sengupta, Prasenjit Paul, Bikash Chandra Paul and</i>	<i>Inflation in anisotropic brane universe using tachyon field</i>	Int. Journal of Modern Physics D	28	19410 10	2019

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100.	Binay Rai and Bikash Chandra Paul	NUSTAR and Swift observations of AMXP Swift J1756.9–2508 during its 2018 Outburst	Monthly Notice of the Royal Astronomical Society	489	5858-5865	2019
101.	S Dey and B C Paul	Higher Dimensional Charged Compact Objects in Finch-Skea Geometry	Classical and Quantum Gravity	37	075017	2020
102.	B. C. Paul, S. D. Maharaj, A. Beesham	Reconstruction of Modified Gauss-Bonnet Gravity for Emergent Universe	Classical and Quantum Gravity	31	2250045	2022
103.	Binay Rai and B. C. Paul	Spectral analysis of BeXB 2S 1417-624 using Nustar and swift observations	JOAA	Under Revision		2022
104.	P. S. Debnath, B. C. Paul	Observational constraints of emergent universe in $f(R, T)$ gravity with bulk viscosity	Int. Journal of Geo. Methods in Modern Physics	17	2050102	2020
105.	P. Pradhan (MIT, USA), B. Paul (RRI), E. Bozzo (Univ. of Geneva), C. Maitra (Germany) and B. C. Paul	Comprehensive broadband study of accreting neutron stars with Suzaku: Is there a bimodality in the X-ray spectrum?	Mon. Notice Royal Astronomical Society (MNRAS) <i>arXiv preprint arXiv:2101.01727, 2021</i>	502	1163-1190	2021
106.	P S Debnath and B. C. Paul	Bouncing scenario with causal cosmology	Astrophys. Space Sci.	366	32	2021
107.	A. Saha, S. Ghose, A. Chanda B. C. Paul	Renyi holographic dark energy in higher dimension Cosmology	Annals of Physics	426	168403	2021
108.	R. Sengupta, B. C. Paul P. Paul	Skyrme Fluid in Anisotropic Universes	Praman J of Phys.	96	114	2022
109.	Sagar Dey, A. Chanda B. C. Paul	Compact Objects in $f(R, T)$ gravity with Finch-Skea Geometry	Euro. Phys. J Plus	136	228	2021
110.	A. Chanda, S. Dey B. C. Paul	Morris-Thorne Wormholes in Modified $f(R, T)$ Gravity	Gen. Rel. Gravity	53	78	2021
111	B. C. Paul	Existence of Traversable wormholes with Modified Gravity and nonlinear Equation of state	Class. Quantum Grav	38	145022	2021
112	S. Das, B. C. Paul, R. Sharma	Gravitational Collapse of Anisotropic star	Indian Journal of Physics	95	2873-2883	2021

113	S. Ghosh, S. Dey, A. Das, A. Chanda, B C Paul	Study of Gravastars in Rastall gravity	JCAP	07	004	2021
114	B. Rai, B. C. Paul	Timing and spectral properties of Be/Xray pulsar 4U 1901+03 during 2019 outburst	Astrophysics and Space Science	366	84	2021
115	P S Debnath, B C Paul	Cosmological models in R^2 gravity with hybrid expansion law	Int. J. of Geo. Meth. In Mod. Phys.	18	21501 43	2021
116	D. Panigrahi, B.C.Paul, S. Chatterjee	Accelerating universe in higher dimensional space time: An alternative approach	Euro. Physics J plus	136	771	2021
117	B C Paul	Emergent Universe in $D \geq 4$ dimensions with Dynamical Wormholes	Euro Phys. J C	81	776	2021
118	B C Paul	Traversable wormholes in the galactic halo with MOND and non-linear equation of state	Class. Quantum Grav.	38	14502 2	2021
119	A. Saha, S. Ghose, A. Chanda, B. C. Paul	Renyi holographic dark energy in higher dimension Cosmology	Annals of Physics	426	16840 3	2021
120	B. C. Paul, S. D. Maharaj, A. Beesham	Reconstruction of modified Gauss–Bonnet gravity for emergent universe	Int. Journal of Modern Physics D	31	22500 45	2022
121	A. Saha, A. Chanda, S. Dey, S. Ghosh, B. C. Paul	Renyi Holographic Dark Energy Models In Multidimensional Universe	IJGMMP	19	225004 3	2022
122	R. Deb, P. Mandal, B. C. Paul	Wormholes in $f(R, T)$ – gravity with density dependent β parameter in SQM	Euro Physics J Plus	137	481	2022
123	B. C. Paul, B. C. Roy, A. Saha	Bianchi-I anisotropic universe with Barrow holographic dark energy	The European Physical Journal C	82	1-7	2022
124	B. C. Paul, A Chanda, S Maharaj, A Beesham	Late time cosmology in $f(R, G)$ -gravity with interacting fluids	Class. Quant. Grav.	39	06500 6	2022
125	A. Chanda and B. C. Paul	Cosmology in $f(R, T)$ gravity with a varying deceleration parameter	IJGMMP D-20-00551			
126	R. Sengupta, B. C. Paul and P. Paul	Skyrme Fluid in Anisotropic	Pramana, J. of Physics	96	114	2022
127	B. C. Paul. Shyam Das, Ranjan Sharma	Anisotropic Compact Objects with colour-flavour-locked equation of state in Finch-Skea geometry	Euro Phys. J. Plus	137	525	2022
128	Anirban Chanda, B C Paul	Evolution of Primordial Black Holes in $f(Q)$ gravity with non-linear equation of state	Euro. Phys. J. C	82	616	2022
129	Bibhash Das, S. Dey,	Anisotropic Compact Objects with Finch-Skea geometry in	The European Physical Journal C	82	519	2022

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130	Ruchi Tamang, M. Ghising, M. Tobrej, Binay Rai, B. C. Paul	Spectral and Timing analysis of Be/X-ray Binary EXO 2030+375 during its giant 2021 outburst	Mon. Not. Roy. Astron. Soc.	515	5407-5415	2022
131	M. Ghising, Ruchi Tamang, M. Tobrej, Binay Rai, B. C. Paul	Spectral & Timing Analysis of BeXRB eRASSU J050810.4-660653 recently discovered in the Large Magellanic Cloud (LMC)	Mon. Not. Roy. Astron. Soc. https://doi.org/10.1093/mnras/stac1820	accepted		2022

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