Curriculum-Vitae



Name	:	*Dr. Dipak Debnath*
Date of Birth	:	Jan. 24, 1980
Place of Birth	:	Bhaluka, Nadia, West Bengal, India
Nationality	:	Indian
Religion	:	Hindu
Mother Language	:	Bengali
Sex	:	Male
Marital Status	:	Married
Blood Group	:	B^+
Distinguishable Mark	:	One cut mark on forehead, between two eyebrows
Area of Research	:	Astronomy & Astrophysics
Specialization	:	X-ray observational and theoretical studies for black holes, gamma-ray bursts, solar flares etc., and instrumentation.
Thesis Title	:	*X-Ray properties of the Sun and some compact objects of our Galaxy*
Resident Address (For Communication)	:	Flat D3, Binayak Enclave, Fartabad Beltala, Garia, Kolkata, 700084, West Bengal, India Tel: +91-8961995355 / 9432680632 (WhatsApp)
Permanent Address	:	S/O Late Nanda Dulal Debnath Vill. : Bhaluka, P.O. : Joania Bhaluka, P.S. : Kotwali, District : Nadia, PIN : 741317, West Bengal, India
Publications & Citations		
In Refereed Journals	:	63 (published/accepted) & 4 (submitted/in-preparation)
In Conference Proceedings	:	72
Google Scholar Citations	:	Total 2527 (h-index : 26 & i10-index : 46)
Scopus Publication	:	74
Email Ids	:	dipakcsp@gmail.com

Educational Qualifications :

Name of Exam./Degree	School/College/Institution	Board/University	Year
Madhyamik	Bhaluka High School (H.S.)	W. B. B. S. E.	1996
Higher Secondary	Kabi Bijoylal H.S. Institute	W. B. C. H. S. E.	1998
B.Sc. (Physics Hons.)	Chakdaha College	University of Kalyani	2002
M.Sc. (Physics)	Department of Physics, K.U.	University of Kalyani	2004
Ph.D. (Physics Theoretical)†	Indian Centre for Space Physics	University of Calcutta	2011

† Thesis submitted on 21st June 2010, and degree received on 3rd January 2011.

Work experience :

Sr.	Positions held	Name of the Institute	From	To
1	Junior Research Fellow (JRF)	Indian Centre for Space Physics (ICSP) Chalantika 43, Kolkata 700084, India	03.01.2005	02.01.2007
2	Senior Research Fellow (SRF)	ICSP, Kolkata Chalantika 43, Kolkata 700084, India	03.01.2007	06.07.2010
3	Visiting Scientist	The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy	05.05.2008 01.09.2009	04.11.2008 28.02.2010
4	Research Associate	ICSP, Kolkata	07.07.2010	31.10.2010
5	Scientist-B	ICSP, Kolkata	01.11.2010	17.06.2012
6	Assistant Professor	Indian Centre for Space Physics (ICSP) 466 Barakhola, Netai Nagar, Kolkata 700099, India	18.06.2012	31.12.2016
7	Visiting Scientist	NASA GSFC, Maryland, 20771, USA	01.09.2014	28.09.2014
8	Visiting Assistant Professor	National Tsing Hua University Hsinchu, 300044, Taiwan	28.04.2016	22.07.2016
9	Assistant Professor-II	Indian Centre for Space Physics (ICSP) 466 Barakhola, Netai Nagar, Kolkata 700099, India	01.01.2017	03.07.2022
10	Visiting Associate Professor	National Tsing Hua University Hsinchu, 300044, Taiwan	16.12.2022 02.09.2024 01.12.2025 01.11.2026	15.07.2023 31.07.2025 31.07.2026 - - -
11	Assosiate Professor (Honorary)	Indian Centre for Space Physics (ICSP) 466 Barakhola, Netai Nagar, Kolkata 700099, India	30.10.2026	- - -

Professional Responsibilities (Reviewer, Editor, Conference Organiser, etc.):

1. **Reviewer** of the Journal of Optics (JOPT) paper (2015).
2. **Reviewer** of the ASI Conference Proceeding (ASInC) paper (2015).
3. **Reviewer** of the Astrophysics and Space Science (Ap&SS) paper (2017).
4. **Convener** of the ASI the Workshop4: "X-ray Observations and Data Analysis of Compact Objects" at Jaipur, India on 6th March (2017).
5. **Principal Investigator** of ASTROSAT A03 cycle proposal entitled *"Observation of some persistent stellar mass black holes to constrain accretion flow dynamics across spectral states and its timing properties"* with Co-Is Prof. S. K. Chakrabarti and Prof. A. R. Rao.
6. **Deputy Organizer** of the COSPAR-18-E1.4: "Black Hole Astrophysics: Observational Evidence of Theoretical Models" at Pasadena, CA, United States, 14-22 July (2018).

Professional Recognition/ Award/ Prize/ Certificate/ Fellowship, etc. received :

Sr.	Name of Award	Awarding Agency	Year
1	CSIR Junior Research Fellow	UGC-CSIR Joint NET Examination	2004
2	Visiting Scientist	ICTP, Trieste, Italy	2008-2010
3	Guest Lecturer	RKMRC, Narendrapur, Kolkata	2010 -
4	HOD, High Energy Astrophysics	Indian Centre for Space Physics, Kolkata	2012 - 2020
5	Acting Administrative Officer	Indian Centre for Space Physics, Kolkata	2012 - 2020
6	Member, Academic Council	Indian Centre for Space Physics, Kolkata	2012 - 2020
7	Extended Faculty	University of Gour Banga, Malda, West Bengal	2014
8	Principal Investigator	Fast Track Scheme for Young Scientist, DST	2014-2017
9	Principal Investigator	Respond Project, ISRO	2014-2017
10	Visiting Scientist	NASA/GSFC, Greenbelt, Maryland, USA	2014
11	Visiting Assistant Professor	Institute of Astronomy, NTHU, Hsinchu, Taiwan	2016
12	Principal Investigator	Extra Mural Research Funding, SERB, DST	2017-2020
13	Principal Investigator	India-Taiwan Cooperation Project, GITA, DST	2018-2021
14	Principal Investigator	Respond Project, ISRO	2018-2021
15	Visiting Associate Professor	Institute of Astronomy, NTHU, Hsinchu, Taiwan	2022-2023
16	Visiting Associate	IUCAA, Pune	2023-2026
17	Visiting Associate Professor	Institute of Astronomy, NTHU, Hsinchu, Taiwan	2024-2026

Research Projects Sanctioned/Submitted/Completed:

1. Successfully **completed** Indian Space Research Organisation (ISRO), Government of India, sponsored **RESPOND** grant (ISRO/RES/2/418/18-19, dated: 25.06.2018) for research proposal entitled *"Study of a few Persistent and Transient Black Holes using ASTROSAT and Other Satellite Data"* as principal investigator (PI), jointly with Prof. Sandip K. Chakrabarti (co-principal investigator). Total project cost is 31.83 Lakh.
2. Successfully **completed** Global Innovation & Technology Alliance (GITA), DST, Government of India and MOST, Taiwan sponsored **India-Taiwan Programme of Cooperation in Science & Technology** project (GITA/DST/TWN/P-76/2017, dated: 26.03.2018) on *"Accretion Characteristics of Galactic Outburst Sources from X-ray Observation"* jointly with Prof. H.-K. Chang, NTHU, Hsinchu, Taiwan (PI from Taiwan side) and Prof. Sandip K. Chakrabarti (Co-PI from Indian side) as a PI. Total project cost is Rs. 27.45 Lakh.
3. Successfully **completed** Department of Science and Technology (DST), Government of India, sponsored **Extra Mural Research Funding (Individual Centric)** project (EMR/2016/003918, dated: 24.03.2017) on *"X-ray Properties of Accretion Flows and Estimation of Fundamental Parameters of Black Hole Binaries"* as a PI. Total project cost is Rs. 19.98 Lakh (revised budget: Rs. 20.89 Lakh).
4. Successfully **completed** Indian Space Research Organisation (ISRO), Government of India, sponsored **RESPOND** grant (ISRO/RES/2/388/2014-15, dated: 26.05.2014) for research proposal entitled *"Study of timing properties of few outbursting black hole candidates"* as PI, jointly with Prof. Sandip K. Chakrabarti (Co-PI) for the period of three years starting from July 2014 to July 2017. Total project cost is Rs. 13.89 Lakh (revised budget: Rs. 17.91 Lakh).
5. Successfully **completed** Department of Science and Technology (DST), Government of India, sponsored **Fast Track Scheme for Young Scientist** (SR/FTP/PS-188/2012, dated: 10.01.2014) as PI on *"Study of the spectral properties of few transient black hole candidates with Two Component Advective Flow model"*, for the period of three years starting from January 2014 to January 2017. Total project cost is Rs. 17.16 Lakh (revised budget: Rs. 18.53 Lakh).

Supervising Students:

i) **Ph.D. Scholars:**

1. Dr. Md. Aslam Ali Molla received Ph.D. degree on his Thesis entitled *"Observational Evidence Of Two Component Advective Flows Around Black Holes From The Analysis Of Satellite Data"* from University of Calcutta in 2018. He worked as a Ph.D. student at ICSP from 15th July, 2013 under joint supervision of Prof. Sandip K. Chakrabarti and me; as a DST-FTY or MoES project fellow.
2. Dr. Arghajit Jana received Ph.D. degree on his Thesis entitled *"Trend of Accretion Flow Parameters from Spectral and Timing Properties of Outbursting Black Hole Candidates"* from University of Calcutta in 2020. He worked as a Ph.D. student at ICSP from 13th July, 2014 under joint supervision of me and Prof. S. K. Chakrabarti; as a ISRO-Respond or DST-GITA or CSIR-SRF project fellow. Presently working as a post-doctoral fellow at NTHU, Hsinchu, Taiwan.
3. Dr. Debjit Chatterjee received Ph.D. degree on his Thesis entitled *"Study Of Physical Properties Of And Around Accreting Stellar Mass Black Holes"* from University of Calcutta in 2021. He worked as a Ph.D. student at ICSP from 7th February, 2015 under joint supervision of me and Prof. S. K. Chakrabarti; as a research fellow of DST/FTY and DST/SERB projects. Presently working as a post-doctoral fellow at IIA, Bengaluru, India.
4. Dr. Kaushik Chatterjee received Ph.D. degree on his Thesis entitled *"Study of the spectral and the timing properties of a few stellar massive black hole candidates during their X-ray active phases"* from University of Calcutta in 2022. He worked as a research fellow of DST Inspire fellowship programme since 23rd April, 2017 under joint supervision of me and Prof. S. K. Chakrabarti. He got post-doctoral fellowship position at Yunnan University, China.
5. Dr. Riya Bhowmick received her Ph.D. degree on her Thesis entitled *"Outbursting Nature Of Compact X-ray Binaries"* from University of Calcutta in 2024. She worked as a CSIR-UGC NET qualified UGC-JRF since 14th Jan., 2019 under joint supervision of me and Prof. S. K. Chakrabarti.
6. Dr. Sujoy Kumar Nath received his Thesis for the Ph.D. degree on his Thesis entitled *"Multi-Satellite Observations Of Several Low Mass X-ray Binaries"* from University of Calcutta in 2025. He worked as a ISRO-RESPOND project fellow since 16th May, 2019 under joint supervision of me and Prof. Sandip K. Chakrabarti.
7. Dr. Abhrajit Bhattacharjee received his Thesis for the Ph.D. degree on his Thesis entitled *"Properties of Transonic Flows in Kerr Black Hole Geometry"* from University of Calcutta in 2026. He worked as a ISRO-RESPOND project fellow since 1st Feb., 2019 under joint supervision of Prof. Sandip K. Chakrabarti and me.

ii) **M.Sc./ Pre-Ph.D. Project Students:**

1. Mr. Soumik Banerjee from Ramakrishna Mission Residential College (RKMRC), Narendrapur, Kolkata, 700103; has completed his M.Sc. project work in 2011-12, on *"X-ray temporal variability study of H 1743-322 during its 2007-08 outburst"* under my supervision.
2. Mr. Koushik Pan from RKMRC, Narendrapur; has completed his M.Sc. project work in 2012-13, on *"Temporal variability study of 4U 1630-47 during its 2007-08 outburst"* under my supervision.
3. Mr. Iman Barik and Mr. Subhasish Saha from RKMRC, Narendrapur; has completed their M.Sc. project works in 2013-14, on *"Timing properties of H 1743-322 during its early phase of 2003 outburst"*, and on *"Spectral study of H 1743-322 during its early phase of 2003 outburst"* respectively under my supervision.
4. Mr. Ashok Kumar Mondal and Mr. Raju Goswami from RKMRC, Narendrapur; has completed their M.Sc. project works in 2014-15, on *"Spectral property study of the black hole candidate H 1743-322 during its entire phase of 2004 outburst"*, and on *"Timing property of H 1743-322 during its entire phase of 2004 outburst"* respectively under my supervision.

5. Mr. Deep Singha Roy and Mr. Kaustav Malakar from RKMRC, Narendrapur; has completed their M.Sc. project works in 2019-20, on *"Spectral Property Study of the Black Hole Candidate XTE J1818-245 during its Outburst in 2005"*, and *"Study of Timing Property of XTE J1818-245 during its entire phase of 2005 Outburst"* under my supervision.
6. Mr. Suman Das and Mr. Indrajit Maity from RKMRC, Narendrapur; has completed their M.Sc. project works in 2020-21, on *"Spectral Property Study of the Black hole Candidate GX 339-4 during its Outburst in 2007"*, and *"Study of Temporal Evolution of the Black hole Candidate GX 339-4 during it's Outburst in 2007-'08"* under my supervision.
7. Ms. Aishwarya Roy of Adamas University, Kolkata completed her M.Sc. project in 2022 on *"A Basic Understanding of Astrophysics and Radiative Transfer"* under my supervision.
8. My Ph.D. students completed their projects (PHY004), which were part of their Pre-Ph.D. course work under joint supervision of me and Prof. S. K. Chakrabarti. Arghajit Jana, Debjit Chatterjee, and Md. Aslam Ali Molla (academic semester 2016-17); Kaushik Chatterjee (academic semester 2018-19); Riya Bhowmick and Sujoy K. Nath (academic semester 2021).
9. Mr. Subham Srimani of NIT, Rourkela completed his M.Sc. project in 2023 on *"Classification of Light Curve Profiles of GRS 1915+105: Analysis with Sci-Server"* under my supervision.
10. Ms. Anwesha Banerjee of University of Calcutta completed her DST/INSPIRE project in 2022 on *"Study of the Evolution of the Temporal Properties of XTE J1650-500 during its 2001-02 Outburst"* under my supervision.

Teaching Experiences:

1. Delivered lectures and guided post-M.Sc. students for Pre-Ph.D. course work according to the UGC guide-line and affiliated by University of Calcutta at Indian Centre for Space Physics (ICSP), Kolkata for the academic semester 2016-17. The subjects (each of full 50 marks) taught during the course are: PHY 001: Research Methodology, PHY 002: Review of Topical Research, PHY 003: Astrophysics and Space Science, and PHY 004: Project Work.
2. A series of lectures are delivered on astrophysical topics of *i*) *Basic background* & *Instrumentation, ii*) *Spectral Classification of Stars, iii*) *Binary Stars, and iv*) *Galaxies* at Ramakrishna Mission Residential College, Narendrapur; which is a part of astrophysics elective course for M.Sc. (Physics) 4^{th} semester students for last ten academic years (starting from 2010-11).
3. A series of classes are taken on astrophysical topics of *i*) *Stellar Objects* & *Stellar Explosions, ii*) *Gravitational Collapse and Relativistic Astrophysics, iii*) *Accretion Disks around Compact Objects* at Department of Physics, University of Gour Banga; which are a part of astrophysics elective course for M.Sc. (Physics) IV^{th} semester students (2014).

Research Experiences:

1. Did background simulation for ASTROSAT/CZT and RT-2 payloads with the help GEANT4 toolkit; written in C++.
2. Did Monte Carlo simulations of Fresnel Zone Plates (FZPs) and Coded Aperture Masks (CAMs) with the codes written in IDL for the hard X-ray imaging of CZT and CMOS detectors, used in RT-2/CZT payload. We also verified our simulation results with the experimental results. I hope that these coders will be used for X-ray imaging study of astronomical objects in future satellite or balloon borne experiments.
3. Completed Test & Evaluations and channel-energy calibrations of RT-2 payloads (RT-2/S, RT-2/G & RT-2/CZT) using programs written by us in LabVIEW, C and IDL etc. languages. RT-2 was an Indo-Russian collaborative experiment, was a part of Russian CORONAS-PHOTON mission satellite, mainly to study Sun in hard X-ray energy band (from $\sim 15-1000$ keV). The RT-2 payloads were developed and tested by TIFR, VSSC, ICSP under guidance of ISRO, was successfully launched in 550 km low earth polar orbit from Plesetsk, Russia on January 30, 2009.

4. Solar X-ray study using RT-2 data onboard CORONAS-PHOTON Mission was done. We also Compared our results with results obtained from other solar satellite (RHESSI, GOES etc.) data.
5. Detailed analysis of Gamma-ray bursts (GRBs), were observed with RT-2 (onboard CORONAS-PHOTON Mission), SWIFT or FERMI, etc. astronomy satellites.
6. Involved on improvement of the two-component advective flow (TACF) model, introduced by Chakrabarti and his collaborators, after inclusion of Bulk motion Comptonization, spin, etc. into the model code.
7. Studying accretion flow dynamics of black hole candidates with TCAF model, after successful generation and inclusion of the model table *fits* file into NASA's spectral fitting software package XSPEC. Also trying to improve model fit statistics by self-written FORTRAN programs to read fits file and fitting spectra. Also doing model fit by running model code in XSPEC platform (which generates theoretical spectrum while fits observed spectrum with the least-square fit technique), for better and user-friendly fitting of the black hole X-ray spectra.
8. Study evolution of quasi-periodic oscillation (QPO) frequencies, observed during rising and declining phases of outbursts of a few transient black hole candidates with our proposed Propagating Oscillatory Shock (POS) model in 2005.
9. Working on the comparative study of the spectral properties of black hole candidates with TCAF and other (for example, combined diskbb plus power-law, CompST, etc.) model fitted results.
10. Estimation intrinsic parameters such as mass of the black hole, distance, spin, distance, disk inclination angle, etc. from various temporal (e.g, using POS model), spectral (e.g., using TCAF, relxill, LAOR, etc. model) analysis methods.
11. Estimation of jet X-ray fluxes after separating it from total observed X-ray. Studying nature of the jet by studying correlation of the radio and the X-ray jet fluxes.
12. Estimation of viscous time scales, equipartition magnetic field, cooling and infall time scales, etc.
13. Involved in detailed timing and spectral properties of few Galactic black hole candidates (for e.g., GRO J1655-40, H 1743-322, GX 339-4, Swift J1753.5-0127, Swift J1727.8-1613, MAXI J1659-152, MAXI J1836-194, MAXI J1543-564, MAXI J1535-571, MAXI J1348-630, MAXI J1813-095, MAXI J1910-057, MAXI J0637-430, MAXI J1834-021, XTE J1118+480, XTE J1752-223, XTE J1908+094, V404 Cygni, EXO 1846-031, 4U 1630-472, GRS 1716-249, GRS 1915+105, IGR J17091-3624, GRS 1739-278, GS 1354-64, etc.) using archival data of astronomy satellites, such as RXTE, MAXI, Swift, NICER, NuSTAR, AstroSat, Insight-HXMT, IXPE, XMM-Newton, Chandra, etc.
14. The detection of polarization and joint spectro-temporal-polarimetric studies of Galactic compact X-ray binaries, such as IGR J17091-3624, GRS 1739-278, and GS 1354-64, have been carried out using archival data from astronomy satellites including IXPE, NuSTAR, Insight-HXMT, MAXI.
15. Long term outbursting nature of the three Galactic recurring transient black hole candidates (H 1743-322, GX 339-4, 4U 1630-472) are studied to find relation between outburst and quiescent phases. Triggering mechanism of the outbursts are also studied.

Softwares known; commonly used in Scientific Researches:

1. **FTOOLS**; used for scientific analysis of data of RXTE, Swift, NuSTAR, ASTROSAT, NICER, Insght-HXMT, IXPE, and other astronomy satellites. With the help of this HeaSARC's software package we can also fit timing and spectral data of astrophysical objects in different in-build or local (our TCAF) models according to our scientific understandings and demands.
2. **SAS**; used for scientific data analysis of XMM-Newton astronomy satellite.
3. **CIAO**; used for scientific data analysis of astronomy satellite Chandra.
4. **SSW IDL**; used for scientific data analysis of solar astronomy satellite RHESSI, GOES.

5. **FORTRAN**; used for scientific calculations, simulations, data modifications etc. It also helped me to modify TCAF code and write fits file generation programs.
6. **IDL**; used for Monte Carlo simulations of Fresnel Zone Plates, RT-2 channel energy calibrations and various 2D, 3D ploddings etc. Also it is used to analyze the scientific data of the solar satellite RHESSI. I have also written a code in this language for image processing; reducing the noise of image data etc. Also I can use this language for analyzing archival data of astronomy satellites, such as RXTE, NuSTAR, XMM-Newton, SWIFT, etc.
7. **C++**; used for doing background simulations with the help of **GEANT4** toolkit. We made background calculations for RT-2 (S, G & CZT) and ASTROSAT/CZT payloads with the help of CERN software package GEANT4.
8. **ROOT**; used for scientific analysis and model fitting of the timing and spectral data. We can also easily write our own model in this language and fit data with that new model.
9. **Python**; used for scientific analysis and model fitting of the timing and spectral data using SciServer, Stingray, etc. This will be used our future work on machine learning analysis.
10. **Linux Shell Programming:**; used for running multiple tasks from a single macro file, which can call other sub-macros or programs written in other languages (for e.g., FORTRAN, IDL etc.). I have written a robust code to download archival data of RXTE or other satellites from data archive and make spectral & timing analysis of using that data.
11. **LabVIEW**; used for Laboratory Test & Evaluations of RT-2 and other payloads and instruments. I have written entire test & evaluation codes for testing RT-2 payloads from their card level test to Flight model. Also I have written entire laboratory or flight data analysis programs for analyzing RT-2 scientific raw data using this language. All the scientific papers published so far, were analyzed using my code.

Major International Visits :

1. Visited **the Abdus Salam International Centre for Theoretical Physics (ICTP), Italy** for one year, divided into two 6 month periods starting from 5^{th} May 2008, and from 1^{st} September 2009 respectively as a **Visiting Scientist** to work on XDXL (X-ray Drift-detector eXtra Large) project to *"characterize and develop of a large area, high resolution (temporal and spatial) Silicon Drift Detector (SDD)"*.
2. Visited **NASA's Goddard Space Flight Center (GSFC)**, Greenbelt, Maryland, 20771, USA to work with Prof. Keith A. Arnuad for 4 weeks duration as a **Visiting Scientist** starting from 1^{st} September 2014 on *"improvement of TCAF model fit statistics by its inclusion in HEASARC's spectral analysis software package XSPEC as a local/in-build model"*.
3. Visited **Institute of Astronomy, National Tsing Hua University** (NTHU), 101, Sec 2, Kuang-Fu Road, Hsinchu, 300044, Taiwan to work with Prof. Hsiang-Kuang Chang from April 28, 2016 to July 22, 2016 as a **Visiting Assistant Professor** on sabbatical leave from ICSP, Kolkata. For the successful completion of the India-Taiwan joint scientific co-operation project DST/GITA, visited during Sep. 2-30, 2018; Oct. 31 - Nov. 12, 2019. Again visited NTHU as a **Visiting Associate Professor** for 7 months (16.12.2022-15.07.2023), 11 months (01.09.2024-31.07.2025) and 8 months (01.12.2025-31.07.26).

Seminars, Schools, Conferences, Workshops or Meetings attended:

1. **RT-2 Satellite Preliminary Design Review (PDR) meeting***on 2nd February, 2006 at Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, India; and presented a lecture on preliminary results of RT-2/S Laboratory Test & Evaluation.*
2. **RT-2 Satellite Project Management Board (PMB) meeting***on 20th April, 2006 at Tata Institute of Fundamental Research (TIFR), Mumbai, India; and presented a lecture on RT-2/S Laboratory Test & Evaluation and Channel-Energy Calibration results.*

3. **RT-2 Satellite Project Management Board (PMB) meeting***on 31st July, 2006 at Indian Space Research Organisation (ISRO) Headquarters, Bangalore, India; and presented a lecture on RT-2/CZT Laboratory Test & Evaluation and Channel-Energy Calibration results.*
4. **Winter School on AstroParticle Physics (WAPP)***during December 20-28, 2006 at Cosmic Ray Laboratory (CRL), Ooty, India.*
5. 4^{th} ASTROSAT Workshop on **"Study of emission from hot diffuse gas with ASTROSAT"** *from December 27^{th}, 2006 to January 3^{rd}, 2007 at Christ College, Bangalore, India.*
6. Mini School on **"Hydrodynamic** & **Radiative process in Astrophysics"***from January 31^{st} to February 3^{rd}, 2007 at S.N. Bose National Centre for Basic Science, Kolkata, India.*
7. **XXVth Meeting of the Astronomical Society of India (ASI)** *during February 7-9, 2007 at Department of Astronomy, Osmania University, Hyderabad-500007, India.*
8. International Heliophysical Year (IHY) Workshop on **"Super Active Regions of Solar Cycle 23 and their Geo-Space Impact"** *during May 7-10, 2007 at ATI, Nainital - 263129, India; organized by Aryabhatta Research Institute of Observational Sciences (ARIES) and co-sponsored by CAWSES-India (ISRO) and NCRA-TIFR.*
9. **International School on Astrophysical Fluid Dynamics** *during October 15-26, 2007 at Giambiagi Lecture Hall, ICTP, Trieste, Italy;* organized by the Abdus Salam International Centre for Theoretical Physics, Italy.
10. Second Kolkata Conference on **"Observational Evidence for Black Holes in the Universe"** *during February 10-15, 2008 at Vedic village and Radisson fFort, Kolkata, India;* organized by S.N. Bose National Centre for Basic Sciences, Kolkata, India.
11. Satellite Meeting jointly with ICRANET on **"Black Holes, Neutron Stars and Gamma Ray Bursts"** *during February 16-17, 2008 at Lecture Hall 2, S.N. Bose National Centre for Basic Sciences, Kolkata, India;* organized by S.N. Bose National Centre for Basic Sciences, Kolkata, India.
12. Advanced Training Course on **"FPGA Design and VHDL for Hardware Simulation and Synthesis"** *from October 26 to November 20, 2009 at Adriatico Guest House, ICTP, Trieste, Italy;* organized by the Abdus Salam International Centre for Theoretical Physics, Italy.
13. International conference on **"Accretion and Outflow in Black Hole Systems"** *during October 11-15, 2010 at Hotel Radisson, Kathmandu, Nepal;* organized jointly by INAF, INAR/OAR, ASI/ADSC, INAF/IASF, Warsaw and Dept. of Physics, Tribhuvan University.
14. International conference on **"Wideband X-ray Astronomy: Frontiers in Timing & Spectroscopy"** *during January 13-16, 2011 at Baskara-3, IUCAA, Pune, India;* organized by IUCAA.
15. **"First ICTP Regional Microelectronics Workshop on VHDL for Hardware and FPGA Design in South Asia"** *from January 31 to February 18, 2011 at North South University campus, Dhaka, Bangladesh;* jointly organized by ICTP and NSU.
16. The Indo-Russian bi-lateral Workshop on **"Gamma-ray bursts, evolution of massive stars and star formation at high redshifts"** *during March 2-4, 2011 at ARIES, Nainital, India;* organized by ARIES.
17. The workshop on **"Role of Small Telescopes in Modern Astronomy Research"** *during November 7-8, 2011 at S.N. Bose National Centre for Basic Sciences, Kolkata, India;* organized by S.N. Bose National Centre for Basic Sciences.
18. The Thirteenth Marcel Grossmann (MG13) Meeting on **"Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory"** *during July 1-7, 2012 at the Stockholm University, Stockholm, Sweden.*
19. **The 39th COSPAR (Committee On SPAce Research) Scientific Assembly** *at GEC2, Infosys Training Centre, Mysore, Karnataka, India, during July 14-22, 2012;* organized by ISRO.

20. National Conference on **"Recent Trends in the Study of Compact Objects: Theory and Observation"** (RETCO) *at IIT, Guwahati, Assam, India, during March 11-13, 2013.*

21. International workshop on **"COSPAR Capacity Building Workshop on High Energy Astrophysics"** *at Xuyi Observatory Station (XOS), Jiangsu Province, China, during September 2-13, 2013.*

22. **The 40th COSPAR (Committee On SPAce Research) Scientific Assembly** *at Moscow, Russia, during August 2-10, 2014*; organized by Lomonosov Moscow State University.

23. National workshop on **"Science with LAXPC/ASTROSAT"** during December 15-17, 2014 *at TIFR Balloon Facility, Hyderabad.*

24. Annual Review Meeting of **ISRO-RESPOND projects** *at PRL, Ahmedabad during March 12-13, 2015* to defend project entitled **"Study of timing properties of few outbursting black hole candidates"**.

25. National Conference on **"Recent Trends in the Study of Compact Objects: Theory and Observation"** (RETCO-II) during May 6-8, 2015 *at ARIES, Nainital, India.*

26. The Fourteenth Marcel Grossmann (MG14) meeting on **"Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory"** *from July 12-18, 2015 at University of Rome "La Sapienza", Rome, Italy.*

27. National workshop on **"TIMING & SPECTROSCOPY: WIDEBAND X-RAY ASTRONOMY"** during January 12-14, 2016 *at TIFR Balloon Facility, Hyderabad.*

28. Annual Review Meeting of **ISRO-RESPOND projects** *at PRL, Ahmedabad during March 3-4, 2016* to defend project entitled **"Study of timing properties of few outbursting black hole candidates"**.

29. **2016 ASROC Annual Meeting** at *National Cheng Kung University, Tainan, Taiwan* during May 13-16, 2016.

30. International symposium on **"7 years of MAXI : monitoring X-ray transients"** at Suzuki Umetaro Hall, RIKEN 2-1 Hirosawa, Wako, Saitama, 351-0198, Japan during 5-7 December, 2016; organized by RIKEN.

31. International conference on **"Wide Band Spectral and Timing Studies of Cosmic X-ray Source"** during January 10-13, 2017 *at TIFR, Mumbai, India*; organized by TIFR.

32. **XXXVth Meeting of Astronomical Society of India** (ASI) during 6-10 March 2017, at *B. M. Birla Auditorium, Jaipur, India*; organized by ASI.

33. National Conference on **"Recent Trends in the Study of Compact Objects: Theory and Observation"** (RETCO-III) during June 5-7, 2017 *at IIST, Thiruvananthapuram, India*; organized by IIST.

34. **"INTEGRAL Symposium 2017: Energetic Time Domain Astrophysics"** at Centro Culturale Don Oriore Artigianelli, Venice, Italy during 15-20 October, 2017; organized by INTEGRAL Team.

35. **The Astronomical Observatory**, vicolo dell'Osservatorio 3, Padova, Italy to present lecture on invitation of Prof. Roberto Turolla, Dept. of Physics and Astronomy, University of Padova, Italy on 18th Oct., 2017.

36. The Fifteenth Marcel Grossmann (MG15) meeting on **"Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory"** *during July 1-7, 2018 at University of Rome "La Sapienza", Rome, Italy.*

37. **The 42nd COSPAR (Committee On SPAce Research) Scientific Assembly** in *Pasadena, California, USA, during July 14-22, 2018*; hosted by Caltech.

38. NCTS Summer School on Astrophysics on **"Accretion and Emission of Accreting Black Hole"** in *Institute of Astronomy, National Tsing Hua University, Hsinchu, Taiwan* during Sep 2-7, 2018.
39. **"Exploring the Universe: Near Earth space science to extragalactic astronomy"** (EXPUNIV2018) at *S. N. Bose National Centre for Basic Sciences, Kolkata, India* during Nov. 14-17, 2018.
40. National Conference on **"Recent Trends in the Study of Compact Objects: Theory and Observation"** (RETCO-IV) during April 17-20, 2019 *at IUCAA, Pune, India*; organized by IUCAA.
41. **The 43rd COSPAR (Committee On SPAce Research) Scientific Assembly** in *Sydney, Australia, during 28 January - 4 February, 2021*; hosted by Australian Academy of Science via hybrid mode.
42. National Conference on **Astrophysical jets and observational facilities : National perspective** via hybrid mode (Google Meet) during 5 - 9 April, 2021; hosted by *ARIES, Nainital, India*.
43. **NICER Science & Analysis Workshop** via hybrid mode (Zoom Platform) during May 10-14, 2021; hosted by NICER team.
44. **The 44th COSPAR (Committee On SPAce Research) Scientific Assembly** in *Athens, Greece, during July 16-24, 2018*.
45. **Annual Meeting of the Physical Society of Taiwan** (TPS2023) at *National Cheng Kung University (NCKU), Tainan, Taiwan*, during January 16-18, 2023.
46. **The 2023 Scientific Assembly of the Astronomical Society of the Republic of China** (ASROC2023) at *National Sun Yat-sen University (NSYSU), Kaohsiung, Taiwan* during May 19-21, 2023.
47. **Annual Meeting of the Physical Society of Taiwan** (TPS2025) at *National Sun Yat-sen University (NSYSU), Kaohsiung, Taiwan*, during January 14-16, 2025.
48. **The 2025 Scientific Assembly of the Astronomical Society of the Republic of China** (ASROC2025) at *National Formosa University, Huwei, Taiwan* during May 16-18, 2025.
49. **Annual Meeting of the Physical Society of Taiwan** (TPS2026) at *National Chung Cheng University, Chiayi, Taiwan*, during January 13-15, 2026.

Public Outreach Activities:

i. **State Level Quiz Competition on Astronomy, Astrophysics and Space Science** *on September, 2005 at Bidhan Nagar Govt. High School, Salt Lake, West Bengal, India.*

ii. Article on **"Grativational Lensing"** in *Mahabiswa-o-Ami (March, 2007 Issue) – A Bengali Book issued twice a year for popularization of Astrophysics and Space Science in Bengali community.*

iii. **District-wise Space Science Symposium** for the popularization of space science *on 17th May 2007 at Burdwan Town Hall, Burdwan, West Bengal, India and on 18th May 2007 at Birbhum DRDA Hall, Birbhum, West Bengal, India.*

iv. **Live Expert comments** on *Space Shuttle Atlantis Landing (2:30 hrs) in TV Channel 24 Ghanta on 22nd June 2007.*

v. **District-wise Space Science Symposium for the popularization of space science** *on 17th January 2008 at Rabindra Bhaban, Krishnagar, Nadia, West Bengal, India.*