

CURRICULUM VITAE

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DOB : 29/04/1986. Gender : Male Citizenship : Indian.

Present Employment Status

Assistant Professor (Stage-II)

Institution : Department of Mathematics, The University of Burdwan, West Bengal.

Period : from 28/07/2019(FN) to till date.

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Visiting Associate

Institution : Inter University Center for Astronomy and Astrophysics(IUCAA), Pune.

Period : from 01/08/2015 to till date.

Employment History

- 2019 - Assistant Professor (Stage-I)

Institution : Department of Mathematics, The University of Burdwan, West Bengal.

Period : from 18/10/2016(FN) to 27/07/2019(AN)

- 2016 - Assistant Professor (Stage-I)

Institution : Department of Mathematics, Bankura University, West Bengal.

Period : from 28/07/2015(FN) to 17/10/2016(AN)

- 2015 - Assistant Professor (Stage-I)

Institution : Department of Mathematics, Krishnagar Women’s College, Aurobinda Sarani, Krishnanagar, Nadia, West Bengal.

Period : from 19/02/2015(FN) to 27/07/2015(AN).

- 2014-15 - Assistant Professor (Stage-I)

Institution : Department of Mathematics, Techno India University, Salt Lake EM-04, Sec-V, Kolkata-91.

Period : from 01/09/2014(FN) to 18/02/2015(AN).

Academic History

- 2012-2014 - Research Associate

Funding Agency : CSIR project No. 03(1206)/12/EMR-II
(Institute Project Code : DRC/CSIR/MATH/UD/016/12-13),

Mentor : Dr. Ujjal Debnath, Assistant Professor,

Institution : Department of Mathematics,
Indian Institute of Engineering Science and Technology (IEST), Shibpur [Formerly, Bengal Engineering and Science University, Shibpur(BESUS)], Howrah-711103
Period : from 07/12/2012 to 31/08/2014.

- 2012 - **Research Associate (Provisional)**
Funding Agency : ISRO grant “ISRO/RES/2/367/10-11”
Mentor : Professor Banibrata Mukhopadhyay
Institution : Department of Physics, Indian Institute of Science, Bangalore-560012
Period : from 01/02/2012 to 15/11/2012.
- 2012 - **PhD in Science** (23/11/2012).
Institution : Jadavpur University. **Title of Thesis** : *A Brief study of the Geometry of Black Hole Thermodynamics and Accretion onto Black Holes and Galaxies.*
PhD Supervisor : Professor Subenoy Chakraborty, Department of Mathematics, Jadavpur University, Kolkata-32, India.
Period : from 01/09/2008 to 31/01/2012.
- September, 2011 - **PhD Course Work** - 89% (SGPA 10.00).
- **CSIR UGC NET** (LS) in Mathematical Sciences qualified on June 2008 & June 2009(Rank : 0075).
- 2008 - **M.Sc.** (in Mathematics) - 66.6% (1st Class).
Specialisation : Relativistic and Non-relativistic Quantum Mechanics, General Relativity and Cosmology, Quantum Field Theory.
University : Jadavpur University.
- 2006 - **B.Sc** (Hons. in Mathematics) - 66.9% (1st Class with Distinction).
University : Jadavpur University.
- 2003 - **Higher Secondary**(10 + 2th Standard) - 84.2% .
School : Krishnanagar Collegiate School.
Board : West Bengal Council of Higher Secondary Education.
- 2001 - **Madhyamik Pariksha**(10th Standard) - 91.5% .
School : Krishnanagar Collegiate School.
Board : West Bengal Board of Secondary Education.

Awards/ Scholarships

- Got “1st Best Oral Presentation” in National Seminar on Modelling and Simulation (The Applied World of Mathematics) (MS-2021) organized by Department of Mathematics Govt. Pt. Shyamacharan Shukla College, Dharsiwa, Raipur (C.G.), Pin : 493221 for the presentation of the article entitled “Accretion for a Dark Energy Background, Spin of the Black Hole and Viscosity Work Together”, held on 03/07/2021.
- Got “Outstanding Paper Award (Mathematics)” in 27th West Bengal State Science & Technology Congress, 2020 organized by Department of Science & Technology and Biotechnology, WB Govt for the presentation of the article entitled “Lower Limit of Shear Viscosity to Entropy Density Ratio : String Theoretic Predictions Versus Dark Energy Accretion Results”., held on 28-29/02/2020.
- Got “First prize in oral presentation(Mathematics)” in Fourth Regional Science and Technology Congress(Western Region), 2019 organized by The University of Burdwan and Department of Science and Technology and Biotechnology, WB Govt for the presentation of the article entitled “Lower

Limit of Shear Viscosity to Entropy Density Ratio : String Theoretic Predictions Versus Dark Energy Accretion Results”, held on 09-10/12/2019.

- Got “Fourth prize in oral presentation(Mathematics)” in Third Regional Science and Technology Congress(Western Region), 2018 organized by Sidho-Kanho-Birsa University, Purulia and Department of Science and Technology and Biotechnology, WB Govt for the presentation of the paper entitled “Threshold Fall of Viscous Accretion Flow of Dark Energy”, held on 20-21/12/2018.
- Got “Young Scientist-2018 Award” in Mathematics in “22nd International Conference of International Academy of Physical Sciences, Allahabad, INDIA (CONIAPS-XXII)” on the theme “Emerging Trends in Physical Sciences” held at Dr. Ram Manohar Lohia Avadh University, Faizabad (Ayodhya) – 224001, U.P., India for the presentation of the paper entitled “Radial Velocity and Density Profile Analysis For Viscous Dark Energy Accretion Onto Supermassive Black Holes” held on 13-15/04/2018.
- Got best Paper Award in “International Conference on Dynamical Systems and Mathematical Biology (ICDSMB– 2014)” Organised by Centre for mathematical biology and Ecology(CMBE), Department of Mathematics, Jadavpur University in Collaboration with Biomathematical Society of India for the paper “Density Profiles for Chaplygin Gas Accretion upon Black Holes : moderately Differentiated Minima in Wind Branch” Held on 17-19/11/2014.
- Got best Paper Award in “International Conference on Geometry and its Applications (ICGA– 2014)” Sponsored by NBHM, CSIR, UGC, TTS & DST(SERB) for the paper “ Near the Pre-prescribed η over s Limit for Exotic Fluid Accretion Flow” Held on 16-18/10/2014.
- Research Associate Fellowship from 07/12/2012-31/08/2014 under CSIR project “03(1206)/12/EMR-II” .
- Research Associate Fellowship from 01/02/2012-15/11/2012 under ISRO project “ISRO/RES/2/367/10-11” .
- Senior Research Fellowship from West Bengal State Govt. from 10/08/2011 to 31/01/2012.
- Junior Research Fellowship from West Bengal State Govt. from 10/08/2009 to 09/08/2011.

Conferences/ Seminars/ Workshop/ Webinar/ RC/ OP/ Online Courses Attended

- **International** : 21 till date (3 in Abroad + 18 in India)
- **National** : 32 till date
- **Webinar/e-Conferences** : 14 (14 International +5 National) till date
- **Refresher Courses/Orientation Programme** : 4 till date
- **Online Courses** : 9 till date
(Detailed list attached in Annexure-A)

Conferences/ Seminars/ Workshop Organised

: 4 (Details in Annexure-B)

Research Guidance

: 4 till date (Detailed list in Annexure-C)

Publications

- Number of publications(Book(s)/ Book Chapter(s)): 1
- Number of publications(Papers): 66 (71 International + 4 national) till date (Detailed list attached in Annexure-D)

Research Project Conducted

- **Title of the Project** : Modern Day Universe with Late Time Acceleration : Effect on Several Astrophysical Phenomena
Funding Organization : Government of West Bengal, Department of Science and Technology
As a Principal(and sole) Investigator
Memo No.:251(Sanc.)/ST/P/S&T/16G-19/2017
Date of Sanction : 25/03/2018
Tenure : 03/08/2018-02/08/2021
Amount of the Fund : INR 15,89,690/-
Tenure of the Project : Three Years

Guest Teaching Experience

- Visiting/Guest Lecturer
Institution : Department of Mathematics, Narasinha Dutt College, Howrah(Affiliated to Calcutta University) from January, 2014 to September, 2016.
- I have taken classes in Engineering Faculty of Indian Institute of Engineering Science and Technology Shibpur, Howrah from September, 2013 to April, 2014.
- I have assisted in M.Sc Numerical method practical Lab with C classes in the Department of Mathematics, BESUS, Howrah in 2013.
- I have taken classes in the Engineering Faculty of Jadavpur University since 10/08/2009 to 31/01/2012.

Computational Skills

- Operating System : Linux, Windows
- Programming Languages : C, C++, HTML
- Software Packages : LaTeX, GNU PLOT, PLUTO, MATHEMATICA.

Reviewer of the Journals

- Physica Scripta,
- International Journal of Theoretical Physics,
- Astrophysics and Space Science.

- Gravity
- Advances in High Energy Physics
- European Physical Journal C
- Modern Physics Letters A
- International Journal of Astronomy and Astrophysics
- Genral Relativity and Gravitation

Annexure A (Seminars/Workshops/Conferences attended)

International

Abroad :

- Name :** IF School and Workshop on Cosmology : IFSW-2015
Organizer/Funding Agency(ies) : The Institution for Fundamental Study, Naresuan University & National Astronomical Research Institute of Thailand(NARIT).
Presented a Paper : “Magnetohydrodynamic Accretion : Different Aspects Regarding the Physical Disc Length”.
Venue : The Institution for Fundamental Study, Naresuan University, Phitsanulok, Thailand.
Held on : 22/08/2015 to 28/08/2015.
- Name :** School and Conference on Analytical and computational Astrophysics
Organizer/Funding Agency(ies) : The Abdus Salam International Centre for Theoretical Physics(ICTP), Trieste, Italy
Presented a Poster : “Accretion of Chaplygin gas upon black holes : formation of faster outflowing winds”.
Venue : The Abdus Salam International Centre for Theoretical Physics(ICTP), Trieste, Italy
Held on : 14/11/2011 to 25/11/2011.
- Name :** The 11th Asian Pacific Regional IAU Meeting(APRIM 2011)
Organizer/Funding Agency(ies) : IAU
Delivered a short time talk and presented a Poster : “Accretion of Chaplygin gas upon black holes : formation of faster outflowing winds”.
Venue : The Empress Hotel and Convention Centre, Chiang Mai, Thailand
Held on : 26/07/2011 to 29/07/2011.

In India :

- Name :** “International Conference on Emerging Issues in Cosmology and Particle Physics(EICP-2)”
Organizer/Funding Agency(ies) : Department of Physics, Siksha Bhavan, Visva-Bharati, Santiniketan & DST-SERB, DAE-BRNS, CSIR, INSA, AERB
Presented(oral) a paper : “Strengthening of Wind speed by the Increase of Spinning Parameter for Black holes which are Embedded in Quintessence”.
Venue : Department of Physics, Siksha Bhavan, Visva-Bharati, Santiniketan.
Held on : 12-14/01/2020.
- Name :** “25th International Conference (CONIAPS XXV) on “Physical and Biological Sciences at Cross-roads : Interdisciplinary Explorations and Exciting Challenges” under the Auspices of the International Academy of Physical Sciences (IAPS)”
Organizer/Funding Agency(ies) : Department of Chemistry, Guru Jambheshwar University of Science & Technology, Hisar-125001 (Haryana), India.
Presented(oral) a paper : “Finding the Missing Link between Two Extrema of Wind Speed Patterns : Use of Quintessence Contaminated Pseudo Newtonian Potential”.
Venue : Department of Chemistry, Guru Jambheshwar University of Science & Technology, Hisar-125001 (Haryana), India.
Held on : 29-31/12/2019.
- Name :** “International Conference on Advances in Higher Mathematics, Mathematical Sciences and Mathematical Modelling (ICAHMMSMM-2019)-Annual Conference of Calcutta Mathematical

Society”

Organizer/Funding Agency(ies) : Calcutta Mathematical Society, AE-374, Salt Lake (Sector-1), Kolkata-700064, India.

Presented(oral) a paper : “Theoretical Construction of Accretion Model of Show Abruptly Low Ratio Between Shear Viscosity to Entropy Density : Support to the Observations”.

Venue : Calcutta Mathematical Society, AE-374, Salt Lake (Sector-1), Kolkata-700064, India.

Held on : 20-22/12/2019.

4. **Name :** “1st International Conference named Applied Mathematics in Science and Engineering(AMSE-2019)”

Organizer/Funding Agency(ies) : ITER, Siksha ‘o’ Anusandhan(Deemed to be University) & National Institute of Technology, Arunachalpradesh.

Presented(oral) a paper : “Super strengthening of Wind speed with Spinning parameter for Black holes which are Embedded in Quintessence”.

Venue : ITER, Siksha ‘o’ Anusandhan(Deemed to be University) .

Held on : 24-26/10/2019.

5. **Name :** “Two Days International Seminar on Recent Advances in Mathematical Sciences and Their Applications -2018 (RAMSA-2018)”

Organizer/Funding Agency(ies) : Surya Sen Mahavidyalaya, Siliguri.

Presented(oral) a paper : “Formation of a Thershold in Accretion Density Profile of Modified Chaplygin Gas”.

Venue : Surya Sen Mahavidyalaya, Siliguri .

Held on : 30-31/08/2018.

6. **Name :** “International Conference on Mathematical Modelling, Applied Analysis and Computation-2018 (ICMMAAC-2018)”

Organizer/Funding Agency(ies) : JECRC University, Jaipur, Rajasthan.

Presented(oral) a paper : “Weakening of Accretion Branch Besides Strengthening of Wind Branch for Viscous Dark Energy Accretion : Density Profile Analysis”.

Venue : JECRC University, Jaipur, Rajasthan .

Held on : 06-08/07/2018.

7. **Name :** “22nd International Conference of International Academy of Physical Sciences, Allahabad, INDIA (CONIAPS-XXII)” on the theme “Emerging Trends in Physical Sciences”

Organizer/Funding Agency(ies) : Dr. Ram Manohar Lohia Avadh University, Faizabad (Ayodhya) – 224001, U.P., INDIA & International Academy of Physical Sciences, Allahabad, INDIA.

Presented(oral) a paper : “Radial Velocity and Density Profile Analysis For Viscous Dark Energy Accretion Onto Supermassive Black Holes”.

Venue : Dr. Ram Manohar Lohia Avadh University, Faizabad (Ayodhya) – 224001, U.P., INDIA.

Held on : 13-15/04/2018.

Got Young Scientist-2018 Award in Mathematics.

8. **Name :** International Science Seminar on “Science : Past, Present & Future”

Organizer/Funding Agency(ies) : Syamsundar College & Indian Chemical Society.

Presented(oral) a paper : “A Brief Study of Time-Scale Factor Relation For A Homogeneous Universe”.

Venue : Syamsundar College, West Bengal, India.

Held on : 12/12/2017.

9. **Name :** International Conference on Exploring Advances in Mathematical Sciences 2017 (ICEAMS-2017)

- Organizer/Funding Agency(ies) :** University of Gour Banga.
Presented(oral) a paper : “Black Hole Thermodynamic Products in Einstein Gauss Bonnet Gravity”.
Venue : University of Gour Banga, Malda, West Bengal, India.
Held on : 23-24/03/2016.
10. **Name :** International Conference on Recent Trends in Mathematical Sciences and Applications (ICRTMSA-2016)
Organizer/Funding Agency(ies) : Department of Mathematics, Burdwan University.
Presented(oral) a paper : “Black Hole thermodynamic Product in Einstein Gauss Bonnet Gravity”.
Venue : Burdwan University, Purba Burdwan-713104, West Bengal, India.
Held on : 09-11/02/2016.
11. **Name :** International Conference on Nonlinear Dynamics, Analysis and Optimization(ICNDAO-2015)
Organizer/Funding Agency(ies) : Department of Mathematics, Jadavpur University under UGC-DRC Programme and supported by NBHM, DAE, Govt. of India.
Presented(oral) a paper : “Black Hole thermodynamic Product in Einstein Gauss Bonnet Gravity”.
Venue : Jadavpur University, Kolkata-32, West Bengal, India.
Held on : 09-11/12/2015.
12. **Name :** 2ND International Conference on Recent Trends in Mathematics and Its Applications (ICRTMA–2015)
Organizer/Funding Agency(ies) : Department of Applied Mathematics with Oceanology and Computer programming, Vidyasagar University.
Presented(oral) a paper : “Magnetohydrodynamic Accretion Around Supermassive Black Holes : Short-Lenght Disc for Stronger Field”.
Venue : Vidyasagar University, Midnapore, West Bengal, India.
Held on : 18-19/03/2015.
13. **Name :** International Conference on Revisiting Ancient Mathematics & Mathematical Sciences (ICRAMMS–2015)
Organizer/Funding Agency(ies) : Department of Mathematics under UGC Special Assistance Programme(DSA-1), the University of Burdwan.
Presented(oral) a paper : “Accretion : From “Interstellar Gas Flow on a Star in Newtonian Background” to “MHD Accretion onto a Supermassive Black Hole””.
Venue : The University of Burdwan, Burdwan-713104, West Bengal, India.
Held on : 18-20/02/2015.
14. **Name :** Joint IUCAA-ISI Workshop on Statistical Applications to Cosmology and Astrophysics (STATCOSMO15)
Organizer/Funding Agency(ies) : Inter university Centre for Astronomy and Astrophysics and Indian Statistical Institute, Kolkata.
Participated only
Venue : Indian Statistical Institute, Kolkata. West Bengal, India
Held on : 10-13/02/2015.
15. **Name :** International Conference on Current Developments in Mathematics and Mathematical Sciences (ICCDMMS–2014)
Organizer/Funding Agency(ies) : Calcutta Mathematical Society(CMS){With Financial Assistance of ISI, Kolkata, CSIR, DSt, Govt. of India, Higher Education Dept., Govt. of West bengal, NBHM, DRGO, Govt. of India}
Presented(oral) a paper : “Magnetohydrodynamic Accretion Around Supermassive Black

Holes : Short-Length Disc for Stronger Field”.

Venue : Calcutta Mathematical Society Asutosh Bhavan AE-374, Sector-I, Salt Lake City, Kolkata-700064, West Bengal, India

Held on : 19-21/12/2014.

16. **Name :** International Conference on Dynamical Systems and Mathematical Biology (ICDSMB–2014)

Organizer/Funding Agency(ies) : Organised by Centre for mathematical biology and Ecology(CMBE), Department of Mathematics, Jadavpur University in Collaboration with Biomathematical Society of India

Presented(oral) a paper : “Density Profiles for Chaplygin Gas Accretion upon Black Holes : moderately Differentiated Minima in Wind Branch”.

Venue : The Department of Mathematics, Jadavpur University, Kolkata-700032

Held on : 17-19/11/2014.

Got best Paper Award.

17. **Name :** International Conference on Geometry and its Applications (ICGA – 2014)

Organizer/Funding Agency(ies) : Sponsored by NBHM, CSIR, UGC, TTS & DST(SERB)

Presented(oral) a paper : “ Near the Pre-prescribed η over s Limit for Exotic Fluid Accretion Flow ”.

Venue : The Department of Mathematics, Jadavpur University, Kolkata-700032

Held on : 16-18/10/2014.

Got best Paper Award.

18. **Name :** International Conference on Dynamical Systems : Theory and Applications (ICDS-2012)

Presented(oral) a paper : “Dynamical System for Black Hole Accretion : Consideration of Temporal Effects when Exotic Matter is being Absorbed”.

Venue : The Department of Mathematics, Jadavpur University, Kolkata-700032

Held on : 11/01/2012 to 14/01/2012.

National :

1. **Name :** 27th West Bengal State Science & Technology Congress, 2020

Organizer/Funding Agency(ies) : Department of Science & Technology and Biotechnology, WB Govt.

Presented(oral) a paper : “Lower Limit of Shear Viscosity to Entropy Density Ratio : String Theoretic Predictions Versus Dark Energy Accretion Results”.

Venue : Science City Auditorium, Kolkata

Held on : 28-29/02/2020.

Awarded : Outstanding Paper Award (Mathematics).

2. **Name :** Fourth Regional Science and Technology Congress(Western Region), 2019

Organizer/Funding Agency(ies) : The University of Burdwan and Department of Science and Technology and Biotechnology, WB Govt.

Presented(oral) a paper : “Lower Limit of Shear Viscosity to Entropy Density Ratio : String Theoretic Predictions Versus Dark Energy Accretion Results”.

Venue : The University of Burdwan

Held on : 09-10/12/2019.

Awarded : First prize in oral presentation(Mathematics).

3. **Name :** “SWAYAM-NPTEL MOOCs Awareness Workshop-National Programme On Technology Enhanced Learning Free Online Courses Offered by IITs & IISc”

Organizer/Funding Agency(ies) : Indian Institute of Technology Kharagpur in association with The University of Burdwan

Participated

Venue : The University of Burdwan

Held on : 13/11/2019.

4. **Name :** Third Regional Science and Technology Congress(Western Region), 2018
Organizer/Funding Agency(ies) : Sidho-Kanho-Birsa University, Purulia and Department of Science and Technology and Biotechnology, WB Govt.
Presented(oral) a paper : “Threshold Fall of Viscous Accretion Flow of Dark Energy”.
Venue : Sidho-Kanho-Birsa University, Purulia
Held on : 20-21/12/2018.
Awarded : Fourth prize in oral presentation(Mathematics).
5. **Name :** National Conference on Mathematical Analysis and Mathematical Modelling (NCMAMM-2018)
Organizer/Funding Agency(ies) : Calcutta Mathematical Society.
Presented(oral) a paper : “Consideration of Joule-Thomson Expansion of Black Holes in five Dimensional Einstein-Maxwell-Gauss-Bonnet-AdS Gravity”.
Venue : Calcutta Mathematical Society
Held on : 07-08/12/2018.
6. **Name :** One-Day Workshop for Preparation of Syllabus(Semester with CBCS)
Organizer/Funding Agency(ies) : The University of Burdwan
Participated
Venue : The University of Burdwan
Held on : 26/04/2018.
7. **Name :** Introductory School on Galaxy Formation
Organizer/Funding Agency(ies) : NISER Bhubaneswar and IUCAA, Pune.
Presented(oral) a paper : “Density Profile Analysis : Viscous Dark Energy Accretion Onto Supermassive Black Holes”.
Venue : NISER Bhubaneswar, Odissa, India.
Held on : 13-16/03/2018.
8. **Name :** 2nd Regional Science and Technology Congress(Western Region), 2017
Organizer/Funding Agency(ies) : The University of Burdwan and Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal
Participated
Venue : The University of Burdwan, West Bengal, India.
Held on : 16-17/11/2017.
9. **Name :** Workshop on C Programming
Acted as : a Resource Person
Venue : Department of Mathematics, The University of Burdwan, Burdwan.
Held on : 22-28/02/2017.
Organized by : Department of Mathematics, The University of Burdwan, Burdwan.
10. **Name :** UGC Sponsored National Level Seminar on Recent Developments In Mathematics and Its Applications In Other Branches Of Science
Presented a paper : “Thermodynamic Products for Einstein-Gauss-Bonnet Black Hole with α -Corrected Entropy Term”
Venue : Department of Mathematics, Kalyani Mahavidyalaya, Kalyani, Nadia.
Held on : 15/12/2016.
Organized by : Department of Mathematics, Kalyani Mahavidyalaya and Department of Mathematics, University of Kalyani.

11. **Name** : 1st Regional Science & Technology Congress-2016, Presidency Division, West Bengal
Presented a paper : “Thermodynamic Products for Einstein-Gauss-Bonnet Black Hole with *alpha*-Corrected Entropy Term”
Venue :NITTR, Kolkata
Held on : 13-14/11/2016.
Organized by : Department of Science and Technology, Government of West Bengal in collaboration with National Institute of Technical Teacher’s Training and Research, Kolkata.
12. **Name** : Introductory Workshop on Astrophysics and Cosmology
Participated. Venue :Aliah University, Kolkata
Held on : 27-28/09.2016.
Organized by : Aliah University and IUCAA Resource Center, Kolkata.
13. **Name** : National Seminar On Recent Developments In Mathematics And Its Applications(NSRDMA-2016)
Presented talk : “Magnetohydrodynamic Accretion Around Supermassive Black Holes: Short Length Disc for Stronger Field”.
Venue :Department of Mathematics, University of Kalyani.
Held on : 21-22/01/2016.
14. **Name** : Recent Trends in Cosmology & Future Challenges
Presented invited talk : “Magnetohydrodynamic Accretion Around Supermassive Black Holes”.
Venue :Department of Physics(UG & PG), Prabhat Kumar College, Contai & Egra Sarada Shashi Bhusan College.
Held on : 03-04/12/2015.
15. **Name** : UGC Sponsored National Seminar on Janmo Shatoborshe Adwaita Mallabarman
Presented a paper : “Titaser Parinati : Sabkshetrei Bhabitabya?”.
Venue :Department of Bengali, Asannagar Madan Mohan Tarkalankar College, Asannagar, Nadia.
Held on : 22/04/2015-23/04/2015.
16. **Name** : 22nd West Bengal State Science & Technology Congress-2015
Organizer/Funding Agency(ies) : Department of Science and Technology, Govt. of West Bengal, West bengal State Council of Science and Technology and University of North Bengal.
Presented a paper : “Magnetohydrodynamic Accretion Around Supermassive Black Holes : Short-Length Disc for Stronger Field”.
Venue :University of North Bengal, Raja Rammohanpur, Darjeeling-734013, West Bengal, India.
Held on : 28/02/2015-01/03/2015.
17. **Name** : National Conference on Emerging trend in Physics of Fluids and Solids(NCETPFS–2015)
Organizer/Funding Agency(ies) : Department of Mathematics, Jadavpur University, UGC, DST.
Presented(oral) a paper : “Viscous Flow of Dark Fluid on Supermassive Black Holes : A Pathway to Consider the Temperature of the Disk”.
Venue :Department of Mathematics, Jadavpur University-700032, West Bengal, India.
Held on : 24-25/02/2015.
18. **Name** : National Conference on Mathematical Trends in Physical Sciences (NCMTPS 2014)
Organizer/Funding Agency(ies) : organized by Department of Mathematics & Department of Physics, Heritage Institute of Technology
Presented(oral) a paper : “Magnetohydrodynamic Accretion around Supermassive Black Holes”.
Venue : Heritage Institute of Technology, Chowbaga Road, Anandapur, P.O. : East Kolkata Township, Kolkata-700107
Held on : 13 - 14/08/ 2014.

19. **Name** : The 2nd Topical Conference of Gravity and Cosmology(TCGC, August, 2014)
Organizer/Funding Agency(ies) : organized by Department of Physics, Presidency University
Presented(oral) a paper : “Chaplygin Gas Accretion Flow : Towards Pre-prescribed limit of η over s ”.
Venue : Presidency University, Kolkata.
Held on : 09/08/2014.
20. **Name** : National Seminar on Recent Perspectives on Nonlinear Mathematics & Its Application (RPNMA - 2014)
Organizer/Funding Agency(ies) : Sponsored by SAP-DRS, Phase-II
Presented(oral) a paper : “Small Sized MHD Accretion Disc for High Magnetic Field around Supermassive Black Holes : Does It Contradict Observed Galactic Accretions?”.
Venue : The Department of Mathematics, Siksha Bhavana, Visva-Bharati(A Central University).
Held on : 25-26/03/2014.
21. **Name** : National Conference on Emerging Trends in Physics of Fluids & Solids (NCETPFS - 2014)
Organizer/Funding Agency(ies) : Sponsored by NBHM & DST
Presented(oral) a paper : “Small Sized MHD Accretion Disc for High Magnetic Field around Supermassive Black Holes : Does It Contradict Observed Galactic Accretions?”.
Venue : the Department of Mathematics, Jadavpur University, Kolkata-700032.
Held on : 06-07/03/2014.
22. **Name** : Workshop on Analysis of Astronomical Data
Organizer/Funding Agency(ies) : Inter university Centre for Astronomy and Astrophysics
Participated only.
Venue : IUCAA Resource Centre, Physics Department of North Bengal University
Held on : 16-17/12/2013.
23. **Name** : Workshop on X-Ray Astronomy
Organizer/Funding Agency(ies) : Inter university Centre for Astronomy and Astrophysics
Participated only.
Venue : IUCAA Resource Centre, Physics Department of North Bengal University
Held on : 23-25/03/2013.
24. **Name** : National Seminar on Mathematical Modelling and Numerical Simulation of Physical Phenomena
Organizer/Funding Agency(ies) : UGC, India
Delivered an invited talk “Cosmic Acceleration : Fate of Black Holes”
Venue : Achhruram Memorial College Purulia, West Bengal
Held on : 1-2/03/2012.
25. **Name** : The Twenty Sixth Meeting of the Indian Association for General Relativity and Gravitation(IAGRG-26)
Organizer/Funding Agency(ies) : UGC, India
Presented(oral) a paper : “Accretion of Holographic Dark Energy in a General Spherically Symmetric Black Hole”
Venue : Harish-Chandra Research Institute, Allahabad, India.
Held on : 19/01/2011 to 21/01/2011.
26. **Name** : National Conference on Mathematical and its Applications (NCMA 2011)
Presented(oral) a paper : “Accretion of Holographic Dark Energy in a General Spherically Symmetric Black Hole”
Venue : Department of Mathematics, Jadavpur University, Kolkata, India.
Held on : 13/01/2011 to 14/01/2011.

27. **Name** : Astrophysics Day
Presented(oral) a paper : “Accretion in Expanding Universe : Dominating Wind”
Venue : Relativity and Cosmology Centre, Department of Physics, Jadavpur University.
Held on : 07/12/2010.
28. **Name** : One day Seminar on Contemporary issues in Astrophysics and Cosmology
Attended as an Audience.
Venue : Department of Physics, Jadavpur University, Kolkata, India.
Held on : 23/03/2010.
29. **Name** : National Conference on Mathematical Sciences and Applications : State of the Art(NCMSA 2010)
Presented(oral) a paper : “The Phase transitions of black holes in Gauss-Bonnet Theory”
Venue : Department of Mathematics, Jadavpur University, Kolkata, India.
Held on : 14/01/2010 to 16/01/2010.
30. **Name** : National WorkShop on observational Astronomy : Research facilities and opportunities in India
Participated .
Venue : Indian Statistical Institute, Kolkata, India.
Held on : 17/08/2009 to 24/08/2009.
31. **Name** : One day seminar of Mathematical Physics
Delivered a talk : Dark Energy
Venue : Department of Mathematics, Jadavpur University, Kolkata, India.
Held on : 18/01/2008.
32. **Name** : One day seminar of Mathematical Physics
Delivered a talk : Black Hole
Venue : Department of Mathematics, Jadavpur University, Kolkata, India.
Held on : 02/02/2007.

1 Webinars/eConferences/Online Courses

International Webinars :

- Name** : “International Conference on Mathematical Analysis and Applications (ICOMAA - 2022)”
Organizer/Funding Agency(ies) : Department of Mathematics, University of Kalyani, INDIA
Presented(oral) a paper : “Dynamical Systems for Dark Energy and Adiabatic Accretions”.
Held on : June 28-29, 2022.
- Name** : “INTERNATIONAL CONFERENCE ON COMPUTATIONAL METHODS IN SCIENCES AND ENGINEERING (CMSE-2022)”
Organizer/Funding Agency(ies) : Department of Mathematics, BITS-Pilani, Hyderabad Campus
Presented(oral) a paper : “Theoretical Construction Of Accretion Model To Show Abruptly Low Ratio Between Shear Viscosity To Entropy Density”.
Held on : APRIL 22-24, 2022.
- Name** : “27 th International Conference of International Academy of Physical Sciences on Advances in Relativity and Cosmology (PARC-2021)”
Organizer/Funding Agency(ies) : Department of Mathematics, BITS-Pilani, Hyderabad Campus
Presented(oral) a paper : “Accretion on Regular Black holes: Impacts When no Singularity

at all Exists?”.

Held on : 26/10/2021 to 28/10/2021.

4. **Name :** “Online Course entitled Introduction to Optical and Infrared Interferometry ”
Organizer/Funding Agency(ies) : Teaching Learning Centre (TLC) at IUCAA
Successfully Completed.
Held on : 25/07/2020 to 10/10/2020.
5. **Name :** “26th Annual Conference of IAPS (Online) on Advances in Differential Equations & Mathematical Modelling(IC-ADE-MM-2020)”
Organizer/Funding Agency(ies) : School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi, India & International Academy of Physical Sciences (IAPS)
Presented(oral) a paper : ‘Journey Around A Quintessence Contaminated Spinning Black Hole’.
Venue : Online
Held on : 18-20/12/2020.
6. **Name :** “International Web Conference on Emerging Areas of Mathematics and Mathematical Sciences methods and Models in Applied Sciences(IWCEAMMS-2020)”
Organizer/Funding Agency(ies) : Annual Conference of Calcutta Mathematical Society
Presented(oral) a paper : “How Accretion will Vary when a Dark Energy Background, Spin of the Black Hole and and Viscosity are Active together”.
Venue : Online
Held on : 12-14/12/2020.
7. **Name :** “International Web Conference on Mathematical methods and Models in Applied Sciences”
Organizer/Funding Agency(ies) : Amity Institute of Applied Sciences, Amity University, Kolkata in collaboration with Calcutta Mathematical Society
Presented(oral) a paper : “How to Construct and Use Pseudo Newtonian Potential for a Quintessence Contaminated Spinning Black Holes”.
Venue : Online
Held on : 06-08/11/2020.
8. **Name :** “International Conference Dust in Astrophysics(ICDA-2020)”
Organizer/Funding Agency(ies) : Department of Physics, Assam University, India
Participated
Venue : Online
Held on : 31/08/2020-01/09/2020.
9. **Name :** “A Two Days International Webinar on “Recent Advances in Pure and Applied Mathematics-2020(RAPAM-2020)”
Organizer/Funding Agency(ies) : Kursheong College, Darjeeling, West Bengal, India
Presented(oral) a paper : “Flow of Dark Energy on Black Holes vs Flow of Dark energy Sitting in Black Holes : Comparative Studies”.
Venue : Online
Held on : 24-25/08/2020.
10. **Name :** “International Webinar on Recent Trends in Mathematical Sciences-2020”
Organizer/Funding Agency(ies) : Govt. Arts and Science PG College, Ratlam, Madhyapradesh, India
Presented(oral) a paper : “Black Hole Surrounded by Dark Energy : How the Accretion Disc Gets Changed”.
Venue : Online
Held on : 06-07/08/2020.

11. **Name :** “International Webinar on The Role of Applied Mathematics in Present Global Crises”
Organizer/Funding Agency(ies) : Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, Midnapore, West Bengal, India
Presented(oral) a paper : “Quintessence Contaminated Spinning Black Holes : Detailed Study of Accretion Using Sarkar-Biswas PNF”.
Venue : Online
Held on : 05-07/08/2020.
12. **Name :** “International Web-Conference on Recent Advances in Science (IWCRAS-2020)”
Organizer/Funding Agency(ies) : Department of Physics & IQAC, Don Bosco College, Tura, Meghalaya in collaboration with North Eastern Hill University (NEHU), Tura Campus, Tura, Meghalaya, National Institute of Technology Meghalaya, Shillong, National Institute of Technology Nagaland, Dimapur, Society for Technologically Advanced Material of India (STAMI), Association for Agriculture Environment and Biotechnology, New Delhi, District Administration, Tura, West Garo Hills, Meghalaya, Prime Alternatives, Department of Chemistry, Cotton University, Guwahati, Assam, Physics Academy of the North East (PANE)
Presented(oral) a paper : “Accretion onto Rotating Black Holes Sitting in Quintessence : How Density Varies”.
Venue : Online
Held on : 30-31/07/2020.
13. **Name :** “International e-Conference on Nonlinear Analysis and Its Applications(e-ICNAA-2020)”
Organizer/Funding Agency(ies) : UGC CPE & Dept. of Mathematics, Dayanand Science College, Latur
Presented(oral) a paper : “Viscous Accretion around Quintessence Contaminated Spinning Black Holes : Bypassing Nonlinearity Using Sarkar-Biswas PNF”.
Venue : Online
Held on : 27-29/07/2020.
14. **Name :** “International Conference (online) on Recent Trends in Mathematics and Its Applications to Graphs, Networks and Petri Nets (ICRTMA-GNP-2020)”
Organizer/Funding Agency(ies) : School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi, India
Presented(oral) a paper : “Viscous Accretion onto Dark Energy Contaminated Rotating Black Holes : Use of Sarkar-Biswas Pseudo Newtonian Potential”.
Venue : Online
Held on : 20-24/07/2020.

National Webinars :

1. **Name :** “NATIONAL SEMINAR ON Recent Advances in Mathematics and Its Applications (RAMA-2022)”
Organizer/Funding Agency(ies) : Organized by Department of Pure Mathematics, University of Calcutta
Presenter a Paper entitled “String Theory and Cosmic Acceleration : Conflicts in Accretion Measurable Studies”
Held on : 10-11/03/2022.
2. **Name :** “NATIONAL SEMINAR ON MODELING AND SIMULATION (THE APPLIED WORLD OF MATHEMATICS) (MS-2021)”
Organizer/Funding Agency(ies) : Organized by Department of Mathematics Govt. Pt. Shyamacharan Shukla College, Dharsiwa, Raipur (C.G.), Pin : 493221
Presenter a Paper entitled “Accretion for a Dark Energy Background, Spin of the Black Hole

and Viscosity Work Together” **Venue** : Online
Held on : 03/07/2021. **Award** : by 1st Best Oral Presentation.

3. **Name** : “Introductory Course on Astronomy and Astrophysics”
Organizer/Funding Agency(ies) : Teaching Learning Centre(TLC) of IUCAA(Supported by the *PMMMNM*TT scheme of the *MoE, GoI*) and the IUCAA Centre for Astronomy Research and Development(ICARD), Tezpur University.
Participated Venue : Online
Held on : 27/01/2021-08/04/2021.
4. **Name** : “National Seminar on Recent Advances in Astrophysics and Cosmology”
Organizer/Funding Agency(ies) : IUCAA Centre for Astronomy Research and Development(ICARD), North Bengal University and Department of Physics, North Bengal University.
Presented(oral) a paper : “Accretion onto A Black Characterised by Dark Energy Background, Spin and Viscous Accreting Fluid”.
Venue : Online
Held on : 24-25/03/2021.
5. **Name** : “National Webinar on Mathematical Modelling : Theory and Applications”
Organizer/Funding Agency(ies) : Department of Mathematics in Collaboration with IQAC, West Bengal State University, Barasat, West Bengal
Presented(oral) a paper : “Cosmic Acceleration and String Theory : Conflicts Regarding Accretion Measurables”.
Venue : Online
Held on : 28/08/2020.

Refreshers’ Course & Orientation Programme :

1. **Name** : “Online Refresher Course on Astronomy & Astrophysics-2021”
Organizer/Funding Agency(ies) : IUCAA, Pune
Participated.
Venue : Online
Held on : 10/05/2021 to 11/06/2021.
2. **Name** : “Online Refresher Course on Astronomy & Astrophysics-2020”
Organizer/Funding Agency(ies) : IUCAA, Pune
Participated.
Venue : Online
Held on : 11/05/2020 to 12/06/2020.
3. **Name** : “113th Orientation Programme”
Organizer/Funding Agency(ies) : Human Resource and Development Center, The University of Burdwan
Participated.
Venue : Human Resource and Development Center, The University of Burdwan
Held on : 1-28/02/2018.
4. **Name** : “Refresher Course in Astronomy and Astrophysics-2017”
Organizer/Funding Agency(ies) : IUCAA, Pune
Participated.
Venue : IUCAA, Pune

Held on : 15/05/2017 to 16/06/2017.

2 Online Courses

1. **Name of Course:** “Archaeoastronomy”
Mentoring Institution Politecnico di Milano
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 10/01/2021.
2. **Name of Course:** “Astrobiology and Search for Extraterrestrial Life”
Mentoring Institution University of Edinburgh
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 14/11/2020.
3. **Name of Course:** “Astro 101 : Black Holes”
Mentoring Institution University of Alberta
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 29/10/2020.
4. **Name of Course:** “The Evolving Universe”
Mentoring Institution Caltech
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 14/10/2020.
5. **Name of Course:** “Introduction into General Relativity”
Mentoring Institution Higher School of Economics, National Research University, Russia
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 30/09/2020.
6. **Name of Course:** “Understanding Einstein : The Special Theory of Relativity”
Mentoring Institution Stanford University
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 14/09/2020.
7. **Name of Course:** “Data Driven Astronomy”
Mentoring Institution The University of Sydney
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 29/08/2020.
8. **Name of Course:** “AstroTech : The Science and Technology behind Astronomical Discovery”
Mentoring Institution The University of Edinburgh
Successfully Completed..
Venue : Online COURSERA platform
Completed on : 14/08/2020.
9. **Name of Course:** “From Big Bang to Dark Energy”
Mentoring Institution The University of Tokyo
Successfully Completed with Honors..

Venue : Online COURSERA platform
Completed on : 01/08/2020.

Annexure B :

List of Conferences/Workshops Organized

- Name :** National Seminar on Mathematical Sciences-2020(NSMS-2020)
Date : 09/01/2020-11/01/2020 **Venue :** Organised by Department of Mathematics, The University of Burdwan
Sponsored by : The University of Burdwan & CSIR, India & DST PURSE
Role : Joint-Convener
- Name :** International Conference on Mathematics and its Applications (ICMA-2018)
Date : 15/02/2018-17/02/2018 **Venue :** Organised by Department of Mathematics, The University of Burdwan
Sponsored by : DRDO, India
Role : Joint-Convener
- Name :** CELEBRATING THE CENTENARY OF EINSTEIN'S GENERAL RELATIVITY-2017 : "Hundred Years With 'Λ'" (CCEGR-2017)
Date : 26/07/2017-01/08/2017 **Venue :** Organised by Department of Mathematics, The University of Burdwan
Sponsored by : SERB, DST, India
Role : Convener
- Name :** CELEBRATING THE CENTENARY OF EINSTEIN'S GENERAL RELATIVITY-2016 : "A TRIBUTE TO KARL SCHWARZSCHILD" (CCEGR-2016)
Date : 06-07/09/2016 **Venue :** Organised by Krishnagar Women's College, Kanchrapara College and Bankura University
Sponsored by : University Grants Commission, India
Role : Convener

Annexure C :

Research Guidance

- Student's Name :** Dr. Sandip Dutta
As Supervisor
Department/ Institution : Department of Mathematics, The University of Burdwan, Burdwan-713104.
Date of Registration : 18/07/2017[index number : PhD/Regn./Sc/Math/131]
Date of Award of PhD Degree : 27/12/2021
Title of Thesis : "Threshold Drop In Viscous Dark Energy Accretion Density and Consequences"
- Student's Name :** Dr. Promila Biswas
As Supervisor with cosupervision of Dr. Parthajit Roy, Department of Computer Science, The University of Burdwan
Department/ Institution : Department of Mathematics, The University of Burdwan, Burdwan-713104.
Date of Registration : 26/07/2018 [index number : PhD/Regn./Sc/Math/565]
Date of Award of PhD Degree : 27/12/2021
Title of Thesis : "Exploring Late Time Cosmic Acceleration through Alleys of Red Shift Parameterizations"

3. **Student's Name :** Dr. Abhijit Mandal
As a co-supervisor along with the supervision of Prof. Subenoy Chakraborty
Department/ Institution : Department of Mathematics, Jadavpur University, Kolkata-32.
Date of Registration : 11/05/2015[index number : 93/15/Math./24]
Date of Award of PhD Degree : 01/12/2017
Title of Thesis : "Critical Behavior in Black Hole Thermodynamics"
4. **Student's Name :** Dr. Prabir Rudra
As a co-supervisor along with the supervision of Dr. Ujjal Debnath
Department/ Institution : Department of Mathematics, Indian institute of Engineering Science and Technology, Shibpur.
Date of Registration : 30/10/2012[index number : PhD/R/2012/0077]
Date of Award of PhD Degree : 24/11/2016
Title of Thesis : "Study of Gravitational Collapse and Dynamics of Some Dark Energy Models Responsible For Recent Cosmic Acceleration."

Annexure D :

List of Publications

Book

1. **Author(s) :** Ritabrata Biswas :
Title : *Cosmic Acceleration : Impacts on Black Hole Thermodynamics & Accretion,*
Ref. : Lambert Academic Publishing, ISBN-13 : 978-3-659-31887-0, ISBN-10 : 3659318876, EAN : 9783659318870 (2013).

Papers

In International Refereed Journals

1. **Author(s) :** Ritabrata Biswas and S. Chakraborty,
Title : *The Geometry of The Higher Dimensional Black Hole Thermodynamics in Einstein-Gauss-Bonnet Theory,*
Journal Ref. : *General Relativity and Gravitation* **42** (2010)1311.
DOI : 10.1007/s10714-009-0907-6 ; **arXiv Ref. :** 0905.1776 [gr- qc] .
Publisher : Springer ; **Journal Impact Factor :** 1.721(2017)
ISSN : Online : 1572-9532 ; Print : 0001-7701 ; **Citation(s) :** 19 (till February, 2019).
Number In UGC Approved List of Journals : 27467(WoS and Scopus).
2. **Author(s) :** Ritabrata Biswas and S. Chakraborty,
Title : *Black Holes in the Einstein-Gauss- Bonnet Theory and the Geometry of their thermodynamics-II,*
Journal Ref. : *Astrophysics and Space Science* **326** (2010)39.
DOI : 10.1007/s10509-009-0202-8 ; **arXiv Ref. :** 0905.1801 [gr-qc] .
Publisher : Springer ; **Journal Impact Factor :** 1.885(2017)
ISSN : Online : 1572-946x ; Print : 0004-640x ; **Citation(s) :** 10 (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).
3. **Author(s) :** Ritabrata Biswas and S. Chakraborty,
Title : *Thermodynamics of Black Holes in Einstein-Maxwell- Gauss-Bonnet Theory,*
Journal Ref. : *International Journal Of Theoretical Physics* **49** (2010)152.
DOI : 10.1007/s10773-009-0188-6 ; **arXiv Ref. :** No e-Print.
Publisher : Springer ; **Journal Impact Factor :** 0.968(2017)
ISSN : Online : 1572-9575 ; Print : 0020-7748 ; **Citation(s) :** 3 (till February, 2019).
Number In UGC Approved List of Journals : 7689(WoS and Scopus).

4. **Author(s)** : N. Mazumder, **Ritabrata Biswas** and S. Chakraborty,
Title : *Thermodynamic Stability of a Fluid having the Variable Equation of State*,
Journal Ref. : *Modern Physics Letters A* **25** (2010)2333.
DOI : 10.1142/S0217732310033165 ; **arXiv Ref.** : No e-Print.
Publisher : World Scientific ; **Journal Impact Factor** : 1.308(2017)
ISSN : Online : 1793-6632; Print : 0217-7323 ; **Citation(s)** : 2 (till February, 2019).
Number In UGC Approved List of Journals : 31490(WoS and Scopus).

5. **Author(s)** : **Ritabrata Biswas** and S. Chakraborty ,
Title : *Geometry of the Thermodynamics of the Black Holes in Horava-Lifshitz Gravity*,
Journal Ref. : *General Relativity And Gravitation* **43** (2011)41.
DOI : 10.1007/s10714-010-1067-4 ; **arXiv Ref.** : No e-Print.
Publisher : Springer ; **Journal Impact Factor** : 1.721(2017)
ISSN : Online : 1572-9532 ; Print : 0001-7701 ; **Citation(s)** : 9 (till February, 2019).
Number In UGC Approved List of Journals : 27467(WoS and Scopus).

6. **Author(s)** : S. Chakraborty, N. Mazumder and **Ritabrata Biswas**,
Title : *The Generalised Second Law of Thermodynamics and the Nature of the Entropy Function*,
Journal Ref. : *EuroPhys Lett* **91** (2010)40007.
DOI : 10.1209/0295-5075/91/40007 ; **arXiv Ref.** : 1009.2891 [gr-qc].
Publisher : IOPScience ; **Journal Impact Factor** : 1.834(2017)
ISSN : Online : 1286-4854 ; Print : 0295-5075 ; **Citation(s)** : 24 (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

7. **Author(s)** : S. Chakraborty, **Ritabrata Biswas** and N. Mazumder ,
Title : *Unified First Law and Some Comments*,
Journal Ref. : *IL Nuovo Cimento* **125 B**, N.10(2010).
DOI : 10.1393/ncb/i2010-10912-5 ; **arXiv Ref.** : 1006.1169 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 0.39(2017)
ISSN : Online : 1826-9877; Print : 2037-4895 ; **Citation(s)** : 5 (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

8. **Author(s)** : **Ritabrata Biswas** and S. Chakraborty,
Title : *Black Hole Thermodynamics in Horava Lifshitz Gravity and the Related Geometry*,
Journal Ref. : *Astrophysics and Space Science* **332** (2011) 193.
DOI : 10.1007/s10509-010-0504-x ; **arXiv Ref.** : 1104.3719 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 1.885(2017)
ISSN : Online : 1572-946x ; Print : 0004-640x ; **Citation(s)** : 12 (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

9. **Author(s)** : **Ritabrata Biswas** and S. Chakraborty,
Title : *A Study of Phase Transition in Black Hole Thermodynamics*,
Journal Ref. : *Astrophysics and Space Science* **332** (2011) 171.
DOI : 10.1007/s10509-010-0488-6 ; **arXiv Ref.** : 1104.3723 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 1.885(2017)
ISSN : Online : 1572-946x ; Print : 0004-640x ; **Citation(s)** : 2 (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

10. **Author(s)** : **Ritabrata Biswas**, S. Chakraborty, T.Saini and B. Mukhopadhyay,
Title : *Accretion of Chaplygin gas upon Black Holes: Formation of Faster Outflowing Winds*,
Journal Ref. : *Classical and Quantum Gravity* **28** (2011) 035005.
DOI : 10.1008/0264-9381/28/3/035005 ; **arXiv Ref.** : 1101.4602 [astro-ph.CO].
Publisher : IOPScience ; **Journal Impact Factor** : 3.283(2017)
ISSN : Online : 1361-6382 ; Print : 0264-9381 ; **Citation(s)** : 5 (till February, 2019).
Number In UGC Approved List of Journals : 18705(WoS and Scopus).

11. **Author(s)** : R. Chowdhury, **Ritabrata Biswas**, N. Mazumder and S. Chakraborty,
Title : *Influence of Gauss-Bonnet Coupling Parameter on the Thermodynamic Parameter of Einstein-Gauss-Bonnet and Einstein-Yang-Mills-Gauss- Bonnet Black Holes*,
Journal Ref. : *International Journal Of Theoretical Physics* **50(2011)1628**.
DOI : 10.1007/s10773-011-0672-7 ; **arXiv Ref.** : No e-Print.
Publisher : Springer ; **Journal Impact Factor** : 0.968(2017)
ISSN : Online : 1572-9575 ; Print : 0020-7748 ; **Citation(s)** : **1** (till February, 2019).
Number In UGC Approved List of Journals : 7689(WoS and Scopus).

12. **Author(s)** : N. Mazumder, **Ritabrata Biswas** and S. Chakraborty,
Title : *Interacting Three Fluid System and Thermodynamics of the Universe Bounded by the Event Horizon*,
Journal Ref. : *General Relativity And Gravitation* **43(2011)1337**.
DOI : 10.1007/s10714-010-1116-z ; **arXiv Ref.** : 1006.2887 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 1.721(2017)
ISSN : Online : 1572-9532 ; Print : 0001-7701 ; **Citation(s)** : **6** (till February, 2019).
Number In UGC Approved List of Journals : 27467(WoS and Scopus).

13. **Author(s)** : S. Mukerji, N. Mazumder, **Ritabrata Biswas** and S. Chakraborty,
Title : *Scalar tensor theories of gravity :Validity of the Cosmic No-Hair Conjecture*,
Journal Ref. : *Canadian Journal of Physics* **89:(9) (2011) 937**
DOI : 10.1139/p11-074 ; **arXiv Ref.** : 1106.1751 [gr-qc].
Publisher : NRC Research Press ; **Journal Impact Factor** : 0.840(2017)
ISSN : Online : 1744-9324; Print : 0008-4239 ; **Citation(s)** : **0** (till February, 2019).
Number In UGC Approved List of Journals : 4867(WoS and Scopus).

14. **Author(s)** : N. Mazumder, **Ritabrata Biswas** and S. Chakraborty,
Title : *Thermodynamics of Lemaitre-Tolman-Bondi Model*,
Journal Ref. : *General Relativity And Gravitation* **43(2001)1827**.
DOI : 10.1007/s10714-011-1160-3 ; **arXiv Ref.** : 1006.2519 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 1.721(2017)
ISSN : Online : 1572-9532 ; Print : 0001-7701 ; **Citation(s)** : **17** (till February, 2019).
Number In UGC Approved List of Journals : 27467(WoS and Scopus).

15. **Author(s)** : N. Mazumder, **Ritabrata Biswas** and S. Chakraborty,
Title : *Cosmological Evolution Across Phantom Crossing and the Nature of the Horizons*,
Journal Ref. : *Astrophysics and Space Science* **334 (2011)183**.
DOI : 10.1007/s10509-011-0704-z ; **arXiv Ref.** : 1006.0881 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 1.885(2017)
ISSN : Online : 1572-946x ; Print : 0004-640x ; **Citation(s)** : **12** (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

16. **Author(s)** : P.Rudra, **Ritabrata Biswas** and U. Debnath,
Title : *Gravitational Collapse in Generalized Vaidya Space-Time for Lovelock Gravity Theory*,
Journal Ref. : *Astrophysics and Space Science* **335 (2011)505**.
DOI : 10.1007/s10509-011-0759-x ; **arXiv Ref.** : 1101.0386 [gr-qc].
Publisher : Springer ; **Journal Impact Factor** : 1.885(2017)
ISSN : Online : 1572-946x ; Print : 0004-640x ; **Citation(s)** : **16** (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

17. **Author(s)** : **Ritabrata Biswas**, N. Mazumder and S. Chakraborty,
Title : *Accretion of Holographic Dark Energy : Dependency only upon Horizon Radius of Expanding Universe*,
Journal Ref. : *Astrophysics and Space Science* **35 (2011)603**.
DOI : 10.1007/s10509-011-0772-0 ; **arXiv Ref.** : 1006.3130 [gr-qc] .

Publisher : Springer ; **Journal Impact Factor :** 1.885(2017)
ISSN : Online : 1572-946x ; Print : 0004-640x ; **Citation(s) :** 2 (till February, 2019).
Number In UGC Approved List of Journals : 1409(WoS and Scopus).

18. **Author(s) :** Ritabrata Biswas,
Title : *Density Profiles for Chaplygin Gas Accretion upon Black Holes : Moderately Differentiated Minima in Wind Branch,*
Journal Ref. : *Europhysics Letters* **96** (2011) 49001.
DOI : 10.1209/0295-5075/96/49001 ; **arXiv Ref. :** 1107.3685 [gr-qc].
Publisher : IOPScience ; **Journal Impact Factor :** 1.834(2017)
ISSN : Online : 1286-4854 ; Print : 0295-5075 ; **Citation(s) :** 3 (till February, 2019).
Number In UGC Approved List of Journals : 28980(WoS and Scopus).
19. **Author(s) :** Ritabrata Biswas, N. Mazumder and S. Chakraborty ,
Title : *Lemaitre-Tolman-Bondi model of the universe and Hawking radiation of a dynamical horizon,*
Journal Ref. : *International Journal of Theoretical Physics* **51** (2012)101.
DOI : 10.1007/s10773-011-0882-z ; **arXiv Ref. :** 1106.2286 [gr-qc].
Publisher : Springer ; **Journal Impact Factor :** 0.968(2017)
ISSN : Online : 1572-9575 ; Print : 0020-7748 ; **Citation(s) :** 4 (till February, 2019).
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Every Information given here is true according to the best of my knowledge.

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Date : 31/08/2020