BIO DATA

NAME : SUBENOY CHAKRABORTY

Father's Name : Late Prakash Chandra Chakraborty

ADDRESS FOR COMMUNICATION : **5, Shyamapally (Flat no.1A), 29/A/1N Raja S.C.Mullick Road, Sulekha, Jadavpur, Kolkata- 700032**

DATE OF BIRTH : **July 23, 1959**

NATIONALITY : **Indian**

Residential Address : **5, Shyamapally (Flat no.1A), 29/A/1N Raja S.C.Mullick Road, Sulekha, Jadavpur, Kolkata- 700032**

Email Ids: schakraborty.math@gmail.com
subenoy.chakraborty@jadavpuruniversity.in

Inspire Hep: https://inspirehep.net/literature?sort=mostrecent&size=25&page=1&q=subenoy

ORCID ID: https://orcid.org/0000-0002-3881-8022

Educational Qualifications :

Examination Passed	University	Year	Class	Position
B.Sc. (Honors) Mathematics	Calcutta University	1978	First	First

M.Sc. (Applied Mathematics)	Calcutta University	1980	First	First
Ph.D. (Doctor of Philosophy)	Calcutta University	1988	Thesis: **"On some Problems of Atomic Scattering of Charged Particles"** under the supervision of **Prof. J. N. Das, Department of Applied Mathematics**	
D.Sc. (Doctor of Science)	Jadavpur University	1996	Thesis: **"The Wave Function of the Universe and its consequences in Quantum Cosmology".**	

Professional Experience:

Designation	Institution / University	Period
Lecturer in Mathematics	Jhargram Raj College Midnapore, West Bengal	11.09.1982 – 30.03.1984
Lecturer and then Sr. Lecturer in Mathematics	Jadavpur University	31.03.1984 – 10.09.1995
Reader in Mathematics	Jadavpur University	11.09.1995 – 27.08.1999
Professor in Mathematics	Jadavpur University	28-08-1999 -31.07.2024
Honorary Professor	Brainware University	August, 2024 onwards
Senior Adjunct Professor	Adamas University	August, 2024 onwards
Research fellow	Shinawatra University, Thailand	08.01.2024 to 08.01.2027
Research fellow	Inti International University, Malaysia	04.10.2024 to 31.12.2025

Honors & Awards:

- National Merit Certificate, National Prize & National Scholarship from Govt. of India for the result of Higher Secondary Examination, 1975.

- Calcutta University Gold Medal, National Scholarship, Jubilee Post Graduate (Merit) Prize, Herschell Award and Six other Prizes for the result of B.Sc. Examination, 1978.

- Calcutta University Gold Medal and other Prizes for M.Sc. Examination, 1980.

- Awarded Indo-US visiting fellowship for the session 1993-94. Visited the Centre for Gravitational Physics and Geometry, The Pennsylvania State University, USA under the Fulbright fellowship.

- Selected Associate of Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune for the period 1995-98 and then selected as a Senior Associate of IUCCA for the period 1998 – 2014.

- Elected fellow of West Bengal Academy of Science and Technology, 2006.

- Selected as a visiting fellow at the Department of Mathematics, Kalyani University, in the UGC-SAP programme during 2012-2013.

- Selected as a Visiting fellow at the Department of Mathematics, North Eastern Hill University (NEHU) under the UGC-DRS programme, during December 11- December 18, 2014.

- “Honorable mention” in 2018 Essay Competition of Gravity Research Foundation.

- Stanford University World Rankings of Top 2% Scientists in 2020 , 2021, 2022, 2023 and 2024 .

- Elected Honorary Research Fellow of Shinawatra University, Thailand for a period of three years: 08.01.2024 to 08.01.2027.

- Elected Honorary Research Fellow of Inti International University, Malaysia for the time period 04.10.2024 to 31.12.2025.

Project Details :

5. A project entitled "**Symmetries in Differential Equation and Its Application to Classical and Quantum Cosmology**" has been awarded by the related Mathematical Research Impact Centric Support (MATRICS) to the Science and Engineering Research Board (SERB), DST, Govt. of India. (no. MTR/2017/000407) from June 2018 to December 2021. Amount: 6,60,000/-

4. A project entitled "**Cosmological Studies in Brane World Scenario"** has been awarded by CSIR, Govt. of India for three years starting from February 2009. Project no. 03(11131)/08/EMR-II. Amount: 9,51,000/-

3. A project entitled **"Gravitational Collapse in General Theory of Relativity"** has been awarded by CSIR, Govt. of India for three years starting from April 2005.

2. A project entitled **"Electro Dynamics of Rotation and other Accelerations"** has been awarded by the University Grants Commission, Govt. of India for three years starting from April 2001.

1. A project entitled **"The application of Ashtekar variables in Quantum Cosmology and the role of loop formalism"** has been awarded by the Department of Atomic Energy, Govt. of India of Rs. 2,74,050/- for three years 1995-1998.

Field of Specialization :

Mathematical Physics, Differential Geometry, General Relativity, Cosmology, Study of Topological Defects and Quantum Gravity.

Recent Field of Interest :

Lie and Noether symmetry analysis and their applications to Cosmology**,** Thermodynamics of the Universe, Hawking Radiation, Dark energy, Modified Gravity theories, Raychaudhuri equation & singularity theorem, wormhole and their shadows, and the Dynamical system in Cosmology.

Seminar, Conferences Organized:

19. Organized a one day seminar on "**Mathematics: The key role in Interdisciplinary research**" at the Department of Mathematics, Jadavpur University on December 22, 2023.

18. Organized a one day seminar on "**Mathematical Physics**" at the Department of Mathematics, Jadavpur University on December 22, 2022.

17. Organized a one day seminar on "**The theory of Relativity: Geometry & Physics**" at the Department of Mathematics, Jadavpur University on December 22, 2021.

16. Organized a one day seminar on "**Mathematics: The Building Stones for Physical Problems**" at the Department of Mathematics, Jadavpur University on February 28, 2020.

15**.** Organized a one day seminar on "**Physical Problems and the Role of Mathematics**" at the Department of Mathematics, Jadavpur University on January 18, 2019.

14. Organized a one day seminar on "**Geometry, the key role in Mathematical Physics**" at the Department of Mathematics, Jadavpur University on January 19, 2018.

13. Organized a one day seminar on "**Mathematics and Mathematical Physics**" at the Department of Mathematics, Jadavpur University on January 11, 2017.

12. Organized a one day seminar on "**100 years of Einstein's General theory of Relativity: The Role of mathematics**" at the Department of Mathematics, Jadavpur University on January 21, 2016.

11. Organized a one day seminar on **"The Fundamental Role of Mathematics in Physical Science"** at the Department of Mathematics, Jadavpur University on January 16, 2015.

10. Organized a one day seminar on "**Mathematics: The Role in Physical Problems**" at the Department of Mathematics, Jadavpur University on January 17, 2014.

9. Organized as an Organizing secretary a National conference on "Non-Linear Dynamics, Analysis and Optimization" at the Department of Mathematics, Jadavpur University, from January 9 to 10, 2014

8. Organized a one day seminar on "**The Role of Mathematics in Theoretical Physics**" at the Department of Mathematics, Jadavpur University on 11.01.2013.

7. Organizing secretary of the "**International Conference on Dynamical Systems and its Applications**" organized by the Department of Mathematics, Jadavpur University, during January 11-January 14, 2012.

6. Organized a one day seminar on "**Theoretical Physics and the Role of Mathematics**" at the Department of Mathematics, Jadavpur University on 06.01.2012.

5. Organized a one day seminar on "**Mathematics and Mathematical Physics**" at the Department of Mathematics, Jadavpur University on 07.01.2011.

4. Organized a one day seminar on "**Mathematics and its application to Theoretical Physics**" at the Department of Mathematics, Jadavpur University on 29.01.2010.

3. Organized a one day seminar on "**Recent trend in Physics and the Role of Mathematics**" at the Department of Mathematics, Jadavpur University on 16.01.2009.

2. Organized a one day seminar on "**Mathematics and Contemporary Physics**" at the Department of Mathematics, Jadavpur University on 25.01.2008.

1. Organized a one day seminar on "**Mathematics in Frontier Physics**" at the Department of Mathematics, Jadavpur University on 02.02.2007.

Invited talks (Given in last Ten years 2012-2023):

2012

1. Delivered a plenary lecture on "**Dynamical system in Cosmology**" in the International conference "Dynamical system: Theory and Applications" organized by the Department of Mathematics, Jadavpur University, during January 11-14, 2012.

2. Delivered two invited talks in the UGC sponsored National seminar organized by the Department of Mathematics, A. M. College, Jhalda, Purulia in March 2012.

3. Delivered an invited talk of 4½ hrs on 20.01.2012 and 24.01.2012 in the refresher's course organized by the Department of Mathematics, North Bengal University as a resource person.

4. Delivered an invited talk at the Department of Mathematics, Kalyani University on March 2012.

5. Delivered an invited talk in the Department of Mathematics, Institute of Technology, BHU on "**Cosmological Evolution – A mathematical model**" on 2012.

6. Delivered lectures on "**Quantum mechanics and complex vector space**" of 4½ hrs duration in the summer school organized by the Faculty of Science, Jadavpur University in July 2012.

7. Delivered lectures of 3 hrs duration "**On Complex analysis**" in the refresher's course organized by the Department of Mathematics, Jadavpur University in July-August 2012.

8. A series of invited lectures on the **Geometric aspects of Special theory of Relativity** were given in a Special Summer School, entitled "Principles and Applications of the Basic Sciences", organized by the UGC—Academic Staff College (ASC) and the Department of Physics, Jadavpur University during 09.07.2012 —28.07.2012.

9. An invited talk on "**Life and works of Srinivas Ramanujan**" in the NSS programme of Jadavpur University on 22.12.2012.

10. Delivered an invited talk on "**The role of Geometry in Relativity theory**" in the National seminar on "Mathematics and Mathematical sciences" on the occasion of the National Mathematical Year, 2012 during December 27-28 jointly organized by the Department of Pure and Applied Mathematics, Calcutta University.

2013

1. Delivered lectures on "**The role of Geometry in Relativity theory**" of 6 hrs duration as a resource person in the refresher's course organized jointly by the Department of Mathematics and the Department of Physics, north Bengal University in January 2013.

2. An invited talk on "**Generalized Bekenstein-Hawking system: Logarithmic correction**" in the IUCAA resource centre, Department of Physics, North Bengal University on 22.01.2013.

3. An invited talk on "**The Geometry of Black hole**" given on 24.01.2013 in National Institute of Technology, Sikkim.

4. Delivered a talk on "**Generalized Bekenstein-Hawking system: Logarithmic correction**" at the 27th meeting of the Indian Association for the General Relativity and Gravitation.

5. An invited talk entitled "**The Astonishing Indian Mathematician: Life and works**" is delivered in the UGC sponsored state level seminar on "**Ramanujan's works and its applications**", organized by the Department of Mathematics, Vivekananda college, Thakurpukur, Kolkata on 24.09.2013.

6. A talk entitled "**Emergent Universe and Particle creation**" is delivered in the Relativity and Cosmology Research Centre, Department of Physics, Jadavpur University on 24.09.2013.

7. An invited talk on "**The Mathematical theory of Relativity theory**" is delivered in an one day seminar "Application of Mathematics in Physical Problems", organized by the Department of Mathematics, Scottish Church college on 03.10.2013.

8. An invited talk in an international conference on the "**Relativity and Cosmology- A path to Geometry**" was delivered at the Department of Mathematics, Gorakhpur University on 09.11.2013.

9. Delivered 3 lectures on "**Complex Analysis and Operators on Hilbert spaces"** in the refreshers course on "**Mathematical methods, techniques and applications**" jointly organized by the Department of Mathematics and Academic Staff college, UGC, Jadavpur University, from 18th November-7th December.

10. Delivered an invited lecture of 3hrs duration on "**Relativity Theory: A Model of Geometry**" in the Refresher course on Mathematical Modelling and its Application in Science on 23.12.2013, organized by Academic Staff College, Burdwan University.

11. An invited talk on the "**Black Hole: The Mysterious Object**" was given in the "**National Workshop on Various Aspects of engineering Mathematics and Quantum Physics**" on 24.12.2013 at College of Engineering and Management, Kolaghat.

2014

1. An invited talk in the National conference on "Non-**Linear Dynamics, Analysis and Optimization**" at the Department of Mathematics, Jadavpur University" on 9th January on "**Motion on a Submanifold: A Dynamical system analysis".**

2. Two invited talks on "**Relativity theory: The Mathematical formulation**" and "**Black Hole: The Mysterious object**" were delivered at the National Institute of Technology, Durgapur, on 13.01.2014.

3. An invited talk on "**Symmetries in Differential Equations**" was given in a National conference at the Department of Mathematics, Vidyasagar University during 25-26 February, 2014.

4. An invited talk on "**Differential equations and related symmetry**" was given in a National conference organized by the Department of Mathematics, Kalyani University during 4-5 March, 2014.

5. An invited talk was given in the National conference on '**Recent Perspectives on Non-linear Mathematics and its Applications**' on "**Geometrical Features of Lie Point Symmetries of Ordinary**

Differential Equations and Some Applications" organized by the Department of Mathematics, Visva Bharati University during 25-26 March, 2014.

6. Two invited talks were given on "**Symmetries in partial differential equations**" in the National conference on "Nonlinear Dynamics" on 26th and 27th May, 2014 at Government college of Engineering and Textile Technology, Berhampore, Mursidabad.

7. An invited talk on "**A third alternative to explain recent observations: Future deceleration** *"* was given at the Relativity and Cosmology research centre, Department of Physics, Jadavpur University on 16.09.2014.

8. Delivered two invited lectures on "**The inside geometry on Special theory of Relativity**" and "**Calculus of variations: A path to Classical Mechanics**" were given for the Refreshers' course organized by the Department of Mathematics, Burdwan University on 17.09.2014.

9. An invited talk on "**The Geometric Universe**" was given in the "**International Conference of Geometry and its Applications**" at the Department of Mathematics, Jadavpur University, jointly organized by the Department of mathematics, Jadavpur University and the Tensor Society, India during 16-18th October.

10. A **Key note address** was delivered "**Dynamical System: A differential geometric approach**" on 17th November in the "**International Conference on Dynamical System and Mathematical Biology"** jointly organized by the Department of Mathematics, Jadavpur University and the Biomathematical Society of India during 17th November-19th November, 2014.

11. As an Invited lecturer, invited from North Eastern Hill University (NEHU) under the **UGC-DRS** programme, visited and delivered a set

of lectures at the Department of Mathematics, NEHU during December 11-December 18, 2014.

12. As an Invited speaker, delivered an invited talk on "**Symmetries in Differential equations**" in the National Conference on "Contemporary in Mathematics" on 16th December, 2014.

2015

1. Delivered a talk on "The existence of Wormholes" at the Relativity and Cosmology Research Centre, Department of Physics, Jadavpur University, on 20.01.2015.

2. Delivered an invited talk in the "**DST, UGC, OIL sponsored National Workshop on the General Relativity and Astronomy-its foundations and current trends"** on "Universal thermodynamics" on 28.01.2015 at Tinsukia College.

3. Delivered an invited public lecture in the "**DST, UGC, OIL sponsored National Workshop on the General Relativity and Astronomy-its foundations and current trends"** on "Relativity theory: The inside Geometry" on 29.01.2015 at Tinsukia College.

4. Delivered a key note lecture in the "**UGC sponsored one day state level seminar on present day Mathematics and its applications"** on "The geometrical aspects of special theory of relativity" on 30.01.2015 at K. K. Das College, Garia.

5. Delivered an invited talk in Balurghat College on "Mathematical insight of relativity theory" in the Department of Mathematics, Balurghat College during February 14-15, 2015.

6. Delivered a plenary lecture on "100 years of General theory of Relativity: The story so far" in the International Conference in the

Department of Mathematics, Burdwan University during February 18-20, 2015.

7. A Lead lecture was delivered on 28th February, 2015 in "22nd West Bengal State Science and Technology Congress 2015" during 28th Dec-March 1, 2015 at the University of North Bengal.

8. A set of invited lectures on "Partial differential equations" were delivered in the refresher's course at the Department of Mathematics, University of North Bengal on March 3-4, 2015.

9. Delivered a lecture on "Universal thermodynamics: The story so far" at IUCAA during a visit under Associateship programme during May-June, 2015.

10. A set of lectures on "Application of partial differential equations" were Delivered in the refresher's course at the Department of Mathematics, Jadavpur University during June-July, 2015.

11. Delivered a lecture on "Geometrical aspects of Relativity theory" in the Department of Mathematics, Sambalpur University, Orissa on August 22, 2015.

11. An invited talk on "A complete cosmic evolution: Particle creation mechanism" was delivered on 10th September, 2015 in "A regional meeting on trends and challenges in astronomy and astrophysics" during September 10-12, 2015, organized by IUCAA resource centre, Kolkata, and, department of applied mathematics, Calcutta University.

12. Delivered a series of lectures on "Differential Geometry" in the IUCAA sponsored winter school on General Relativity and its Application, at the Department of Physics, North Bengal University, during November 23- 28, 2015.

13. Delivered a key note address on “Cosmology and future perspective” and an invited talk on the “Mathematical aspects of Einstein’s Relativity theory” in the UGC sponsored National seminar on “Recent Trends in Cosmology and Future Challenges” at the Department of Physics, Prabhat Kr. College, Contai, Purba Medinipur, during December 3-4, 2015.

14. Delivered an invited talk on “The Mathematical Aspects of Relativity Theory” in the special session on the occasion of 100 years of General Relativity in the International conference on “Non- linear dynamics, Analysis and optimization” organized by the Department of Mathematics, Jadavpur University during December 9-11, 2015.

15. Delivered an invited lecture on “The Mathematical Aspects of Einstein’s Relativity Theory” in the symposium on Relativity on the occasion of 100 years of Einstein’s General Relativity in the 81th Annual conference of the Indian Mathematical Society, held at Visvesvaraya National Institute of Technology, Nagpur, during December 27-30, 2015.

2016

1. Delivered an invited talk on “Einstein’s General Theory of Relativity: The Mathematical Theory” in the International conference on contemporary topics in Mathematics, in Department of Mathematics, Burdwan University, during February 9-11, 2016.

2. Delivered an invited lecture on “100 years of Einstein’s Relativity Theory” in the Department of Mathematics, Ramakrishna Mission Vivekananda Centenary College, Rahara on March 16, 2016.

3. Delivered an invited talk on “Einstein’s Theory of Relativity: The Mathematical Story” in the Department of Mathematics, Ramakrishna Mission Vidyamandira College on July 25, 2016.

4. Delivered a key note address on “The Mathematical Background of Relativity Theory” and an invited talk on the “Karl Schwarzschild and Black hole in Einstein gravity” in the UGC sponsored National seminar on “CCEGR -2016” at the Department of Mathematics, Krishnanagar Womens College, Krishnanagar, Nadia, during September 6-7, 2016.

5. Delivered an invited talk on “Does geometry dictate the Physical Law or Physics determine the Geometry?” in the Department of Mathematics, Bangabasi Evening College, Kolkata, on November 10, 2016.

2017

1. A set of invited lectures on “Partial differential equations and its Applications” were delivered in the refresher’s course at the Department of Mathematics, Jadavpur University, January 2-21, 2017.

2. Delivered an invited talk on “Does geometry dictate the Physical Law or Physics determine the Geometry?” in 9th National Conference on “Mathematical Techniques and Applications” NCMTA during 27-28 January, 2017 at Department of Mathematics, SRM University, Kattankulathur – 603203, Tamil Nadu, India

3. Delivered an invited talk on “Differential Geometry- The Key role to Physical Laws.” in “Conference on Differential Geometry and its Applications” during 27-28 January, 2017 at Department of Mathematics & Statistics, DDU Gorakhpur University, Gorakhpur, U.P. INDIA.

4. A set of invited lectures on “Differential Equation and Symmetries” were delivered in the refresher’s course at the Department of Pure Mathematics, University of Calcutta, March 8, 2017.

5. Delivered a series of lectures on “The Mathematical tools in Relativilty and Cosmology” at the Department of Mathematics, Presidency University, on 22nd March and 24th March, 2017.

6. Delivered a Third A. K. Gayen memorial lecture on “Black Hole The Mysterious Objects: The Story So Far” on 26th April 2017, at Vidyasagar University.

7. Delivered an invited talk on “A Study on Black Hole” at DST Centre for interdisciplinary Mathematical Sciences at BHU, on May 04, 2017.

8. Delivered a lecture on “Dynamical Black Hole and Related Properties” at Gravity seminar in IUCAA on 15th June, 2017.

9. Delivered invited talks on “From Blackhole Thermodynamics to Cosmological Constant” and “The Mathematical Story of Time Machine” in the DST SERB on “CCEGR -2017” at the Department of Mathematics, Burdwan University, Golapbag Campus on 31st July, 2017.

10. Delivered a lecture on “Special Theory of relativity and limitations of Newtonian theory A mathematical frame work” at Panihati Mahavidyalaya on 31st August, 2017.

11. Deliver an invited talk on “Einstein’s Theory of Relativity: The Mathematical Beauty” in the one day Lecture series on Application of Mathematics and statistics to physical and Biological system in the Agricultural and Ecological research unit, ISI, Kolkata on the occasion of 125th Birth Anniversary of Prof. P. C. Mahalanavish on 12 December, 2017.

12. Deliver an invited talk on “Mathematical Beauty and Physical Mystery of Lorentzian Manifold: Time Machine” in the 2nd Regional Science and Technology Congress (Southern Region) at the

University of Kalyani in Collaboration with the department of Higher Education, Science and technology and Biotechnology, Govt. of West Bengal on 14 December, 2017.

2018

1. Delivered invited talk on “The Mathematical Foundation of Gravitational Waves: The Story so far” in “ICMAAM - 2018” at the Department of Mathematics, Jadavpur University, January 9-12, 2018.

2. Delivered a course of lectures on “Einstein’s Relativity Theory” and A lecture on “Black Holes” and “Gravitational Waves” at NIT Rourkela during Feb 8-11, 2018.

3. Delivered invited talk on “A tribute to Prof. Satyendra Nath Bose in his 125th Birth Anniversary : Bose-Einstein Statistics” in “ICMA - 2018” at the Department of Mathematics, Burdwan University, Golapbag Campus on 16th February, 2018.

4. Delivered a lecture on “Black Hole: The mysterious object” at Vidyasagar College for women, on 23rd February, 2018.

5. Delivered two lectures on “Black Hole” and “The mathematical background of Relativity Theory” at Raiganj Surendranath Mahavidyalaya, Uttar Dinajpur on 6th April, 2018.

6. Delivered a lecture on “Black Hole-The story far behind us” at Balagar Vijay Krishna Mahavidyalaya, on 7th April, 2018.

7. Delivered a lecture on “Black Hole-The story far behind us” at Narasinha Dutt College, on 21st April, 2018.

8. Deliver two invited talks at “Calcutta Mathematical Society” in “Relativity Theory” on May 23rd -24th , 2018.

9. A invited lectures on “Partial differential equations and its Applications” was delivered in the refresher’s course at the Department of Mathematics, University of Burdwan, July 27, 2018.

10. Delivered an invited talk “Black Hole-The story far behind us” at NIT Rourkela, on 7th December, 2018.

11. Delivered a course of lecture on “Einstein General Theory of relativity”, “Dark Energy” at NIT Manipur, during 11-15th December, 2018.

2019

1. Delivered an invited talk on “The Mathematical Background of Gravitational waves” at the Indian National Science Congress, on 5th January, 2019.

2. Delivered an invited talk on “**Geometric aspects of General Relativity**” in a one day seminar organized by the Department of Mathematics, Ramkrishna Mission Vivekanda Centenary College, Rahara on 23.02.2019.

3. Delivered an invited talk on “**General Relativity and Differential Geometry”** in a National seminar organized by the Department of Mathematics, Egra College, Medinipore on February, 2019.

4. Delivered an invited talk on “**Mathematical story of General Relativity**” in a National seminar organized by the Department of Mathematics, Raiganj University, Uttar Dinajpur on 15.03.2019.

5. Delivered an invited talk on “**General relativity from Mathematical point of view**” in a one day seminar organized by the Department of Mathematics, Ramkrishna Mission Vivekanda Centenary College, Rahara on 16.03.2019.

6. Delivered a lecture on “Gravity Theory” at Vidyasagar College for women, on 26.03.2019.

7. Delivered an invited talk entitled “**Spacetime symmetry and killing vector field’’** in the international conference on differential geometry and relativity at DDU University, Gorakhpur during 8-10 th November, 2019.

8. Delivered a talk on “**Classical Mechanics and Geometric Aspects**” of 3 hrs duration as a resource person in the refresher’s course organized by the Department of Mathematics, Jadavpur University, during November 18-30, 2019.

2020

1. Delivered an invited talk on “Space-time Symmetry and Killing Vector Field” in “NSMS 2020” at the Department of Mathematics, Burdwan University, during January 9-11, 2020.

2. Delivered an invited talk on “Modified Gravity Theories and Einstein Gravity: An equivalent prescription” in One Day Seminar on GRAVITY, COSMOLOGY & ASTROPHYSICS: RECENT TRENDS IN RESEARCH organized by Department of Physics, Jadavpur University on Mar 06, 2020.

3. Delivered an invited talk on “Modified gravity theories and Einstein gravity: an equivalent prescription” in an online Neem Seminar organized by IUCAA on May 5, 2020.

4. Delivered an invited talk on “Relativity from the view point of an ignorant person” in a one day online special lecture at Dr. Meghnad Saha College on June 24, 2020.

5. Delivered an invited talk on “Einstein and our Universe: A Layman’s perspective” of 3 hrs in “Refresher’s Course in Emerging

trends in Science and Technology" organized by Burdwan University, on September 10, 2020.

6. Delivered an invited talk on "Relativity Theory: A Layman's perspective" in Faculty Development Programme, titled "Applied Mathematical Skills for Science & Engineering using contemporary tools" organized by Department of Applied Science, MAKAUT on September 14, 2020.

2021

1. Delivered an invited talk on "Mathematics and the effect of Einstein Relativity" in "AACMME-2021" organized by NIT Rourkela during 24 Feb, 2021.

2. Delivered an invited talk on "Differential Geometry and Einstein's Relativity Theory: One implies the other" of 3 hrs in "Refresher Course in Mathematical Science" organized by University of Calcutta, on March 17, 2021.

3. Delivered an invited talk on "Einstein's Theory of Relativity and Our Mysterious Universe" organized by Sitananda College, on April 30, 2021.

4. Delivered an invited talk on "Is Warm Inflation in Einstein Gravity Quasi-Stable: A thermodynamic description?" in an online Neem Seminar organized by IUCAA on May 18, 2021.

5. Delivered an invited talk on "Early History of the Universe: A Story" in an online seminar organized by Dr. Meghnad Saha College on June 24, 2021.

6. Delivered an invited talk on "Anomalies in Relativity Theory and our Universe" in "Refresher's Course in Recent Advances in Science

and Technology" organized by Burdwan University, on August 23, 2021.

7. Delivered an invited talk on "Relativity Theory: A path to Cosmology" in International Workshop on Emerging Trends in Gravitation and Cosmology organized by Presidency University, on December 16-19, 2021.

8. Delivered an invited talk on "Theory of Relativity from Mathematical Point of View" in a national webinar "NATIONAL MATHEMATICS DAY – 2021" organized by JIS College of Engineering, on December 22, 2021.

2022

1. Delivered an invited talk on "Relativity Theory to Cosmology" in "Refresher Course on Recent Advancement in Science and Technology" organized by University of North Bengal, on February 18, 2022.

2. Delivered an invited talk on "The Geometry of Relativity Theory and Some Anomalies" in an offline Seminar organized by Department of Mathematics, Gauhati University, Assam, on April 6, 2022.

3. Delivered a series of invited talks on "Geometry and Relativity Theory: An equivalent description" of 4 hrs in Department of Mathematics, North Bengal University, on April 26 & 27, 2022.

4. Delivered an invited talk on "Relativity Theory: A Layman's Perspective" in an one day online webinar "Blending Research ideas in Science & Humanities" organized by Department of Basic Science & Humanities, Budge Budge Institute of Technology, on May 27, 2022.

5. Delivered a speech on “Mathematics and Industry” in an International Webinar on “Mathematical Science, Data and Computation” organized by W.B State Council of Higher Education on July 7, 2022.

6. Delivered an invited talk on “The Role of geometry in Relativity and Cosmology” in online webinar “International Workshop on Mathematical Foundations and Applications of Gravity (MFAG-2022)” organized by Department of Basic Sciences & Social Sciences, North-Eastern Hill University, Shillong, on August 25, 2022.

7. Delivered an invited talk on “Relativity Theory and our Universe” in Refresher’s Course on “Recent advancement of material science and technology” organized by UGC-HRDC Centre, North Bengal University on November 9, 2022.

8. Delivered an invited talk on “Mathematical formulation of relativity theory” organized by Department of Mathematics, St. Xavier’s College (Autonomous), Kolkata on November 5,2022.

9. Delivered an invited talk on “Geometry, Relativity and Our Universe” in an “In-Service Teachers’ Training for Mathematics Teachers” organized by Ramakrishna Mission Sikshanamandira, Belur Math, Howrah on December 21, 2022.

10. Delivered an invited talk on “Does differential geometry lead to Einstein’s Theory of Relativity?” in 5th Regional Science and Technology Congress 2022-23(Region7) at University of Burdwan during January-6,7,2023.

2023

11. Delivered an invited talk on “Mathematical Formulation of Relativity Theory and Our Mysterious Universe” in a national seminar entitled “Role of Mathematics in Various Branches of

Science" organized by Department of Mathematics, Dr. Meghnad Saha College on June 19, 2023.

12. Delivered an invited talk in the one day special lecture on Pure and Applied Mathematics jointly organized by the department of Mathematics, Diamond Harbour Women University and Indian Mathematical Society (IMS) on 01.12.2023 at DHWU.

13. Delivered two lectures on "Differential geometry and its role in classical mechanics and Relativity Theory: A way of solving differential equations I and II" in the "Development of Mathematics and Its Applicability: An interdisciplinary refresher course" during 28.11.2023-11.12.2023 at the department of Mathematics, Jadavpur University.

2024

14. Delivered Sir C.V. Raman memorial lecture "Einstein and our Universe: A Layman's perspective" in the 6th Regional Science and Technology Congress 2023-24 (Region 2) on 18.01.2024 at the Government College of Engineering and Textile Technology, Berhampore.

15. Delivered two lectures "Einstein and our Universe: A Layman's perspective" and "Anomalies in Relativity Theory and our Universe" at the Refresher's course on Mathematics and Computer Science on 10.01.2024 and 20.01.2024

16. Delivered S. C. Bagchi Memorial lecture "Lorentzian geometry: Space-time Manifold" at Belur Vidyamandir, Department of Mathematics 17.02.2024

17. Delivered Prof. B. K. Datta Memorial lecture "Lorentzian manifold and space-time Singularity" in the International Seminar

on Physical and Mathematical Sciences (ISPMS-2024) organized by Calcutta Mathematical Society on 02.03.2024

18. Delivered special lecture on “The Geometric Structure of Space-Time and the Mathematical Theory of Relativity” organized by Department of Mathematics, Sidho-Kanho-Birsha University on 15.05.2024

19. Delivered special lecture entitled “Our galaxy: The Milkyway galaxy” to the Recruit Constables arranged by STC, BT Lines, 29/1 Barrackpore Trunk Rd, Chiriamore, Sawdagarh Pally, Cossipore, Kolkata, West Bengal,700002 on 06.07.2024

20. Delivered a talk entitled “Lorentzian Geometry: Similarities and Peculiarities” at the DST center for interdisciplinary Mathematical Sciences at Banaras Hindu University on 18.09.2024

21. Delivered two lectures on ' An explicit derivation of basic theory of Einstein's General Theory of Relativity ' and one lecture on 'Raychaudhuri equation and consequences ' in the Workshop on 'Relativity and Cosmology ' in the department of mathematics, Gorakhpur University on 23rd and 24th October, 2024.

22. Delivered a special lecture on “We the human being and our Universe” in the department of Mathematics, Sidho-Kanho Birsa University on 13.11.2024

23. Delivered an online talk on “Einstein’s General Theory of Relativity and Cosmology in the context of Raychaudhuri equation” at Bilkent Applied Mathematics Online seminar organized by the Department of Mathematics, Bilkent University on 18.11.2024

24. Delivered a talk entitled “The Genius Indian Mathematician Srinivasa Ramanujan: Life and works” organized by Department of Mathematics, Adamas University, Kolkata, WB on 22.12.2024

25. Delivered a talk entitled “Ramanujan and his work: Some simple geometric aspects of “Exploring the beauty of Mathematics” organized by department of Mathematics, Vivekananda College, Thakurpukur, WB on 24.12.2024

Administrative Experiences :

a) Acted as Dean, Faculty of Science, Jadavpur University during 07.12.2020-06.12.2023.

b) Member of the Jadavpur University court since 2002 to 2006.

c) Head of the Department of Mathematics of Jadavpur University since February 2010 to January 2012.

d) External member of the board of studies in the Department of Mathematics in Visva-Bharati University.

e) External member of the Departmental Ph.D. Committee, Department of Mathematics, Burdwan University.

f) Member of the UGC assessment committee in Department of Mathematics, Indian Institute of Science and Chennai Mathematical Institute in 2011-2012.

g) Act as a member of the UGC expert committee for evaluation and allocation of seminar/ conference/ workshop proposals and also research proposals from the colleges of NE region of India during 2012-2013.

h) Act as a Coordinator of the UGC-DRS program, Department of Mathematics, Jadavpur University, since April 2012.

i) Acting as Coordinator in the Departmental FIST program of SERB, DST, Govt. of India.

List of Ph.D students supervised :

1. Name : Ashok Kumar Chakraborty

   Title of the thesis : **String theory and other cosmological aspects of the early universe**

   Ph. D awarded in : 1996

2. Name : Gopal Chandra Nandy

   Title of the thesis : **Study of cosmological phenomena in four and higher dimensional space- time**

   Ph. D awarded in : 1997

3. Name : Md. Firoz Shah

   Title of the thesis : **Studies of exact solutions in General Relativity and higher dimensional space-time.**

   Ph. D awarded in : 1998

4. Name : Nabajit Chakravarty

   Title of the thesis : **Some perspective of classical and quantum cosmology using Ashtekar variables.**

   Ph. D awarded in : 1999

5. Name : Lalit Biswas

Title of the thesis : **Some classical and semi classical aspects of Topological Defects in General Relativity**.

Ph. D awarded in : 1999

6. Name : Tapan Kumar Ghosh

Title of the thesis : **Classical cosmology with Brans Dicke in four and higher dimensions**.

Ph. D awarded in : 2000

7. Name : Farook Rahaman

Title of the thesis : **Some Classical and Quantum aspects of Different Topological Defects**.

Ph. D awarded in : 2001

8. Name : Anusua Baveja (nee Roy)

Title of the thesis : **String theory and other cosmological phenomena in four and higher dimensional space-time**.

Ph. D awarded in : 2001

9. Name : Narayan Chandra Chakraborty

Title of the thesis : **Solutions of Einstein Equation in different cosmological models and alternative theories.**

Ph. D awarded in : 2001

10. Name : Arabinda Ghosh

Title of the thesis : **Some exact solutions in General Relativity theory and with higher dimensional space –time.**

Ph. D awarded in : 2002

11. Name : Sulagna Chakraborty

Title of the thesis : **Classical and Quantum aspects of cosmological phenomena in four and higher dimension.**

Ph. D awarded in : 2004

12. Name : Archan Kumar De

Title of the thesis : **Brane-world scenario and some of its cosmological implications.**

Ph. D awarded in : 2004

13. Name : Ujjal Debnath

Title of the thesis : **Classical solutions in Einstein's Gravity and Study of some collapsing models**.

Ph. D awarded in : 2004

14. Name : Batul Chandra Santra

Title of the thesis : **Study of cosmological evolution in four and higher dimensional gravity**.

Ph. D awarded in : 2005

15. Name : Smt. Sanjukta Chakraborty

Title of the thesis : **Gravitational collapse in four and higher dimensional space- time**.

Ph. D awarded in : 2007

16. Name : Smt. Soma Nath (nee Dalal)

Title of the thesis : **Gravitational Collapse and Astrophysical Consequences in Einstein's Gravity and Brane world scenario**.

Ph. D awarded in : 2007

17. Name : Smt. Tanwi Bandyopadhyay.

Title of the thesis : **Collapse dynamics in Einstein's Gravity and cosmology in Brane scenario**.

Ph. D awarded in : 2009

18. Name : Jibitesh Dutta

Title of the thesis : **Acceleration and Gravitational thermodynamics in Brane- Gravity based phantom cosmology.**

Ph. D awarded in : 2011

19. Name : Narayan Kumar Bhadra

Title of The Thesis : **Cosmology of early universe and Einstein Gravity.**

Ph. D awarded in : 2011

20. Name : Sudeshna Mukerji

Title of The Thesis : **Cosmological solutions in Einstein gravity and modified gravity theory with normal and exotic matter.**

Ph. D awarded in : 2012

21. Name : Ritabrata Biswas

Title of The Thesis : **A Brief Study of The Geometry of Black Hole Thermodynamics and Accretion onto Galaxies and Black Holes.**

Ph. D awarded in : 2012

22. Name : Nairwita Mazumdar

Title of The Thesis : **Universe as a thermodynamical system and different Gravity theories.**

Ph. D awarded in : 2012

23. Name : Subhajit Saha

Title of The Thesis : **Universal Thermodynamics With modified Hawking temperature.**

Ph. D awarded in : 2015

24. Name : Supriya Pan

Title of The Thesis : **An Investigation on the present**

Accelerating Universe

Ph. D awarded in : 2015

25. Name : Atreyee Biswas

Title of The Thesis : **Universal Thermodynamics, Hawking radiation and different gravity theories.**

Ph. D awarded in : 2016

26. Name : Nilanjana Mahata

Title of The Thesis : **On Some Astrophysical problems and role of Dynamical system.**

Ph. D awarded in : 2016

27. Name : Saugata Mitra

Title of The Thesis : **Universal Thermodynamics in Different Gravity Scenario's.**

Ph. D awarded in : 2016

28. Name : Sourav Dutta

Title of The Thesis : **Cosmological Evolution and Symmetries In The Governing Equation**

Ph. D awarded in : 2017

29. Name : Sujay Kr. Biswas

Title of The Thesis : **Dynamical system in Cosmology**

Ph. D awarded in : 2017

30. Name : Sourav Haldar

Title of The Thesis : **Modified Gravity Theories and their role in Cosmology and Universal Thermodynamics**

Ph. D awarded in : 2019

31. Name : Dipanjana Das

Title of The Thesis : **Inflation and late time acceleration in Cosmology and recent observations.**

Ph. D awarded in : 2020

32. Name : Shibaji Halder

Title of The Thesis : **Wormhole solutions in different gravity theories and continuous cosmic evolution**

Ph. D awarded in : 2020

33. Name : Pritikana Bhandari

Title of The Thesis : **Investigation of thermodynamic stability criteria for different cosmic fluid models of the Universe**

Ph. D awarded in : 2020

34. Name : Sudip Mishra

Title of The Thesis : **Dynamics around Nonhyperbolic Equilibrium and Bifurcation analysis of various cosmological models**

Ph. D awarded in : 2021

35. Name : Sudipto Bhattacharjee

Title of The Thesis : **Universal Thermodynamics and Thermodynamical aspects of Collapsing Object**

Ph. D awarded in : 2022

36. Name : Santu Mondal

Title of The Thesis : **Lie and Noether Symmetry Analysis to Einstein's field Equations; Cosmological Implication**

Ph. D awarded in : 2022

37. Name : Subhajyoti Pal

Title of The Thesis : **A Study of Relativistic Cosmology in the perspective of Dynamical system analysis**

Ph. D awarded in : 2022

38. Name : Subhayan Maity

Title of The Thesis : **Non-Equilibrium Thermodynamics in cosmological context**

Ph. D awarded in : 2023

39. Name : Roshni Bhaumik

Title of The Thesis : **Symmetry Analysis in Differential Equations and Application to Cosmology**

Ph. D awarded in : 2023

40. Name : Akash Bose
Title of the thesis : **Unification of Different Cosmological Ages in Modified Gravity Theories and Study of Warm Inflation**
Ph. D awarded in : 2023

41. Name : Madhukrishna Chakraborty
Title of the thesis: : **Classical and quantum analysis of gravitational singularity: A study of Raychaudhuri Equation**
Ph. D awarded in : 2024

42. Name : Soumya Chakraborty
Title of the thesis : **Study of Some homogeneous and isotropic cosmological models in the perspective of dynamical system analysis**
Ph. D awarded in : 2024

43. Name : Dipankar Laya
Title of the thesis : **Study of Cosmological Solutions in Different Modified Gravity Theories and Their Properties Using Noether Symmetry Analysis**
Ph. D awarded in : 2024

44. Name : Ayanendu Dutta
Title of the thesis : **Behavior of Particles in closed time-like orbits and massive gravity wormholes**
Ph.D awarded in : 2024

45. Name : Dhritimalya Roy
Title of the thesis : **Characterization Wormholes and Cosmological Consequences: The Emergent Scenario**
Ph.D awarded in : 2024

Present Ph.D students:

1. Shriton Hembrom is working with me "**Symmetry Analysis in Cosmological model**" as a research scholar from January 31, 2023.

Books:

1. Treatise on Differential Geometry and its role in Relativity Theory, arXiv: https://arxiv.org/abs/1908.10681
2. Dynamics: A different outlook, arXiv: https://doi.org/10.48550/arXiv.2309.02857

Publications:

No. of Papers Published: 351(National: 18 and International: 333) up to November, 2024.

1982

1. J. N. Das and **S. Chakraborty**, "An Improved calculation for the inner-shell ionization problems", **Phys. Letts. A 92** (1982) 127-130.

1983

2. J. N. Das and **S. Chakraborty**, "K-shell doubly differential cross-sections for ionization of atoms", **Ind. J. Phys. B 57** (1983) 63-66.

1985

3. J. N. Das and **S. Chakraborty**, "An atomic inner-shell ionization", **Phys. Rev. A 32** (1985) 176-180.

4. **S. Chakraborty**, "On the k-shell ionization of atoms by electrons", **J. Phys. B 18** (1985) L 787-L 790.

5. **S. Chakraborty**, “L-shell ionization of atoms by relativistic electrons”, **Pramana 25** (1985) 75-80.

1989

6. J. N. Das and **S. Chakraborty**, “A least square calculational method: application to e-H elastic scattering”, **Bull. Cal. Math. Soc 81** (1989) 510-516.

1990

7. A. Banerjee, A. K. Sanyal and **S. Chakraborty**, “String cosmology in Bianchi I space- time”, **Pramana 34** (1990) 1-11.

8. A. Banerjee, A. K. Sanyal and **S. Chakraborty**, “Bianchi II, VIII, and IX viscous fluid cosmology”, **Astrophys. Space. Sc 166** (1990) 259-268.

9. **S. Chakraborty**, “Wave function with second order correction and Inflationary solutions in quantum cosmology”, **Pramana 34** (1990) 403-414.

10. **S. Chakraborty**, “Steepest-descent contours in a Kantowaski-Sachs microsuper space model”, **Phys. Rev. D 42** (1990) 2924-2926.

1991

11. **S. Chakraborty**, “Classical and quantum aspects of Bianchi type IX cosmological model”, **Int. J. Theo. Phys 30** (1991) 849-856.

12. **S. Chakraborty**, “A study of Bianchi IX cosmological model”, **Astrophys. Space. Sc 180** (1991) 293-303.

13. **S. Chakraborty**, “String cosmology in Bianchi VI space-time”, **Ind. J. Pure. Appl. Phys 29** (1991) 31-33.

14. **S. Chakraborty**, "Quantum cosmology in $R^1 \times S^1 \times S^2$ Topological Space", **Mod. Phys. Letts. A 6** (1991) 3123-3131.

1992

15. **S. Chakraborty**, "Bianchi I cosmological model and no boundary condition", **Int. J. Theo. Phys 31** (1992) 303-311.

16. **S. Chakraborty**, "Higher order gravity in an $R^1 \times S^1 \times S^2$ space-time", **Astrophys. Space. Sc 187** (1992) 135-141.

17. **S. Chakraborty**, "Solutions of the Wheeler -DeWitt equation", **Int. J. Theo. Phys 31** (1992) 289-302.

18. **S. Chakraborty**, "No boundary wave function in a higher dimensional spherically symmetric microsuper space model", **Mod. Phys. Letts. A 7** (1992) 653-658.

19. **S. Chakraborty** and A. Chakraborty, "String cosmology in spherically symmetric space- time", **J. Math. Phys 33** (1992) 2336-2338.

20. **S. Chakraborty** and G. Nandy, "Cosmological studies in Bianchi II, VIII space-time", **Astrophys. Space. Sc 198** (1992) 299-308.

21. **S. Chakraborty** and G. Nandy, "Spatially homogeneous cosmological model in viscous fluid with heat flux and magnetic field", **Int. J. Mod. Phys. D 1** (1992) 247-355.

22. **S. Chakraborty**, "Inflationary Solutions in higher-dimensional quantum cosmology", **Gen. Relt. Grav. 24** (1992) 1001-1010.

23. **S. Chakraborty** and G. Nandy, "Viscous fluid in a five dimensional cosmological model", **Astrophysical Journal 401** (1992) 437-440.

24. **S. Chakraborty**, "Wormhole solutions in $R^1 \times S^1 \times S^2$ Topological space", **Mod. Phys. Letts. A 7** (1992) 2463-2467.

25. **S. Chakraborty**, "Quantum cosmology in $R^1 \times S^1 \times S^n$ space-time", **Pramana 39** (1992) 265-271.

1993

26. **S. Chakraborty** and A. Chakraborty, "String cosmology in higher dimensional spherically symmetric space-time", **Pramana 40** (1993) 207-212.

27. **S. Chakraborty** and A. Chakraborty, "Inhomogeneous string cosmology in higher dimension", **Mod. Phys. Letts. A 8** (1993) 889-893.

1994

28. **S. Chakraborty** and G. Nandy, "String theory in five dimensional cosmological models", **Pamana 43** (1994) 503-508.

29. **S. Chakraborty** and P. Peldan, "Towards a unification of Gravity and Yang-Mills Theory", **Phys. Rev. Lett. 73** (1994) 1195-1198.

30. **S. Chakraborty** and P. Peldan, "Gravity and Yang-Mills theory: Two faces of the same theory", **Int. J. Mod. Phys. D 3** (1994) 695-722.

1995

31. **S. Chakraborty** and M. F. Shah, "A study of Brane-Dicke theory in FRW model", **Astrophys. Space. Sc 226** (1995) 73-78.

32. **S. Chakraborty** and M. F. Shah, "Higher dimensional spherically symmetric inhomogeneous cosmological model with heat flow", **Pramana 44** (1995) 495-500.

1996

33. **S. Chakraborty** and G. Nandy, "Homogeneous perfect fluid in Brane-Dicke Bianchi type V cosmological model", **Int. J. Mod. Phys. D 5** (1996) 65-69.

34**. S. Chakraborty** and N. Pramanik, "String membrances in higher dimensions", **Astrophys. Space. Sc 253** (1996) 263-267.

35. **S. Chakraborty** and A. Gupta, "String cosmology with Brane-Dicke theory", **Astrophys. Space. Sc 239** (1996) 65-70.

36. **S. Chakraborty** and L. Biswas, "Motion of test particles in the gravitational field of cosmic string in different situations", **Class. Quant. Grav 13** (1996) 2153-2161.

37. **S. Chakraborty**, "Motion of test particles around monoples", **Gen. Relt. Grav 28** (1996) 1115-1119.

38. **S. Chakraborty** and T. K. Ghosh, "Inflationary solutions for anisotropic model in scalar tensor theory", **Astrophys. Space. Sc 246** (1996) 1-6.

1997

39. **S. Chakraborty**, "Fluid of membrances in a class of cosmological models and its possible consequences", **Class. Quant. Grav 14** (1997) 2167-2178.

40. **S. Chakraborty**, "The wave function of the universe in new variables", **Gen. Relt. Grav. 29** (1997) 1085-1093.

41. **S. Chakraborty** and L. Biswas, “Motion of test particles around domain walls”, **Pramana 49** (1997) 603-607.

42. **S. Chakraborty** and A. Roy, “A study of variable G and Λ in Bianchi Type II cosmological models”, **Astrophys. Space. Sc 253** (1997) 205-209.

1998

43. **S. Chakraborty** and L. Biswas, “Non-static spherically symmetric space-time and global monopole”, **Int. J. Mod. Phys. A 13** (1998) 1221-1228.

44. **S. Chakraborty** and N. Chakraborty, “A study of Kantowski-Sachs model in Ashtekar variables”, **Int. J. Mod. Phys. A 13** (1998) 4931-4937.

45. **S. Chakraborty**, “Gravitational field of non-static global monopole”, **Physica. Scripta 58** (1998) 294-296.

46. **S. Chakraborty** and T. K. Ghosh, “Inflationary solutions for higher dimensional anisotropic cosmological model in scalor-tensor theory II”, **Astrophys. Space. Sc 257** (1998) 175-182.

47. **S. Chakraborty** and T. K. Ghosh, “String cosmology with Brans-Dicke theory in higher dimensional space time”, **Int. J. Theo. Phys 37**(1998) 2409-2413.

48. **S. Chakraborty** and A. Roy, “String cosmology in inhomogeneous cylindrically symmetric space-time”, **Pramana 51** (1998) 369-376.

49. **S. Chakraborty** and F. Rahaman, "Motion of test particle in global monopole with Brans-Dicke theory", **Pramana 51** (1998) 689-692.

1999

50. **S. Chakraborty** and A. Roy, "String cosmology in a stationary cylindrically symmetric space-time", **Astrophys. Space. Sc 262** (1999) 245-248.

51. **S. Chakraborty** and N. Chakraborty, "Quantization of Kantowski-Sachs model and the wave function", **Gen. Relt. Grav 31** (1999) 999-1004.

52. **S. Chakraborty** and L. Biswas, "Non static general relativistic domain walls", **Physica. Scripta 60** (1999) 199-201.

53. **S. Chakraborty** and T. K. Ghosh, "Brans-Dicke cosmology in $R^1 \times S^1 \times S^2$ Topological space-time", **Nuovo. Cimento. B 114** (1999) 1171-1178.

54. **S. Chakraborty** and F. Rahaman, "Gravitational field of a global monopole in Brans-Dicke theory of gravity", **Nuovo. Cimento. B 114** (1999) 1017-1022.

55. **S. Chakraborty** and A. Roy, "String-dust in higher dimensional cylindrically symmetric cosmological model", **Int. J. Mod. Phys. D 8** (1999) 645-650.

2000

56. **S. Chakraborty** and N. Chakraborty, "Quantum cosmology with hyperbolic potential", **Int. J. Theo. Phys 39** (2000) 153-157.

57. **S. Chakraborty** and N. Chakraborty, “Spherically symmetric space-time and Ashtekar variables”, **Nuovo. Cimento. B 115** (2000) 63-72.

58. **S. Chakraborty** and N. Chakraborty, “Primordial Black holes in higher dimensions”, **Physica. Scripta 61** (2000) 729-730.

59. **S. Chakraborty** and S. Ghosh, “Generalized scalar tensor theory in four and higher dimension”, **Int. J. Mod. Phys. D 9** (2000) 543-549.

60. F. Rahaman and **S. Chakraborty**, “Spherical domain walls in higher dimension”, **Astrophys. Space. Sc 274** (2000) 701-709.

61. F. Rahaman and **S. Chakraborty**, “Motion of test particles around gauge monopoles or near cosmic strings considering semi-classical gravitational effects”, **Int. J. Mod. Phys. D 9** (2000) 155-159.

62. **S. Chakraborty** and F. Rahaman, “Global string in general relativity”, **Ind. J. Phys. B 74** (2000) 315-317.

63. F. Rahaman and **S. Chakraborty**, “Gravitational field of spherical domain walls”, **Gen. Relt. Grav 32** (2000) 1757-1766.

64. **S. Chakraborty**, “Charged dilatonic Black hole and test particles”, **Int. J. Mod. Phys. D 9** (2000) 619-625.

65. **S. Chakraborty** and N. Chakraborty, “Quantum cosmology in Ashtekar variables”, **Nuovo. Cimento. B 115** (2000) 537-544.

66. **S. Chakraborty** and F. Rahaman, “Global texture in higher dimension”, **Annals. Phys 286** (2000) 1-9.

67. F. Rahaman and **S. Chakraborty**, “Motion of test particles in the gravitational field of cosmic strings and domain walls in B-D theory”, **Bull. Cal. Math. Soc 92** (2000) 175-180.

68. **S. Chakraborty**, F. Rahaman and L. Biswas, “Gravitational field of domain walls in higher dimension”, **Astrophys. Space. Sc 274** (2000) 851-858.

69. **S. Chakraborty** and F. Rahaman, “Global texture and their gravitational fields”, **Nuovo. Cimento B 115** (2000) 1379-1384.

2001

70. F. Rahaman and **S. Chakraborty**, “Domain wall with spherical symmetry”, **Astrophys. Space. Sc 275** (2001) 319-331.

71. N. Chakraborty and **S. Chakraborty**, “Four and higher dimensional models with dilation-electromagnetic fields”, **Int. J. Mod. Phys D 10** (2001) 523-528.

72. N. C. Chakraborty and **S. Chakraborty**, “String cosmology with magnetic field in Bianchi V model”, **Int. J. Mod. Phys. D 10** (2001) 721-728.

73. **S. Chakraborty** and A. Ghosh, “Generalized scalar tensor theory in four and higher dimensional spherically symmetric space-time”, **Pramana 56** (2001) 597-604.

74. **S. Chakraborty**, “Quantum cosmology in anisotropic cosmological models with scalar-tensor theories”, **Int. J. Mod. Phys. D 10** (2001) 943-956.

75. N. C. Chakraborty and **S. Chakraborty**, “Bianchi II, VIII, and IX bulk viscous cosmological models with variable G and Λ”, **Nuovo.Cimento B 116** (2001) 191-198.

76. **S. Chakraborty**, “Quantum cosmology with scalar tensor theories in Ashtekar variables”, **Nuovo. Cimento. B 116** (2001) 351-360.

77. **S. Chakraborty**, “Vacuum Brans-Dicke theory and Wormholes”, **Int. J. Mod. Phys. D 10** (2001) 957-960.

78. **S. Chakraborty** and A. Roy, “Vacuum solutions in higher dimension with Brans Dicke theory”, **Mod. Phys. Letts. A 16** (2001) 1629-1634.

79. **S. Chakraborty** and F. Rahaman, “Motion of test particles around charged dynamical Black holes”, **Bull. Cal. Math. Soc 93** (2001) 99-106.

80. **S. Chakraborty** and B. C. Paul, “Inflation in Bianchi models and cosmic No-Hair Theorem”, **Phys. Rev. D 64** (2001) 127502.

81. A. Banerjee, T. Ghosh and **S. Chakraborty**, “Liouville type dilatonic potential in locally rotationally symmetric Bianchi I model”, **Gen. Relt. Grav 33** (2001) 1139-1145.

2002

82. N. C. Chakraborty and **S. Chakraborty**, “Brans-Dicke theory in Bianchi III model and inflationary scenario”, **Int. J. Mod. Phys. D 11** (2002) 391-404.

83. **S. Chakraborty**, "Quantum cosmology in Ashtekar variables with non-minimally coupling scalar tensor theory", **Pramana 58** (2002) 1-12.

84. N. C. Chakraborty and **S. Chakraborty**, "Brans-Dicke cosmology – A generalization in anisotropic space-time models", **Gen. Relt. Grav 34** (2002) 453-459.

85. B. C. Paul and **S. Chakraborty**, "Inflation field and primordial Black hole", **Int. J. Mod. Phys. D 11** (2002) 1435-1438.

86. **S. Chakraborty**, N. C. Chakraborty and U. Debnath, "Brans-Dicke cosmology in an anisotropic model when velocity of light varies", **Int. J. Mod. Phys. D 11** (2002) 921-932.

87. **S. Chakraborty**, "Varying speed of light theory with a variable cosmological term", **Nuovo. Cimento B 117** (2002) 189-195.

88. **S. Chakraborty**, "Inflation, Quintessence problem and varying speed of light", **Mod. Phys. Letts. A 17** (2002) 295-302.

89. **S. Chakraborty** and N. C. Chakraborty, "Higher dimensional Bianchi V model in Brans Dicke theory and inflation", **Nuovo. Cimento. B 117** (2002) 393-407.

90. **S. Chakraborty** and Sulagna Chakraborti, "Cosmic No-Hair theorem with a varying cosmological constant on Brane scenario", **Class. Quant. Grav 19** (2002) 3775-3781.

2003

91. **S. Chakraborty**, N. C. Chakraborty and U. Debnath, "A Quintessence problem in Brans-Dicke theory with varying speed of light", **Int. J. Mod. Phys. D 12** (2003) 325-335.

92. **S. Chakraborty** and A. Ghosh, “Inflationary scenario in Brans-Dicke theory for Bianchi VI space-time model”, **Int. J. Mod. Phys. D 12** (2003) 129-143.

93. A. Kumar De, S. Bhanja and **S. Chakraborty**, Cosmic No-Hair theorem for Bianchi models in brane-world scenarios, **Gen. Relt. Grav 35** (2003) 17-23.

94. **S. Chakraborty** and Sulagna Chakraborti, “Inflation in Bianchi models and cosmic No-Hair theorem in Einstein-Cartan theory”, **Int. J. Mod. Phys. D 12** (2003) 833-842.

95. **S. Chakraborty**, N. C. Chakraborty and U. Debnath, “A Quintessence problem in self-interacting Brans-Dicke theory”, **Int. J. Mod. Phys. A 18** (2003) 3315-3323.

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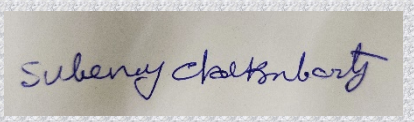

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