Curriculum Vitae of Prof. S.K. Chakrabarti

Born: on Nov. 15th 1958, at Malda, West Bengal, INDIA.
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Education:
Bachelor of Science (B.Sc.) in Physics Hons. from Calcutta University in 1979 with *First Class First* position.
Master of Science (M.Sc.) in Physics Hons. from Indian Institute of Technology, Kanpur in 1981 with *first division with distinction*.
Ph.D. from the Dept. of Physics, The University of Chicago, Thesis on "Rotating Wind Solution and the Acceleration of Cosmic Radio Jets", in July, 1985 (Supervisor: Prof. W. D. Arnett).

Positions held:
1) Research Assistant from Oct. 1981 to Sept. 1985 at the University of Chicago
2) *R. C. Tolman Fellow (1985-1987)* at the California Institute of Technology.
3) Postdoctoral Fellow (1987-1988), ICTP, Trieste.
4) Visiting Fellow (Nov. 1988 - July 1989) Tata Institute Of Fundamental Research, Bombay.
5) Fellow (Aug. 1989 - July 1994) TIFR, Bombay.
6) Reader (Aug. 1994 - Feb. 1998), TIFR, Bombay
7) Assoc. Professor (Dec. 1996 - Dec. 2003) S.N. Bose National Center for Basic Sciences
8) Acting Administrative Officer, S.N. Bose National Center for Basic Sciences (Apr. 1998 - Oct, 1998)
9) In Charge, Academic Affairs and General Secretary: Indian Centre for Space Physics (1999 -)
10) Professor, S.N. Bose National Centre for Basic Sciences, (2004 -2007)
11) Senior Professor, S.N. Bose National Centre for Basic Sciences (2008-)
12) Dean (Academic Prog.) S.N. Bose National Centre for Basic Sciences (2010 -1/2013)

13) Adjunct Faculty: International Centre for Relativistic Astrophysics (ICRA) Network, Italy (2010 -)

Awards and Appointments:

1) *National Science Talent Search* (NSTS) Scholarship in 1975.
2) *National Science* (NS) Scholarship in 1975.
3) Research Assistant from Oct. 1981 to Sept. 1985 at the University of Chicago
4) Life Member: Indian Association of General Relativity and Gravitation.
5) Young Associate award from Indian Academy of Sciences (1990-1993).
6) Young Scientist award by the Indian National Science Academy (1990)
7) Regular Associate: International Center For Theoretical Physics, Trieste, Italy (1990-1997).
8) Member: International Astronomical Union (1991-)
9) A.K. Bose Award by Indian National Science Academy (1994)
10) INSA/DFG nomination to attend 44th Meeting of the Nobel Prize Winners in Lindau (1994)
11) Member: Executive Committee of Commission-28 (Galaxies) of International Astronomical Union (1994-2000)
12) Senior Research Associate (National Research Council, National Academy of Sciences) at NASA/Goddard Space Flight Centre (Oct.1994 - Oct.1995)
13) Member: American Astronomical Society (1996)
14) Sub-Editor (Astrophysics Section) of Indian Journal of Physics (1999-)
15) Honorary Professor, Indian Centre for Space Physics, Kolkata (2002-)
16) Senior Associate, Abdus Salam ICTP, Trieste, Italy (2003- 2009)
17) Head of the Department, Astrophysics and Cosmology, SNBNCBS (2006-)
18) Member: American Astronomical Society (2007- 2008)
19) Member Editorial Board: Open Astronomy Journal (Bentham) (2007-)
20) Member: International Society of the Study of the Origin of Life (ISSOL) (2008-)
21) Member: Editorial board of "Bulletin of Astronomical Society of India (BASI)" (2010-2016)
22) Guest Editor for PhD Thesis series: Springer Publishers, Germany (2012 -)
23) Recepient of 'Mitra Mandir' Eminent Personalities of India medalion (2012) 24)Member, International Scientific Organizing Committee of "International Conference on Astrophysics and Cosmology", Kathmandu, July, 2012
25) Member, International Co-ordination Committee of "13th Marcel Grossman Conference on General Relativity and Cosmology, Stockholm, July, 2012
26) Chairman, "Accretion processes on Black Holes" at "13th Marcel Grossman Conference on General Relativity and Cosmology, Stockholm, July, 2012
27) Scientific Organizers in Three sessions in 39th COSPAR 2012 General Assembly (C0.4, E1.2, F3.5), Mysore, July, 2012.
28) *Banga Ratna* (Jewel of Bengal) award by the Government of West Bengal Province of India in January, 2014

29) Scientific Organizer of 40th COSPAR 2014 General Assembly (C0.4), Moscow (August 2014)
30) Scientific Organizer of Three sessions of 41st COSPAR 2016 General Assembly Istanbul (August 2016; cancelled due to unrest)
31) Scientific Organizer of Four sessions of 42th COSPAR 2018 General Assembly Caltech, USA (August 2018, scheduled)
32) LOC and International Co-ordination Committee Member of MG14 held in Rome (July, 2015)
Others: Member of the Expert Committee on Astrophysics: Indira Gandhi National Open University; Expert member: Italian Space Agency Proposal Review/ESA proposal review; Invited Professor, University of Paris (two months), 2002; Member: Project Monitoring Body of RT-2 payloads (2005-2008); Team Leader: Balloon borne Science programme at Indian Centre for Space Physics
33) DSc (Honoris Causa): from Gour Banga University (2015)
34) One of Top-ten physicists in India, India Today (http://indiatoday.intoday.in/education/story/top-10-indian-physicists/1/443853.html)
35) Distinguished Professor (Honorary), Indian Centre for Space Physics (9/2016 -)

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Research Publications:

(A) In Refereed Journals

J1. **S.K. CHAKRABARTI**, R.P. GEROCH and C. LIANG: Timelike Curves of Limited Acceleration in General Relativity, 1983, *Journal of Mathematical Physics,* **24**, 597.
J2. **S.K. CHAKRABARTI**: On Mass dependent Spheroidal Harmonics of Spin One half, 1984, *Proceedings of Royal Society of London, A,* **391**, 27.
J3. **S.K. CHAKRABARTI**: The Natural Angular Momentum Distribution in the Study of Thick Disks Around Black Holes, 1985, *Astrophysical Journal,* **288**, 1.
J4. **S.K. CHAKRABARTI**: Analytic Structure of Cosmic Radio Jets: A Preliminary Investigation, 1985, *Astrophysical Journal,* **288**, 7.
J5. **S.K. CHAKRABARTI**: Rotating Wind Solution and the Acceleration of the Cosmic Radio Jets, 1986, *Astrophysical Journal,* **303**, 582.
J6. **S.K. CHAKRABARTI**, L. JIN, and W.D. ARNETT: Nucleosynthesis Inside Thick Accretion Disks Around a Black Hole-I Thermodynamic Conditions And Preliminary Analysis, 1987, *Astrophysical Journal*, **313**, 674.
J7. **S.K. CHAKRABARTI**: Constraints on viscosity in Thick disks from X ray and gamma

ray observation of SS433, 1988, *Astrophysical Journal* **324**, 391.
J8. **S.K. CHAKRABARTI**: Spacetime with Self Gravitating Thick Disk Around a Black Hole, 1988 *Journal of Astrophysics and Astronomy*, **9**, 49.
J9. **S.K. CHAKRABARTI**: Vortex Rings in the working surface of a Radio Jet, 1988, *Journal of Astrophysics and Astronomy*, **9**, 185.
J10. **S.K. CHAKRABARTI**: On the Damping of the Bending Wave in the Saturn's Rings, 1988 *Journal of Astrophysics and Astronomy*, **9**, 243.
J11. **S.K. CHAKRABARTI**: On the Dynamics of the Working Surface of Supersonic Radio Jets, 1988,*M.N.R.A.S.*, **235**, 33.
J12. L. JIN, W.D. ARNETT and **S.K. CHAKRABARTI**: Nucleosynthesis Inside Thick Accretion Disks Around Black Holes-II Results for Massive Black Holes, 1989, *Astrophysical Journal*, **336**, 572.
J13. **S.K. CHAKRABARTI**: Studying Shocks in Model Astrophysical Flows, 1989, *Astrophysical Journal (Letters)*, **337**, L89.
J14. **S.K. CHAKRABARTI**: Dynamics of Particles in Bending Waves of the Planetary Rings, 1989 *M.N.R.A.S.*, **238**, 1381.
J15. **S.K. CHAKRABARTI**: Standing Shocks in the Isothermal Rotating Winds and Accretion, 1989, *M.N.R.A.S.*, **240**, 7.
J16. **S.K. CHAKRABARTI**: Multiple Shocks in the Adiabatic Rotating Winds from Self-Gravitating Thick Disks, 1989, *Journal Astrophysics Astronomy*, **10**, 261.
J17. **S.K. CHAKRABARTI**: A systematic study of the standing shocks in thin flows near compact objects, 1989, *Publication of the Astronomical Society of Japan*, **41**, No. 6, 1145.
J18. **S.K. CHAKRABARTI**: Standing Rankine-Hugoniot Shocks in the Hybrid Model Flows of Black Hole Accretion and Winds, 1989, *Astrophysical Journal*, **347**, 365.
J19. **S.K. CHAKRABARTI**: Standing Shocks in Rotating Winds and Accretion in Kerr Spacetime, 1990 *Astrophysical Journal* **350**, 275.
J20. **S.K. CHAKRABARTI**: Resolved and Unresolved issues in the Study of the Thick accretion disks, 1990, *Comments on Astrophysics*, **4**, 209.
J21. M. ABRAMOWICZ and **S.K. CHAKRABARTI**: Standing Shocks in the Adiabatic Black Hole accretion of Rotating Matter, 1990, *Astrophysical Journal*, **350**, 281.
J22. **S.K. CHAKRABARTI**: Standing Shocks in Isothermal Rotating Winds and Accretion II: Effects of Viscous Dissipation, 1990, *M.N.R.A.S.*, **243**, 610.
J23. **S.K. CHAKRABARTI**: Standing Rankine-Hugoniot Shocks in the hybrid model flows II: non-axisymmetric self-similar solution, 1990, *Astrophysical Journal*, **362**, 406.
J24. **S.K. CHAKRABARTI**: von Zeipel Surfaces, 1990, *M.N.R.A.S.*, **245**, 747.
J25. **S.K. CHAKRABARTI**: Weber-Davis Model Revisited: Standing Magnetohydrodynamic Shocks in Winds and Accretion, 1990, *M.N.R.A.S.*, **246**, 134.
J26. A.R. PRASANNA & **S.K. CHAKRABARTI**, Angular Momentum Coupling and Optical Reference Geometry in Kerr Space Time, Gen. Rel. Grav., 1990, 22, 987.
J27. **S.K. CHAKRABARTI** & A.R. PRASANNA, The Newtonian forces in the Kerr geometry, J. Astrophys. Astron., 1990 11, 29, J28. **S.K. CHAKRABARTI**: von Zeipel Surfaces

II- A Catalogue, 1991, *M.N.R.A.S.*, **250**, 7.
J29. **S.K. CHAKRABARTI**: Production of Primordial Magnetic Field in Protogalactic Torus, 1991, *M.N.R.A.S.*, **252**, 246.
J30. **S.K. CHAKRABARTI** and P. BHASKARAN: On the Origin, Acceleration and Collimation of the Bi-polar Outflows and Cosmic Radio Jets, 1992, *M.N.R.A.S.*, **255**, 255.
J31. **S.K. CHAKRABARTI** and P.J. WIITA: Standing Shocks and the Spectrum of Active Galactic Nuclei, 1992, *Astrophysical Journal (Letters)*, **387**, L21
J32. **S.K. CHAKRABARTI** and T. MATSUDA: Spiral Shocks and the Sub-day Variability in SS433 System, 1992, *Astrophysical Journal*, **390**, 639.
J33. **S.K. CHAKRABARTI** and R. KHANNA: A Newtonian Description of the Geometry around a Rotating Black Hole, 1992, *M.N.R.A.S*, **256**, 300.
J34. R. KHANNA and **S.K. CHAKRABARTI**: Effects of a self-gravitating Disc on Test Particle Motion Around a Kerr Black Hole, 1992, *M.N.R.A.S*, **259**, 1.
J35. **S.K. CHAKRABARTI**: The properties of Oort Cloud and the Origin of Comets, 1992, *M.N.R.A.S*, **259**, 37
J36. **S.K. CHAKRABARTI**: Can Shocks form in Three Dimensional Accreting Flows? *M.N.R.A.S.*, 1992, **259**, 410
J37. **S.K. CHAKRABARTI** and K.S. KRISHNASWAMY: Is there a Comet Cloud around PSR1257+12? *Astronomy and Astrophysics*, 1992, **263**, L1-L2.
J38. **S.K. CHAKRABARTI**: Reversal of force and energy coupling around a rotating black hole, *M.N.R.A.S*, 1993, **261**, 625.
J39. **S.K. CHAKRABARTI** and P.J. WIITA: Effects of Spiral Shocks on Disk Line Emission, *Astronomy and Astrophysics*, 1993, **271**, 216.
J40. **S.K. CHAKRABARTI**: When Gravitational Waves Collide! *International Journal of Modern Physics D*, 1992, **1**, 525.
J41. **S.K. CHAKRABARTI** and P.J. WIITA: Spiral Shocks In Accretion Disks As a Contributor To Variability In Active Galactic Nuclei, *Astrophysical Journal*, 1993, **411**, 602
J42. **S.K. CHAKRABARTI**: Binary Black Holes in Stationary Orbits and a test of the AGN Paradigm, *Astrophysical Journal*, 1993, **411**, 610.
J43. **S.K. CHAKRABARTI** and D. MOLTENI: Smoothed Particle Hydrodynamics Confronts Theory: Formation of Standing Shocks in Accretion and Wind around Black Holes, *Astrophysical Journal*, 1993, **417**, 671.
J44. **S.K. CHAKRABARTI** and SYDNEY D'SILVA: Magnetic Activity inside Thick Accretion Disks and Associated Observable Phenomena I. Flux Expulsion, *Astrophysical Journal*, 1994 **424**, 138.
J45. SYDNEY D'SILVA and **S.K. CHAKRABARTI**: Magnetic Activity inside Thick Accretion Disks and Associated Observable Phenomena II. Flux Storage, *Astrophysical Journal*, 1994, **424**, 149.
J46. D. MOLTENI, G. LANZAFAME and **S.K. CHAKRABARTI**: Simulation of Thick Accretion Disks which Include Shocks by Smoothed Particle Hydrodynamics, *Astrophysical journal*, 1994 **425**, 161

J47. **S.K. CHAKRABARTI** and P.S. JOSHI: Naked Singularities as Candidates for the Gamma-ray Bursters, *Int. J. Modern Physics D*, 1994, v.3, 647.
J48. **S.K. CHAKRABARTI**, R. ROSNER, and S.I. VAINSHTEIN, Possible Role of Massive Black Holes in the Generation of Galactic Magnetic Fields, 1994, *Nature*, **368**, 434 .
J49. **S.K. CHAKRABARTI** and P.J. WIITA: Variable Emission Lines As Evidence Of Spiral Shocks In Accretion Disks Around Active Galactic Nuclei, 1994, *Astrophysical Journal*, **434**, 518.
J50. D. MOLTENI, G. GERARDI and **S.K. CHAKRABARTI**, Simulation of Interactions of An Orbiting Compact Star with an Accretion Disk by Smoothed Particle Hydrodynamics, *Astrophysical J.*, 1994, **436**, 249.
J51. **S.K. CHAKRABARTI** and D. MOLTENI, Viscosity Prescriptions and the Evolution of Accretion Disks, 1995, M.N.R.A.S., 272, 80.
J52. **S.K. CHAKRABARTI**, Velocity Profile of the Ionized Disk in M87 and the Mass of the Black Hole, 1995, *Astrophys. J.*, 441, 576 .
J53. **S.K. CHAKRABARTI** and L.G. TITARCHUK, Spectral Properties of Galactic and Extragalactic Black Hole Candidates, 1995, *Astrophys. J.*, 455, 623.
J54. **S.K. CHAKRABARTI**, Accretion Processes On Black Holes, 1996, Physics Reports, v.266, No 5 & 6, p 229-392.
J55. D. MOLTENI, H. SPONHOLZ and **S.K. CHAKRABARTI**, Resonance Oscillation of Radiative Shock Waves in Accretion Disks Around a Black Hole, 1996, *Astrophys. J.* 457, 805
J56. K. EBISAWA, L. TITARCHUK & **S.K. CHAKRABARTI**, On the spectral slopes of hard X-ray Emission from Black Hole Candidates, Publ. Astron. Soc. Japan, 1996, v. 48 No. 1. 59
J57. **S.K. CHAKRABARTI**, Gravitational Waves from Binary Systems in Presence of Accretion Disks, 1996, *Phys. Rev. D.* v.53, 2901
J58. **S.K. CHAKRABARTI**, Grand Unification of Solutions of Accretions and Winds Around Black Holes and Neutron Stars: 1996, *Astrophys. J.*, 464, 664.
J59. **S.K. CHAKRABARTI**, L.G. TITARCHUK, D. KAZANAS & K. EBISAWA: Observational Signatures of the Boundary layer of Black Holes, *Astron. & Astrophys. Suppl. Series*, 1996, 120, 163-166
J60. D. MOLTENI, D. RYU & **S.K. CHAKRABARTI**, 1996, Numerical Simulations of Standing Shocks in Accretion Flows around Black Holes: A Comparative Study, *Astrophysical J.*, 470, 460.
J61. **S.K. CHAKRABARTI**, Solutions of Two Dimensional Viscous Accretion and Winds In Kerr Black Hole Geometry, 1996, *Astrophysical J.*, 471, 237
J62. **S.K. CHAKRABARTI**, Global Solutions of Viscous Transonic Flows in Kerr Geometry I: Weak Viscosity Limit, 1996, *M.N.R.A.S*, 283, 325.
J63. D. RYU, **S.K. CHAKRABARTI** & D. MOLTENI, 1997, Zero Energy Rotating Accretion Flows near a Black Hole, *Astrophysical J.*, 474, 378.
J64. **S.K. CHAKRABARTI** and S. SAHU, Bondi Flows on Compact Objects Revisited, *Astronomy & Astrophysics*, 1997, 323, 382.

J65. **S.K. CHAKRABARTI**, Spectral Properties of Accretion Disks Around Black Holes II: Sub-Keplerian Flows with and Without Shocks, 1997, *Astrophys. J.*, 484, 313.
J66. G. LANZAFAME, D. MOLTENI, & **S.K. CHAKRABARTI**, Smoothed Particle Hydrodynamic Simulations of Viscous Accretion Discs Around Black Holes, 1998, *MNRAS*, V. 299, 799
J67. **S.K. CHAKRABARTI**, Identification of Astrophysical Black Holes (Review), 1998, Indian Journal of Physics, V. 72B, p183-223 (astro-ph/9803227)
J68. **S. K. CHAKRABARTI**, Spectral Softening due to Winds in Accretion Disks, 1998, Indian Journal Of Physics, v. 72B, No. 6, 565-569 (astro-ph/9810412)
J69. **S.K. CHAKRABARTI** & B. MUKHOPADHYAY, 1999, Neutron Disks Around Black Holes, Astronomy and Astrophysics, 344, 105 (astro-ph/9904342)
J70. B. MUKHOPADHYAY & **S.K. CHAKRABARTI**, Semi-analytical Solution of Dirac Equation in Schwarzschild Geometry 1999, *CQG*, v. 16, 3165 (gr-qc/9907100)
J71. T. DAS & **S.K. CHAKRABARTI**, Mass Outflow Rates from Accretion Disks Around Compact Objects, 1999, *Classical and Quantum Gravity*, v. 16, No. 19, 3879 (astro-ph/9912493)
J72. **S.K. CHAKRABARTI**, Estimation and Effects of the mass outflow from shock compressed flow around compact objects, 1999, *Astronomy and Astrophysics*, 351, 185. (astro-ph/9910014)
J73. B. MUKHOPADHYAY & **S.K. CHAKRABARTI**, Nucleosynthesis in Advective Accretion Flows Around Black Holes, 2000 *Astronomy & Astrophysics*, **353**, 1029 (astro-ph/9912568)
J74. B. MUKHOPADHYAY & **S.K. CHAKRABARTI**, Solution of Dirac Equation around a spinning black hole, 2000, *Nuclear Physics B*, 582, 627-645. (gr-qc/0007016)
J75. **S. K. CHAKRABARTI** & S.G. MANICKAM, 2000, Correlation among QPO frequencies and Quiescence-state Duration in Black Hole Candidate GRS 1915+105, Astrophysical Journal Letters **531**, L41 (astro-ph/9910012)
J76. I. CHATTOPADHYAY & **S.K. CHAKRABARTI**, Effects of Radiative Acceleration on topologies of outflows, 2000, *Int. J. Mod. Phys D*, Vol 9(1), p. 57 .
J77. S. CHAKRABARTI & **S.K. CHAKRABARTI**, 2000, Can DNA bases be produced during molecular cloud collapse? Astronomy & Astrophysics Letters 354, L6-L8. (astro-ph/0001079)
J78. **S.K. CHAKRABARTI** & B. MUKHOPADHYAY, Scattering of Dirac waves off a Kerr Black Hole 2000, *Mon. Not. R. Astron. Soc.*, 317 , p.979-984. (astro-ph/0007277)
J79. **S.K. CHAKRABARTI** & S. CHAKRABARTI, Adenine Abundance in a Collapsing Molecular Cloud, 2000, *Ind. J. Phys.*, 74B, 97-99 . (astro-ph/0003271)
J80. I. CHATTOPADHYAY & **S.K. CHAKRABARTI**, A Comparative Study of Bondi type and Radiative Outflows Around Compact Objects, 2000, *Int. J. Mod. Phys D*, Vol. 9, No. 6 717-731
J81. A.R. RAO, S. NAIK, S.V. VADAWALE AND **S.K. CHAKRABARTI**, 2000, *X-ray spectral components in the hard state of GRS 1915+105: origin of the 0.5 - 10 Hz QPO*, 2000, A&A, 360, L25 (astro-ph/0007405)
J82. A. NANDI, S. MANICKAM & **S.K. CHAKRABARTI** *Classification of Light curves of*

the Black Hole Candidate GRS1915+105, 2000, Ind. J. Phys. 74B (5), 331 (astro-ph/0012523)
J83. **S.K. CHAKRABARTI** & A. BHATTACHARYA *Constraints on the C ring parameters of Saturn at the Titan -1:0 resonance*, 2001, MNRAS, v. 326, p L23-L26
J84. A. NANDI, S. G. MANICKAM, A.R. RAO and **S. K. CHAKRABARTI**, *On the source of QPO of the black hole candidate GRS1915+105: some new observations and their interpretation*, 2001, MNRAS 324, 267
J85. **S.K. CHAKRABARTI** and A. NANDI, 2000, Fundamental States of accretion/jet configuration and the black hole candidate GRS1915+105, Ind. J. Phys. 75(B), 1 (astro-ph/0012526)
J86. B. MUKHOPADHYAY and **S.K. CHAKRABARTI**, 2001, Stability of Accretion Disks in Presence of Nucleosynthesis, Astrophysical Journal, 555, 816
J87. S.V. VADAWALE, A.R. RAO, AND **S.K. CHAKRABARTI**: Spectral Differences Between the Radio-Loud and Radio-Quite Low-Hard States of GRS 1915+105: Possible Detection of Synchrotron Radiation In X-Rays, 2001, A&A, 372, 793
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J90. SANTABRATA DAS, INDRANIL CHATTOPADHYAY AND **S. K. CHAKRABARTI**, Standing Shocks around Black Holes: An Analytical Study, ApJ., 2001, v. 557, 983
J91. **S. K. CHAKRABARTI**, SANTABRATA DAS: Model Dependence of Transonic Properties of Accretion Flows Around Black Holes, MNRAS, 2001, 327, 808
J92. SANTABRATA DAS, INDRANIL CHATTOPADHYAY, A. NANDI and **S. K. CHAKRABARTI** Computation of Outflow Rates from Accretion Disks Around Black Holes, 2001, A&A, 379, 683
J93. D. MOLTENI, K. ACHARYA, O. KUZNETSOV, D. BISIKALO, **S. K. CHAKRABARTI**, Kelvin-Helmholtz Instability on the Accretion Disk Surface, 2001, ApJL, v 563, p L57
J94. D. MOLTENI, D., F. FAUCI, G. GERARDI, D. BISIKALO, O. KUZNETSOV, K. ACHARYA, **S.K. CHAKRABARTI**, 2001, New Instabilities in Accretion Flows onto Black Holes, J. Korean Astron. Society, 34, 247
J95. **S.K. CHAKRABARTI**, 2001, Advective Flow Paradigm and Microquasar GRS1915+105, Astrophysics and Space Science, v 276, p. 191
J96. D. MOLTENI, K. ACHARYA, **S. K. CHAKRABARTI**, Hydrodynamic Interaction Between an Accretion Disk and Strong Wind Around a Black Hole 2002, Ind. J. Phys, 76B, 7
J97. **S.K.CHAKRABARTI**, P. GOLDONI, P. J. WIITA, A. NANDI, S. DAS, 2002, On the Ejection Mechanism of Bullets in SS 433, Astrophys. J. Lett. v. 576, L45
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J99. I. CHATTOPADHYAY AND **S. K. CHAKRABARTI**, 2001, Effects of Radiative Acceleration and Radiation drag on outflows and Jets, 2002, MNRAS, 333, 454

J100. **S.K. CHAKRABARTI**, A. NANDI, S. MANICKAM, S. MANDAL & A.R. RAO, 2002, *Spectral Signature of Mass Loss from (and Mass Gain by) an Accretion Disk around a Black Hole*, Astrophys. J. Letters V. 579, p 21.

J101. **S.K. CHAKRABARTI**, K. ACHARYA, D. MOLTENI, 2004, The effect of cooling on time dependent behaviour of accretion flows around black holes, Astron. & Astrophys., 421, 1

J102. **S. K. CHAKRABARTI**, S. PAL, K. ACHARYA, S. MANDAL, S. CHAKRABARTI, R. KHAN, B. BOSE, 2002, VLF observation during Leonid Meteor Shower-2002 from Kolkata, Ind. J. Phys. v. 76B, 693

J103. **S. K. CHAKRABARTI**, K. ACHARYA, B. BOSE, S. MANDAL, A. CHATTERJEE, N.M. NANDI, S. PAL, R. KHAN, 2003, Monitoring of Sudden Ionospheric Disturbances (SID) from Kolkata, Ind. J. Phys. 77B, 173-175

J104. **SANDIP K. CHAKRABARTI**, S. PAL, A. NANDI, B.G. ANANDARAO, SOUMEN MONDAL, Photometric Evidence of Ejection of Bullets in the Black Hole Candidate SS433, 2003, ApJ Letters, 595, L45

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J106. I. CHATTOPADHYAY, S. DAS and **S. K. CHAKRABARTI**, 2004, Radiatively driven electron-positron jets from two component accretion flows, MNRAS, 348, 846

J107. **S. K. CHAKRABARTI** and SANTABRATA DAS, 2004, Properties of Accretion Shock Waves in Viscous Flows Around Black Holes, MNRAS, 349, 649

J108. S. MANDAL and **S. K. CHAKRABARTI**, 2004, Emitted Radiation From a Two Temperature Advective Flow Around Black Holes, 2004, Ind. J. Phys. 78B(2), 145

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(C) Books

B1. S.K. CHAKRABARTI: **Theory of Transonic Astrophysical Flows:** World Scientific Publishing Co., Singapore (1990).
B2. S.K. CHAKRABARTI: **Observational Evidence for Black Holes in the Universe** , Edited Volume (Kluwar Academic Publishing Co.), (1998)
B3. S.K. CHAKRABARTI (Editor) Proceedings of 'Young Scientists of Todays India' Indian Journal of Physics, 73B(6), 1999
B4. S.K. CHAKRABARTI (Guest Editor) 'Frontiers in Astrophysics (Vol-II)' a Celebratory volume to commemorate 125th anniversary of Indian Association for the Cultivation of Science and 75th year of the Indian Journal of Physics (Allied Publishers) (2002)
B5. S.K. Chakrabarti, S. Das, B. Basu and M. Khan (Eds.) 'Recent Trends in Astro and Plasma Physics in India', 2003, (CSP: Kolkata)
B6. S.K. CHAKRABARTI: 'Compact Stars' for IGNOU Astronomy Course
B7. S.K. CHAKRABARTI: 'Active Galaxies' for IGNOU Astronomy Course
B8 S.K. Chakrabarti 'Milky Way' for IGNOU Astronomy Course
B9. S.K. CHAKRABARTI and A.S. MAJUMDAR: **Observational Evidence for Black Holes in the Universe** , AIP Publication No. 1053 (NY), (2008)
B10. S.K. CHAKRABARTI, G.S. Bisnovatyi-Kogan, A.I. Zhuk,:**Astrophysics and Cosmology After Gamow**, AIP Publication No. 1206 (NY), (2009)
B11. S.K. Chakrabarti: **Propagation Effects of Very Low Frequency Waves**, AIP Publication (NY), No. 1286 (2010)
B12. S.K. CHAKRABARTI, K. ACHARYYA and A. DAS, Proceedings of "Chemical Evolution of Star Forming region and Origin of Life" AIP Publications (New York) No. 1543 (2012)

(d) Patents applied for

Q1. RADIO TRACKING SYSTEM FOR FLYING PLATFORMS, 2015, D. Bhowmick, S. K. Chakrabarti, A. Bhattacharya and R. Sarkar, The Patent Office Journal, No. 874/KOL/2015 (Published on 11/9/2015)

Q2. A MULTI BALLOON LAUNCH SYSTEM, 2015, S.K. Chakrabarti, D. Bhowmick, R. Sarkar and A. Bhattacharya, The Patent Office Journal, No. 875/KOL/2015 (Published on 11/9/2015)

Q3. AN ORIENTATION MEASUREMENT UNIT FOR UNGUIDED INSTRUMENTS, 2015, A. Bhattacharya, R. Sarkar, D. Bhowmick and S.K. Chakrabarti, The Patent Office Journal, 876/KOL/2015 (Published on 11/9/2015)

(e) Projects for Antarctica

PI of the 27th Indian Scientific Expedition (IAE) to Antarctica, December 2007 to April 2008. Student S. Sasmal went to Maitri Station, Antarctica
PI of the 35th Indian Scientific Expedition (IAE) to Antarctica, December 2015 to April 2016. Scientist Dr. S. Sasmal went to Maitri and Bharati Stations, Antarctica

(f) Courses taught

Taken Numerous Courses, namely Research Methodology, High Energy Astrophysics and Introduction of Astrophysics in many years to the Integrated PhD and Post MSc students.

Evaluation of Universities through NAAC

Inspected *Indian Institute of Space Science and Technology (DOS funded)* deemed University, Trivandrum, as a member of National Assessment and Accreditation Council (NAAC) Team in April, 2014
Inspected *Tata Institute of Fundamental Research (DAE funded)* deemed University, Mumbai and Pune Campuses, as a member of National Assessment And Accreditation Council (NAAC) in November, 2016

Participation in Space Experiments

Co-PI of RT-2 Payloads (three) on board CORONAS-PHOTON Mission successfully launched from Russia in 2009
Conducted Dignity 1 to Dignity 101 balloon borne near space expeditions (up to 42km) of Indian Centre for Space Physics as the **Team Leader** during 2008-2016.
Preparing a 4 kilo payload with ICSP space team for the X-ray measurements of sources in our galaxy from **the Lunar surface** in the Team Indus Mission for preparation of launching in December, 2017

Lectures/Posters and Other activities:

Visited over Thirty (30) countries, some of them many times over, for academic purposes.

MAR. 1978: Talk on 'Modification of β-decay theory' at Indian Association for the College Going Scientists conference at the St. Xavier's College, Calcutta.
FEB. 1980: Participated in experiments during a total solar eclipse (February 16th. 1980, in

southern India) conducted by an 18 member research team from Indian Institute of Technology, Kanpur.
FEB. 1981: Attended the XIIth National Conference on Structure of Matter held at the Osmania University (AP). The talk was given by Professor K.N.S. Rao. The paper was on "A Perspective Study of Crystal Structure of Gernets" by Prof. K.N.S. Rao, S.K. Chakrabarti and Prof. D.C. Khan.
FEB. 1984: Talk presented on "Theory of Fat Disks around a Black Hole and the Numerical Simulation" at the Astrophysics Department Seminar of the University of Chicago.
APR. 1984: Talk presented on "Some Exactly Solvable Models of Thick Disks and Radio Jets Near Black Holes" at the International Conference on Active Galactic Nuclei held at the University of Manchester, UK.
OCT. 1984: Talk presented on "Analytic Theory of Thick Disk and Radio Jets Near Black Hole" at the relativity seminar of the University of Chicago.
DEC. 1984: Poster paper presented on "Understanding Jet Formation" at the 12th Texas Symposium on Relativistic Astrophysics, Jerusalem.
JUN. 1985: Talk presented on "Rotating Winds and Acceleration of Jets" at the Conference "Jets from Stars and Galaxies", Toronto.
OCT. 1985: Relativity seminar on "More on Thick Disks and Jets" at Caltech.
JAN. 1986: Thesis Talk presented on "On the Physics of Thick Disks and Inner Jets" at the 167th Meeting of the American Astronomical Society, Houston, Texas.
MAR. 1986: Talk presented on "Renormalization Group Approach to Sunspot Statistics" at the Astrophysics Dept. of the University of Chicago.
MAR. 1986: Invited talk presented on "Nucleosynthesis in the Neighborhood of a Black Hole" at the XXIst Moriond Meeting on "Accretion on the Compact Objects", Les Arcs, France.
APR. 1986: Journal club talks 'On Colliding Plane Gravitational Waves', 'Summary of VIth Moriond Conference on "Accretion onto compact Objects" ' and "The Magnetic fields in Cygnus A" at Caltech.
JUL. 1986: Talk presented on "Theory of Rotating Winds and the Acceleration of the Radio Jets in SS433 and Cyg X3" at the GR11 meeting at Stockholm.
AUG. 1986: Poster paper presented on "Renormalization group approach to Sunspot Statistics" at the Workshop on Solar Cycle at the Big Bear Solar Observatory.
OCT. 1986: Talk presented on "Consequences of Nucleosynthesis in a thick disk around Supermassive Hole" at the Third George Mason Fall workshop on Supermassive Blackholes: at George Mason Univ.
DEC. 1986: Talk presented on "Nucleosynthesis in the Disk around SS433 and observation of Fe line by EXOSAT" at the SS433 meeting at the Washington University, St. Louis.
DEC. 1986: Talk presented on "Nucleosynthesis in the Thick Disks around Black Holes" at the 13th Texas symposium at Chicago.
JAN. 1987: Talk presented on "Nucleosynthesis Around Black Holes" at the 169th AAS meeting at Pasadena.
JAN. 1987: Talk presented on "Nature of the Working Surface of a Radio jet: The Predictions

and Verification with Existing Numerical Results" at the Active Galactic Nuclei Meeting at Santa Barbara.
JUL. 1987: Talks presented on "Thick Accretion Disks" at Tata Institute of Fundamental Research and the Raman Research Institute.
DEC. 1987: Talks on "Nucleosynthesis in disk around SS433" and "Fluid dynamics at the working surface of a Supersonic jet" were presented at Torino Observatory.
DEC. 1987: Talks on "Nucleosynthesis in Thick disks" and "Spacetime with self-gravitating Thick disks" were presented at the International School of Advanced Studies (SISSA).
MAR. 1988: Contributed talk on "Element Productions in Thick Accretion Disks" at the 20th Yamada Conference in Tokyo (28th March-2nd April).
MAY 1988: Talk presented on "Standing Shocks in Black Hole Accretion" at the University of Crete, Greece.
MAY 1988: Talk presented on "Status of Nucleosynthesis Works in Thick Accretion Disks" at the Osservatorio Astronomico, Rome.
JUN. 1988 Journal club talk on 'Binary black hole OJ-287' at ICTP, Trieste.
JUL. 1988: Talk presented on "Status of Nucleosynthesis Works in Thick Accretion Disks" at the *High Energy Astrophysics and Cosmology* workshop, at ICTP, Trieste.
JUL. 1988: Talk presented on "Standing Shocks in Black Hole Accretion" at SISSA, Trieste.
SEP. 1988: Talk presented on "Standing Shocks in Rotating Winds and Accretions" at the Max Plank Institute, Munich.
NOV. 1988: Talk on "Standing Shocks in Model Astrophysical Flows" at Tata Inst. of Fundamental Research.
JAN. 1989: Talk on "Bending Waves of Saturn's Rings" at Tata Inst. of Fundamental Research.
MAR-APR. 1989: Seven lectures on "Transonic astrophysical flows" at Tata Institute of Fundamental Research.
JUN. 1989: Invited talk on "Transonic Astrophysical Flows" at the 13th meeting of the Astronomical Society of India at Srinagar.
JUL. 1989: Two posters on "Classical forces in Kerr geometry" and "Studying Shocks in the hybrid model flows in Accretion and Winds around the black holes" presented at the 12th international conference on the general relativity and gravitation, Boulder, Colorado.
JUL. 1989: Astrophysics Seminar on"Transonic Astrophysical Flows" at the Center for Astrophysics, Harvard University.
AUG. 1989: Talk on "General Relativistic Transonic Flows" at the Saha Institute of Nuclear Physics, Calcutta, in the Indian Physical Society Meeting.
NOV. 1989: Invited Talk on "Role of Angular momentum in Relativistic Astrophysics" at the General Relativity and Gravitation (IAGRG) meeting (North Bengal University).
MAR. 1990: Journal club talk on 'Self-consistent shocks in Radiation Dominated Flows' at TIFR.
JUN. 1990: Poster on "Properties of Spiral Shocks" in the IAU 144 meeting on 'Disk-Halo Interaction' held in Lieden observatory (June 18th-22nd), Holland.
JUN. 1990: Colloquium on "Transonic Astrophysical flows" in the University of Amsterdam.

JUL. 1990: Posters on (a) Transonic Isothermal Flows, (b) High and Low states in Self-similar Spiral Flows, (c) Standing MHD shocks in Accretion and Wind, (d) Solving Time Dependent Problems–the brute force approach, in IAU129/IAP 6 meeting on 'Structure and emission properties of accretion disks' (Paris: 1-6th July)
AUG. 1990: 'Summary of IAU129/IAP Meeting in Paris' at TIFR.
SEPT. 1990: Physics colloquium "Astrophysical Flows Around Black Holes" at Tata Inst. of Fundamental Research.
DEC. 1990: Posters on 'Production of Primordial Magnetic Field in Giant Ion Tori' and 'On the origin of Optical Micro-variability and X-Ray Flickering' at the 15th Texas Symposium/CERN/ESO conference at Brighton, Sussex.
FEB. 1991: Physics Colloquium on " Transonic Flows Around Black Holes" at the University of Padova.
FEB. 1991: Astrophysics Seminar on "Transonic Astrophysical Flows" at SISSA, Trieste.
APR. 1991: Astronomy and Astrophysics Seminar on "Production of Primordial Magnetic field in Protogalactic Torus" at the Tata Inst. of Fund. Res.
JUN. 1991: Contributed talk on "Production of Primordial Magnetic Field in the Universe by Thermal Battery Effect" at the 6th Marcel Grossman Meeting held in Kyoto.
JUN. 1991: Poster papers on 'von Zeipel Surfaces' and 'Forces on a Charged Particle orbiting around a Kerr-Newman Black hole' at the 6th Marcel Grossman Meeting held in Kyoto.
JUL. 1991: Astrophysics Seminar on "Production of Primordial Magnetic Fields in Protogalactic Tori" at the Astrophysics Dept., Kyoto University.
JUL. 1991: Special Colloquium on " Astrophysical Flows Around Black Holes" at the Aeronautical Engineering Dept., Kyoto University.
APR, 1992: Astrophysics seminar on 'Shocks in Accretion Flows and AGN spectra' at Institute of Astronomy, Cambridge.
APR, 1992: Physics Colloquium on 'Shocks in Accretion Flows' at the Georgia State University.
APR, 1992: Poster on 'Planetesimals around nearby Millisecond Pulsars': at the 'Planets around Pulsars' held at California Inst. of Technology.
MAY, 1992: Astrophysics Seminar on 'N-body simulation of the Evolution of Oort cloud' at Jet Propulsion Laboratory, Caltech.
MAY, 1992: Astrophysics seminar on 'Stationary and Non-stationary Shocks in Accretion flows' at Univ. of California and Los Angeles.
MAY, 1992: Astrophysics seminar on 'Comet clouds around the Sun and the pulsars' at SISSA, Trieste.
JUN, 1992: Special High Energy Physics Seminar on 'Origin of Primordial Magnetic Field in the Universe — A classical Dynamical Approach' at ICTP, Trieste.
JUN 1992: Astrophysics Seminar on 'Shocks in Higher Dimensional Flows' at University of Catania, Sicily.
JUN 1992: Astrophysics Seminar on 'Shocks in Accretion Flows' at the University of Milano.
JUN 1992: Presented talk on 'Effects of Shocks on AGN Spectrum' at the 13th International

Conference on General Relativity and Gravitation held in Cordoba, Argentina.
JUN 1992: Poster papers on 'Production of primordial magnetic field in the universe', 'Binary black holes in stationary orbits' and 'Reversal of forces on an orbiting particle around a black hole' at the 13th International Conference on General Relativity and Gravitation held in Cordoba, Argentina.
JUL 1992: Presented a talk on 'Production of Primordial Magnetic field in the Universe–A Classical Dynamical Approach' at the mini conference 'Cosmologia' at Institute of Astrophysics and Space Science, Buenos Aires.
JUL 1992: Astrophysics Seminar on 'Periodic X-ray Flares of NGC-6814– A case of gravitational lensing?' at TIFR, Bombay.
AUG 1992: Informal discussion on 'Naked Singularities as Possible Candidates for Gamma-ray Bursters' at TIFR, Bombay.
OCT. 1992: Invited talk on 'Astrophysics Around Black Holes', in the workshop on 'Space Astronomy' at TIFR, Bombay.
NOV. 1992: 'Galactic Center' a popular talk at the Amateur Astronomical Society meeting at St. Xaviers College, Bombay.
NOV. 1992: 'Astrophysics Around Black Holes', at the University Science College, Calcutta University.
NOV.-DEC. 1992: A series of six lectures on 'Accretion Disks and Jets' at DST-SERC school on Active Galaxies at IUCAA, Pune
DEC. 1992: 'Mysterious Black holes' a popular talk at the Physical Society meeting of Jai Hind College, Bombay.
DEC. 1992: 'Real Centrifugal Force around Black Holes' — physics colloquium at TIFR.
DEC. 1992: Poster on 'Binary Black Holes in Stationary Orbits' presented (in absentia) at the TEXAS/PASCOS Meeting, Berkeley.
JAN. 1993: Poster on 'Binary Black Holes in Stationary Orbits' presented (in absentia) at the American Astronomical Society meeting at Phoenix, Arizona.
MAR. 1993: 'Discontinuous' Flows around black holes: at Saha Institute of Nuclear Physics, Calcutta.
MAR. 1993: 'Mysterious Black holes' a popular talk at the R.K.M.R. College, Narendrapur, Calcutta.
APR. 1993: 'Discontinuous Flows Around Black Holes' at the University of Palermo, Italy.
APR. 1993: Astrophysics Seminar on 'Discontinuous Flows Around Black Holes' at the Goddard Space Flight Center, USA.
APR. 1993: Astrophysics Seminar on 'Shock Formation is Accretion Disks Around Black Holes' at the Space Telescope Science Institute, USA
MAY 1993: Contributed talk on 'Mathematical Properties of Standing Shocks in Accretion Flows Around Black Holes' at the 3rd Midwest Geometry conference, University of Missouri.
MAY 1993: Colloquium on 'Astrophysical Flows Around Black Holes', at the University of North Texas, Denton.
MAY 1993: Colloquium on 'Discontinuous Flows Around Black Holes', at the University of

Texas at Austin.
MAY 1993: Astrophysics seminar on 'Transonic Flows Around Black Holes' at the Rice University, Houston.
MAY 1993: Contributed talk at 'How to Keep Two Black Holes in Stationary Orbits' at the 5th Canadian Conference on the Relativistic Astrophysics at the University of Waterloo.
MAY 1993: Astrophysics Colloquium on 'Discontinuous Flows Around Black Holes' at the Ohio State University.
JUN 1993: Physics Colloquium on 'Two Topics in Astrophysics Around Black Holes' at the Georgia State University at Atlanta.
JUN 1993: Astrophysics Seminar on 'A Few Interesting Topics in Astrophysics Around Black Holes' at the Aspen Workshop on 'Gravitational Problems in Relativistic Astrophysics.
JUN 1993: Astrophysics seminar on 'Discontinuous Flows Around Black Holes' at the High Altitude Observatory, Boulder, Colorado.
JUL 1993: Astrophysics seminar on 'Transonic Flows Around Black Holes' at the University of Chicago.
JUL 1993: Invited Review talk on 'Accretion Disks in Astrophysics' at the UNAM-CRAY International conference on Numerical Astrophysics (July 25th - Aug. 30th) in Mexico City.
JUL 1993: Posters on 'N-Body Simulation of the Oort cloud', 'Dynamics of Particles in the Planetary Rings' and the 'Numerical Simulation of the co-planer Star-disk interactions' at the UNAM-CRAY International conference on Numerical Astrophysics (July 25th - Aug. 30th) in Mexico City.
AUG 1993: Poster paper on 'Disk Models with Stationary and Non-stationary shock waves' at the IAU symposium (No. 159) at the Geneva Observatory.
NOV. 1993: Invited talk on 'Astrophysics Around Black Holes', in the workshop on 'Space Astronomy' at TIFR, Bombay.
FEB. 1994: Astronomy Seminar on 'Model of variable double peaked emission from AGN' and 'Origin of galactic magnetic field' at TIFR, Bombay.
JUN 1994: SFB Seminar of 'Discontinuous Flows around a Black Hole' and astronomy seminar on 'Assorted Problems in Astrophysics' at the Landessternwerte, Konigstuhl, Heidelberg.
JUL 1994: Seminar on 'Determination of the Mass of the Black Hole in M87 from the Recent HST observations' at European Southern Observatory, Garching
JUL 1994: Astrophysics seminar on 'Shocks in Accretion disks and the Observable Consequences' at the Max-Planck-Institute für Astrophysik, at Garching b. München.
AUG 1994: 'How Massive is the Black Hole in M87?' a contributed talk at the IAU general assembly in den Haag, Nederlands.
DEC. 1994: 'Model of Temporal and Spatial Line Emission Profiles in AGNs' at GSFC/NASA.
DEC. 1994: 'Are AGN Disks Really Keplerian?' an invited talk at the 17th Texas Symposium in Munich.
JAN. 1995: 'How Massive is the Black Hole in M87?' a poster paper presented at the 185th AAS meeting
FEB. 1995: 'Astrophysics Around Black Holes' a popular talk at the Univ. of Puerto Rico,

Humacao
FEB. 1995: 'On Grand Unification of Accretion Disk Models' at the Arecibo Observatory, Arecibo, Puerto Rico.
JUN. 1995: 'Grand Unified Description of Accretion Disks' at the Space Telescope Science Institute.
JUN. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at the Goddard Space Flight Center.
SEP. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at the Marshall Space Flight Center.
SEP. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at University of Kentucky
SEP. 1995: 'Observational Evidence of sub-Keplerian Accretion Disks: from Gravity Waves to Gamma Rays' at University of Maryland.
OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at California Institute of Technology
OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Jet Propulsion Laboratory
OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Univ. California at Los Angeles
OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Princeton University Observatory
OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Columbia University
OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Harvard University FEB. 1996: 'Aspects of Black Hole Accretion Flows' at the 18th conference of the Indian Association of General Relativity and Gravitation, Madras.
MAR. 1996: 'Accretion Flows Around Black Holes' at the Theory Physics Seminar at Tata Institute of Fundamental Research.
JUL. 1996: 'Numerical Studies of Accretion and Winds Around Black Holes' and 'Peculiarities of General Relativistic Advective Flows Around Black Holes and Neutron Stars' at the Monash University, Australia.
JUL. 1996: 'Consequences of non-Keplerian Accretion Disks Around a Black Hole: From Gamma rays to Gravity Waves' at the University of Melbourne, and Sydney University, Australia.
JUL. 1996: 'Grand Unification of Accretion Disk Models Around Black Holes and Neutron Stars' at the Australian National Telescope Facility, Sydney, and Australian National University, Canberra.
JUL. 1996: 'Unification of Accretion Disk Models and the formation of Jets' an invited review talk at the IAU163 meeting on 'Accretion Phenomena and Related Outflow', Port Douglus, Australia.
JUL. 1996: Poster paper presented on 'Numerical Simulation of Advective Disks Around Com-

pact Objects' at the IAU163 meeting on 'Accretion Flows and Related Phenomena', Port Douglus, Australia.
AUG. 1996: 'Accretion Flows on Black Holes' an invited review talk at the International Colloquium on 'Perspective in High Energy Astrophysics', TIFR, Mumbai.
AUG. 1996: 'Spectral Properties of Galactic and Extragalactic Black Hole Candidates' an invited review talk at the IAU Asia-Pacific Regional meeting at Pusan National University, Korea
AUG. 1996: 'Summary of Posters on AGNS, High Energy Astrophysics, Theoretical Astrophysics' an invited talk at the IAU Asia-Pacific Regional meeting at Pusan National University, Korea
AUG. 1996: Poster papers on 'Numerical Simulations of Advective Disks' and 'New Twists in the Study of Gravity Wave Emission in Systems with Massive Black Holes' at the IAU Asia-Pacific Regional meeting at Pusan National University, Korea
SEP. 1996: 'Astrophysical Flows around Black Holes' a series of two talks at the Kobe University, Japan.
DEC. 1996: Seminar on 'Quasi-Periodic Oscillation and Spectral Properties of Black Hole Accretion' at the Goddard Space Flight Center.
DEC. 1996: Contributed talk on 'Recent Progresses in Accretion Disk Models Around Galactic and Extragalactic Black Holes' at the 18th Texas Symposium (Chicago).
Jan. 1997: Invited talks on 'Solar Wind', ' Astrophysical Flows Around Black Holes' and 'Our Galactic Center' at the Winter School of Eastern Center for Research In Astrophysics (ECRA) at Science College.
Jan. 1997: Welcome Address at the 1st Winter School of ECRA on 'Basics of Astrophysics' at the Science College, Calcutta, and invited address at the ECRA Training Programme on 'Millimeter Wave Physics'.
Feb. 1997: Invited talk on 'Introduction of Astrophysics in the University Teaching' at the Jadavpur University.
Mar. 1997: Invited talk on 'Astrophysics of Black Holes' at the Symposium of West Bengal Academy of Science at the Indian Association for the Cultivation of Science.
Apr. 1997: 'Stable and Unstable Oscillation of Advective Disks Around Black Holes' at the Mini-Symposium at S.N.B.N.C.B.S., Calcutta.
May. 1997: 'Astrophysics Around Black Holes' a popular talk the Birla Planetarium, Calcutta.
Aug 1997: 'Astrophysical Flows around Galactic and Extragalactic Black Holes': a set of three lectures at the Physikzentrum, Bad Honnef.
Aug 1997: 'Definite Proofs of Existence of Black Holes' participated at the panel discussion at the Physikzentrum, Bad Honnef.
Sep 1997: 'Astrophysics Around Black Holes' a Theoretical Physics Seminar Circuit seminar at the Biswabharati University, Shantiniketan.
Sep 1997: New Twist in Gravitational Wave Studies from Coalescing Binaries' at the S.N.B.N.C.B.S.
Jan. 1998: A Crash Course on Advective Accretion Disks (three lectures) at the International Workshop at the S.N.B.N.C.B.S. on 'Multiwavelength Studies of Stars and Compact Objects'

Jan. 1998: Non-axisymmetric and Magnetized Advective Flows, at the S.N.B.N.C.B.S. at the International Workshop at the S.N.B.N.C.B.S. on 'Multiwavelength Studies of Stars and Compact Objects'
Jan. 1998: Accretion Disk Models Around Black Holes: Twenty Five Years Later, at the S.N.B.N.C.B.S. at the International Conference on 'Observational Evidence for Black Holes in the Universe'
Mar 1998: 'Mysterious Black Holes' at Bethun College
Apr. 1998: 'Electrons as tracers of Black Holes' at the symposium on '100 years of electrons, 50 years of pions and 25 years of asymptotic freedom', Jadavpur University
Apr. 1998: 'Our Galactic Center' at Presidency College, Calcutta
Jun. 1998: 'The Universe', a set of two lectures at the Kendriya Vidyalaya at the Post-Graduate Inservice Course Meeting, Salt Lake
Aug. 1998: 'Astrophysical Flows around Black Holes' and 'Mathematical properties of Black Hole Accretion' at the Department of Mathematics, Dhaka University, Bangladesh
Dec. 1998: 'Uncertainties in Astrophysics: from large scale to small' at the one day symposium on 'Leonids-98' at the S.N. Bose National Centre for Basic Sciences.
Mar. 1999: 'Identification of Astrophysical Black Holes' at Mehta Research Institute
Mar. 1999: 'Latest Trend of Accretion Disk Models Around Black Holes and Neutron Stars', at YATI conference, SNBNCBS, 1999
Jul. 1999: 'Identification of Astrophysical Black Holes' at Space Research Institute, Moscow
Jul. 1999: 'Formation of Outflows from Accretion disks around Compact objects' a series of two lectures at the 3rd workshop of the International Centre for Relativistic Astrophysics, Pescara
July 1999: 'Solution of Dirac Equation in Kerr Geometry' at 3rd workshop of the International Centre for Relativistic Astrophysics, Pescara, July (12-23), 1999
Aug. 1999: 'Gravitational Experiments Near a Black Hole' at the 'Gravitation Frontiers', A symposium on 'Experimental Gravitation' held a Samarkhand, Uzbekistan, Aug. (16-21), 1999
Oct. 1999: 'Latest Trend of Black Hole Astrophysics' a Colloquium at the Indian Institute of Astrophysics, Bangalore.
Nov. 1999: 'Do Astrophysical black holes exist?' a Colloquium at the Saha Institute of Nuclear Physics, Calcutta
Feb. 2000: 'Search for Astrophysical Black Holes', Physics Dept. Seminar at Delhi University
Feb. 2000: 'Quasi-Periodic Oscillations of X-rays from Black Holes' at Physical Research Laboratory, Ahmedabad
Feb. 2000: 'Modern Developments in Theory of Accretion Disks and Jets around Black Holes' TPSC Seminar at Tata Institute of Fundamental Research, Mumbai
Mar. 2000: 'Our Universe' at the Space Science Symposium at RKMR College
Apr. 2000: 'Astrophysical Jets' at the Physics Dept. of Jadavpur University
Apr. 2000: 'Advective Accretion Disks: Ten Years Later' at Seoul National University
Apr. 2000: 'Jets, Disks and Spectral States of Black Holes' at the Korean Physical Society
May. 2000: 'Advective Accretion Disks: Ten Years Later' at Korean Astrophysical Observatory

Jun. 2000: 'Constituents of the Universe and ourselves' at the Space Science Symposium, Malda College
Jun. 2000: 'Identification of Astrophysical Black Holes' at the 'Summer School on Astroparticle physics and Cosmology' ICTP
Jun. 2000: 'Outflow Rates of Jets' in the 'High Energy Gamma-Ray Astronomy Symposium' June (26-30), 2000
Jul. 2000: 'Why Bulk Motion Comptonization Should Explain Hard Tail in Soft States?' at 9th Marcel Grossman Meeting in Rome
Jul. 2000: 'State of the Art Models of Accretion and Winds around Black Holes' at 9th Marcel Grossman Meeting in Rome
Jul. 2000: 'Effect of Accretion Disks on GW wave Signal' at 9th Marcel Grossman Meeting in Rome
Jul. 2000: 'Correlation between the QPO frequency and the duration' at 9th Marcel Grossman Meeting in Rome
Jul. 2000: Chairman of the Session of 'Astrophysical Black Holes' at 9th Marcel Grossman Meeting in Rome
Sep. 2000: Chairman of the Session 'Astrochemistry' at 'First Steps in the Origin of Life' conference at ICTP (Sept. 2000)
Sep. 2000: 'Can DNA form during the molecular cloud collapse?' at the conference on 'First Steps in the Origin of Life' at ICTP (Sept. 2000)
Sep. 2000: 'Accretion Disks and Winds' at the 3rd Micro-Quasar conference at Granada (Sept. 2000)
Oct. 2000: 'Stellar Evolution' at Bongyo Bigjan Parishad
Nov. 2000: 'Constituents of the Universe' at the Space Science Symposium at Serampore College
Dec. 2000: 'Modern Developments of Accretion Disk Physics Around Black Holes' a colloquium at the Indian Institute of Astrophysics
Dec. 2000: 'Formation of Biomolecules in Collapsing Interstellar Cloud' a seminar at the Raman Research Institute
Dec. 2000: 'Black Hole Astrophysics' a seminar at the Indian Institute of Mathematical Science, Chennai
Dec. 2000: 'Can Biomolecules form in Collapsing Interstellar Clouds?' A Colloquium at the Indian Institute of Mathematical Science, Chennai.
Jan-Feb. 2001: 'Mysterious Black Holes' at UCB School, Bharatiya Sanskriti Sansad and Midnapore College.
March 2001: Invited Review talk on 'Accretion Disks Around Black Holes' at the Gamma Ray Astronomy Conference at Mt. Abu
March 2001: Invited talks (2) on 'Accretion Processes and Jet Formation' in the National Workshop on Black Hole Astrophysics, Calcutta.
April 2001: 'Plasma Astrophysics Around Black Holes' at the National Conference on 'Recent Trends in Plasma Physics', Calcutta

Sept. 2001: Gave invited talk on 'Transonic Astrophysical Flows' at International Conference on 'Multiwavelength Experiments Through Astronomical Satellite', TIFR, Mumbai
Sept. 2001: 'Do Astrophysical Black Holes Exist?' S.P. Chatterjee Memorial Lecture at Institute of Theoretical Physics
Oct. 2001: 'Constituents of the Universe' At Raiganj School at the Districtwise Space Science Symposium
Dec. 2001: 'Problem of the Identification of Black Holes': Invited review talk at the conference 'Three Generation of Space Physicists'
Feb. 2002: "Saturn's Rings: How Thick are they?" Invited review talk at the Annual Meeting of the Astronomical Society of India, Pune
Feb. 2002: "Stellar Mass Black Holes" Invited review talk at the National Space Science Symposium (NSSS-2002), Bhopal
Mar. 2002: "SS433: 25 years after discovery" Invited Review talk at the 187th IAU Colloquium at Florida International University
Mar. 2002: "Identification of Black Hole" Colloquium at the Dept. of Astrophysics at University of Florida, Gainesville
Mar. 2002: " Recent Developments in Advective Accretion Flows" Colloquium at the Dept. of Astrophysics, Georgia State University, Atlanta
Mar. 2002: "Our Universe" at the Districtwise Space Science Symposium, B.D. High School.
Apr. 2002: "Variabilities of Galactic and Extra-galactic Black Holes" at the Nainital Observatory
May 2002: "Advective Accretion Flows" a Colloquium at Service d' Astrophysique, SACLAY (France)
May 2002: "Two Component Advective Flow Paradigm" Talk at the 4th Microquasar Conference at Cargese (Corsica)
Jul. 2002: "Types of Data Obtained Through Astrophysical Observations" Invited talk at the Workshop on 'Techniques of Satellite Data Analysis' at CSP.
Oct. 2002: "Advective Accretion Disks", at National Centre for Radio Astrophysics, Pune
Oct. 2002: "Developments in Modern Astrophysics" at Positional Astronomy Center, Alipore, Kolkata
Oct. 2002: "Mysterious Black Holes" at the Silver Jubilee celebration of the Sky Watcher's Association.
Dec. 2002: "Modern Astrophysics" A series of two lectures at the Refresher Course for University teachers at Calcutta University.
Jan. 2003: 'Mysterious Universe' and 'Mysterious Black Holes' at the Districtwise Space Science Symposium at Khakurdaha High School
Apr.-July 2003: A full lecture course on Introduction of Astrophysics at SNBNCBS
July 2003: 'Advective Accretion Flows' a Colloquium at SNBNCBS
July 2003: Space Science – The Final Frontier? At the meeting 'Aerospace Technology: Infinite Potential and Prospects' by Institution of Engineers (India)
July 2003: Chairman of the Session of 'Astrophysical Black Holes' at the 10th Marcel Grossman

Meeting in Rio de Janeiro
July 2003: Invited talk on 'Multiwavelength Campaign Of SS433' at 10th Marcel Grossmann meeting at Rio
July 2003: Invited talk on 'Review: Role of Disk models in Identifying Astrophysical Black Holes' at 10th Marcel Grossmann meeting at Rio
July 2003: Invited talk on 'Spectral Properties of Two Component and Two-temperature Accretion Flows Around Black Holes' at 10th Marcel Grossmann meeting at Rio
July 2003: Invited talk on 'QPOs from radial and vertical oscillation of shocks in advective accretion flows' at 10th Marcel Grossmann meeting at Rio
August 2003: 'Recent Developments in Advective Flow Physics' at SACLAY, France
Sept. 2003: 'Advective Accretion Disks' at Meudon Observatory, Paris and Starsbourg Observatory, France and University of Milan, Mirate
Sept. 2003: 'Fate of Glycine during the collapse of molecular clouds and Star Formation' at the 'Origin of Life Conference' in Trieste, ICTP
Sept. 2003: 'Effect of an Accretion Disk on Gravitation Wave Emission from a Binary Black Hole System' at the 'Gravitation Wave' Conference in Trieste, ICTP
Jan. 2004: 'Mysterious Universe' at the Malda Town Hall
Feb. 2004: 'Mysterious Black Holes' at the Ravindra Bhawan, Coochbehar
June, 2004: 'Spectral Properties Of Galactic And Extra-Galactic Black Holes In Gamma Rays' A review talk at the 'The Multiwavelength Approach To Unidentified Gamma-Ray Sources' conference held at Hong Kong University.
June, 2004: Poster paper on 'Identification For Shocks In Spectra From Black Hole Candidates' at the 'The Multiwavelength Approach To Unidentified Gamma-Ray Sources' conference held at Hong Kong University.
June, 2004: 'Class Transitions in Microquasars' A review tatk at the 'Fifth Microquasar Workshop' at Tsinghua National University, Beijing.
June, 2004: 'Quasi-Periodic Oscillations reproduced by Numerical Simulations' a Contributed talk at the 'Fifth Microquasar Workshop' at Tsinghua National University, Beijing.
October 2004: 'Plasma Physics Around Black Holes' an invited talk at the Seminar on 'Recent Advances on Modern Plasma Physics' at the Centre for Plasma Studies, Jadavpur University.
Nov. 2004: Mysterious Universe at the Platinum Jubilee celebration of B.N.K.N.C.M. High School, Hooghly
Dec. 2004: Invited talk at the Mt. Abu Conference at PRL, Ahmedabad, on 'Multiwavelength Campaign of the Galactic Black Hole Candidate SS433'
Feb. 2005: Talk on 'Progress Report on the nature of the emitted radiation from accretion flows around compact objects' at Pondicherry
Feb. 2005: Invited talk on 'Mysterious Black Holes' at Sonamukhi College, Bankura
Feb. 2005: Invited talks on 'Mysterious Universe' at Ravindra Bhawans of Bankura and Purulia Districts at the Districtwise Space Science Symposium
Mar. 2005: Invited talk on 'Mysterious Black Holes at St. Xavier's College
June. 2005: Invited talk on 'Galaxies and Extra-Galactic Objects' at Jadavpur University

October, 2005: Posters on 'SS433: Results of a recent Multi-Wavelength campaign' and 'Unusual Sunset Terminator behaviour of VLF signals at 17KHz during the Earthquake episode of December 2004' at the General Assembly of URSI in New Delhi
November, 2005: "Evolving view of Observable Universe" an invited talk for the Year of Physics celebration at R.K.M. Vidyamandir, Belur.
November, 2005: "Astrophysical Flows Around Black holes" an invited talk in the Astrophysics Workshop, St. Xavier's College.
February, 2006: "Mysterious Black Holes" at the District wise Space Science Symposia in Dakshin Dinajpur and Darjeeling districts organized by Indian Centre for Space Physics
March, 2006: "Can we Observe QPOs in UV using Tauvex?" at the Indo-Israeli Tauvex meet at Indian Institute of Astrophysics, Bangalore
March, 2006: "Analytical and Numerical Simulation of QPOs in black hole candidates" at the Physical Research Lab., Ahmedabad.
April, 2006: Poster presentations on (a) "Time dependent Chemical Evolution of Molecular Clouds" by A. Das, S.K. Chakrabarti, K. Acharyya and S. Chakrabarti; (b) Can Amino Acids be Formed during Molecular Cloud Collapse?? by K. Acharyya, S.K. Chakrabarti, A. Das and S. Chakrabarti; (c) Monte-Carlo Simulation of the Production of Hydrogen Molecules on Grain Surfaces by S.K. Chakrabarti, A. Das, K. Acharyya and S. Chakrabarti in 'Faraday Discussion 133' held at St. Jacut De La Mar, Brittany
May, 2006: Poster Presentations on (a) "Time dependent Chemical Evolution of Molecular Clouds" by A. Das, S.K. Chakrabarti, K. Acharyya and S. Chakrabarti; (b) Can Amino Acids be Formed during Molecular Cloud Collapse?? by K. Acharyya, S.K. Chakrabarti, A. Das and S. Chakrabarti; (c) Monte-Carlo Simulation of the Production of Hydrogen Molecules on Grain Surfaces by S.K. Chakrabarti, A. Das, K. Acharyya and S. Chakrabarti in 'Complex Molecules in Space Present status and prospects with ALMA' held at Aarhus, Denmark
July, 2006: Talk on 'Spectral and Timing Properties of Two Component advective Flows around black holes' at the 'Physics and Astrophysics of Supermassive Black holes' conference at Santa Fe, USA
July, 2006: 'Spectral and Timing Properties of Two Component advective Flows around black holes' at Princeton University
July, 2006: 'Spectral and Timing Properties of Two Component advective Flows around black holes' at the ICRANET at Pescara, Italy
July, 2006: 'Astrophysical black holes: Do they have boundary layers?' Rapporteur talk at the APT1 session at the 11th Marcel Grossman meeting, Berlin
July, 2006: 'Shocking story of Quasi-Periodic Oscillations in Black Hole Candidates' Rapporteur talk at the APT1 session at the 11th Marcel Grossman meeting, Berlin
July. 2006: Chairman of the Sessions on 'Astrophysical Black Holes' and 'Theoretical Models of Observations of black hole candidates' at the 11th Marcel Grossman Meeting in Berlin
Sept. 2006: Chairman of the Session on 'Microquasars at TeV energies' at the 6th Microquasar workshop in Como, Italy
Sept. 2006: Contributed talk on 'Theoretical Studies of Timing and Spectral Properties of

Quasars to Nano-quasars till a few MeV' at the 6th Microquasar workshop in Como, Italy
Sept. 2006: Posters and brief presentations on 'Spectral and timing properties of GRO J1655-40 during March 2005 outburst' and 'Spiral Shocks Oscillations and the QPOs with 3:2 ratio' at the 6th Microquasar workshop in Como, Italy
October, 2006: Colloquium on 'Establishing Cosmology as a precise science - the Nobel Prize of 2006' at the S.N. Bose National Centre for Basic Sciences.
December, 2006: Attended the Project Monitoring Board Member Meeting of the Indo-Russian Satellite "CORONAS-PHOTON" at VSSC, Trivandrum.
February, 2007: Colloquium on 'Shocking Story of Black Hole Accretion" in the Dept of Physics, Indian Institute of Science, Bangalore
February, 2007: Two lectures on 'Accretion Flows: Some issues and problems' at the Mini-school on 'Hydrodynamic and Radiative Processes in Astrophysics', SNBNCBS
February, 2007: Invited talk at Sri Ramatosh Sarkar Memorial lecture on 'Wonderful Astronomy' at Bongyo Bijnan Porishad
March, 2007: Talks at PMB meeting in Bangalore and RESPOND meeting at PRL, Ahmedabad
May, 2007: 'Mysterious universe', two invited talks at the 14th and 15th Districtwise Space Science Symposium held in Burdwan and Suri.
May, 2007: 'Continuous Spectrophotometry of Black Holes' at ISRO, ADCOS meeting, Bangalore
May, 2007: Invited talk on 'Search for planets with strong magnetic field as a pulsating source' at the Brainstorming session on ESA COSMIC-Vision 2017 project, Bangalore
June, 2007: Presented a talk on 'VLF Astronomy as Earthquake/Tsunami prediction' at the National Disaster Management meeting in New Delhi
August, 2007: Invited 'Continuous Spectro-photometry of Black Holes' at ISRO, Bangalore
August, 2007: Invited talk at TIFR on 'Zone plates as X-ray imaging device' at the Preliminary Design Review (PDR) of RT-2/CZT payload.
August, 2007: Invited talk on 'X-ray and Gamma-Ray Astronomy from Moon' at the PLANEX meeting on Chadrayaan-II at PRL, Ahmedabad
Oct., 2007: Invited talk on 'Zone plates as the X-ray Imaging Device' at the 'Space Week' meeting (MePhi) at the 50th Anniversary of Sputnik mission.
Oct. 2007: 'Correlation Between ionospheric activities with earthquakes by monitoring Very Low Frequency(VLF) signals' at the Earthquake workshop (SMR1864)
Oct., 2007: Invited talk on the 'Hydrodynamic and Spectral properties of Transonic Astrophysical Flows Around Black Holes' at the SMR1865 Workshop on 'Astrophysical Fluid Dynamics' at ICTP, Italy
Oct., 2007: 'Spectral Properties of shocked advective flows at high energy' and 'Zone plates as X-ray imaging device', at the forthcoming BEPPO/SCARSI meeting in Palermo
Oct., 2007: Invited talk on 'Theoretical and Observational Evidence of the Boundary Layer of Black Hole' at ICRA, University of Rome
Oct. 2007: Invited talk on 'Synthesis of Biomolecules in the Interstellar Medium' at the Physics

of the Living State, Applied Physics Scientific Section Seminar at ICTP
Dec. 2007: Invited talk on 'Do we SEE black holes?' at the Platinum Jubilee Commemorative conference of ISI, Kolkata
Dec. 2007: Invited talk on 'Space Explorations: The Indian Perspective' organized by Paschimbanga Bijnan Mancha at Seoraphuli, Hoogley. January 2008: Invited talks on 'Mysterious Universe' at Districtwise Space Science Symposia in Murshidabad and Nadia Districts
February 2008: Invited talk on 'Black Hole Accretion' at the Second Kolkata meeting on 'Observational Evidence for Black Holes in the Universe', Kolkata
March 2008: Invited talk on 'Can we form biomolecules during Star Formation?' at the 'Astrobiology' Conference at IIT/Roorkee
March 2008: Invited talk on 'Stellar Evolution and Black Hole Formation' at the Taki Govt. College
May. 2008: Talks on 'Accretion processes of black holes' at George Mason University, Luisiana State University, University of Texas at Arlington and 212th AAS meeting at St. Louis
August, 2008: Poster presentations on Evolution of pre-biotic molecules during collapse of Interstellar clouds and Monte Carlo Simulation of Water and Methanol on Grain Surfaces at the 15th ISSOL meeting, Florence.
March, 2009: Study of the correlation between ionosphere activities with earth quakes by monitoring Very Low Frequency (VLF) signals and Analytical Modeling and Numerical Simulations of the Quasi-Periodic Oscillations of Black Hole Candidates at the ISRO RESPOND meeting in PRL, Ahmedabad.
July, 2009: Chaired APT4 session on 'Astrophysical Black Holes: From Quasars to nano-Quasars' of the 12th Marcel Grossman Conference held at UNESCO HQ July 12-18, 2009
July, 2009: Invited talk on 'Seeing is believing – Do we see black holes?' in APT4 session at the 12th Marcel Grossman Conference held at UNESCO HQ July 12-18, 2009
July, 2009: Invited talk on 'Evolution of QPOs in Transient Black Holes' in APT1 session at the 12th Marcel Grossman Conference held at UNESCO HQ July 12-18, 2009
August, 2009: Plenary Talk on Shock waves in Accretion flows into black holes, at the 'Astronomy and beyond: Astrophysics, Cosmology, Radioastronomy, High Energy Physics andAstrobiology' conference in Odessa, Ukraine, 17-23rd Aug. 2009.
August, 2009: Talks on 'Fresnel Zone Plate Telescopes as high resolution imaging devices', 'Indian Payloads (RT-2 Experiment) Onboard CORONAS-FOTON Mission' and 'X-ray experiments for Space applications in intermediate energy range' at the International Conference on Space Technology, Thessaloniki, 24-26th August, 2009.
August, 2009: Talk on 'X-Ray and Gamma-Ray Astronomy from the Moon' at the International Conference on 'Low Cost Planetary Missions' at Goa, 31ts Aug-4th Sept., 2009.
October, 2009, Invited talk on "Unification of Accretion and Outflows Around Black Holes" at the 1st Galileo - Xu Guanqi meeting at Shanghai
November, 2009, Invited talk on "Evolution of Telescope based Observations" Commemorative 150th Birth Centenary of J.C. Bose and 400th year of Galileo's observation (IYA prog.), BESU, West Bengal

December, 2009, Reporting the Status of RT-2 in front of ISRO Committee on Space Science
January, 2010, Invited talk on "Importance of Galileo and Darwin today" at IYA programme (400yrs. of Galileo Telescope and 200 years of Darwin's birth)
February, 2010, Series of Five talks on "Accretion Process Around Black Holes" at University of Nice (Observatory of Cote Azur), France
March, 2010, Invited talk on "Chemical Evolution during Star formation and effects of X-rays and Gamma Rays" at IIT/Roorkee at the Conference on 'Origin of Life'
March, 2010, Invited talks on "VLF Research at SNBNCBS and ICSP" at the International Conference on Very Low Frequency Radio Waves: Theory and Observations (VELFRATO-10)
April, 2010, Reporting the Status of RT-2 in front of ADCOS Committee
July, 2010, 'VLF Campaigns in summer, winter and during solar eclipse all over India' at the AOGS conference, Hyderabad, July, 2010
July, 2010, Accretion onto outbursting black holes: How do they do it? at the 2nd Galileo-Xu Guanqi meeting at Ventimiglia.
July, 2010, Oral presentations of 'RT-2 observations of Solar flares', 'Possible First Evidence of a double gamma ray burst' and poster presentations on 'RT-2 observations of Gamma-Ray Bursts','Variability Classes of GRS1915+105: Physical Picture' and 'Evidence of two component accretion flow around the black hole candidate XTE J1550-564 during the outbursts' at 38th COSPAR meeting (17th-25th July) Bremen.
Sept. 2010, A Series of 5 lectures to Erasmus Mundus Joint Astronomy Programme Students at the University of Nice
October 2010, "Accretion processes on Black Holes: the Spectral and temporal properties" at the "Accretion and Outblow in Black Hole Systems" (10-16th October, 2010), Kathmandu, Nepal.
November, 2010, Chaired the sessions and gave Invited talk on "VLF Campaigns in Summer, Winter and Solar ecipses" at the International Workshop on Seismo-Electromagnetics and Atmospheric Science (IWSE-AS 2010), Agra
January, 2011, Invited talk on the Observational Evidence for Transonic Astrophysical Flows Around Black holes, at "Wideband X-ray astronomy" International Conference at IUCAA, Pune.
February, 2011: Invited talk on "Imaging in X-rays for space astronomy" DST SERC School on Guided Wave Optics and Devices during February, 2011
February, 2011: Invited talk on Excitements in Astronomy and Space Physics at Students Reunion, St Xavier'sCollege, Kolkata.
March 2011: Invited talk on "Astrochemistry in Relation to Origin of Life" at the 41st ANNUAL RE-UNION of DEPARTMENT OF CHEMISTRY at Jadavpur University.
March 2011: ISRO RESPOND meeting lectures at Physical Research Laboratory.
May, 2011: "Science with weather balloons" at the 20th ESA conference on Balloons and Rockets in Heyres, France
May, 2011: Two lectures on "astrophysical flows around black holes" at EMJD programme, University of Nice.

August, 2011: Perturbation of the GW signals from a binary system in presence of an accretion flow at the Lijiang conference on Gravitation wave Astronomy
August, 2011: Earthquakes and VLF signal anomalies at the URSI conference in Istanbul
September, 2011: Excitements in Astrophysics at the NCSM head quarters
Feb. 2012: ISRO RESPOND meeting lectures at Physical Research Laboratory.
March, 2012, Invited talks on "Accretion Processes around Black Holes and Physics of Jets" and "Chemical Evolution of the Universe and the Origin of Life" at "International Conference on Astrophysics and Cosmology", Kathmandu, July, 2012.
July, 2012: Invited talks on "Towards the most complete accretion flow solution around black holes" at 13th Marcel Grossman Meeting, Stockholm.
July, 2012: Invited talks on "Balloon programme at the Indian Centre for Space Physics", "Towards the most complete solution of accretion/winds around black holes", "VLF activities and ICSP and SNBNCBS", "Formation of Pre-biotic Molecules during the Formation of proto-stars and the Origin of Life", A 2D hydrodynamic simulations coupled to chemical evolution to study the physics and chemistry of ISM" at the 39th COSPAR meeting at Infosys Campus, Mysore, India.
July, 2012: Co-author of Orals or Posters presented at 39th COSPAR meeting in Mysore, India: 'Unusual Shifts in Terminator Times of the VLF Signals before the Pakistan Earthquake (M=7.4), Occurred on 19th Jan., 2011', 'Case Studies of Seismic Events and Comparison with VLF Signal and Satellite Data', 'Chemical Composition of Interstellar Dust: A Monte Carlo Study', 'Computation and Prediction of plasma drag on Orbiting Satellites due to Space Environmental Perturbation by Coronal Mass Ejections (CMEs)', 'Non-reciprocity observed by the VLF reception of NWC (19.8 kHz) over trans-equatorial east-west paths to India with reception over a non-equatorial west-east path of similar length to Dunedin, New Zealand', 'The Very Low Frequency monitoring programme of Indian Centre for Space Physics, Kolkata', 'Study the Seismo-Ionospheric Correlations in the Indian Sub-Continent using Very Low Frequency (VLF) Signal Characteristics', 'Unusual Fluctuations of the Nighttime VLF Signal Amplitude before Seismic Events', 'Modeling of sub-ionospheric VLF signal perturbations associated with Total Solar Eclipse, 2009 in Indian subcontinent', 'Unique observation of a Solar Flare by Lunar Occultation during the 2010 Annular Solar Eclipse through ionospheric disturbances in VLF waves', 'On the nature of time-delay in lower ionospheric response time during solar flares', 'Very Low Frequency Detection of the Soft Gamma ray Repeater SGR J1550-5418', 'Daily Variation of Very Low Frequency (VLF) Signal Amplitude and Phase from North-West Cape (19.8kHz) to Kolkata', 'Ionospheric Anomaly during Seismic Events Observed from NWC-Sitapur Baseline', 'Calibration of the VLF Signals for VTX-Malda Propagation Path: Correlation between Ionospheric Anomaly and Seismic Activities', 'Modeling of the effects of Solar flare on VLF signal with Geant4 simulation', 'First ever VLF monitoring of Lunar occultation of a Solar Flare during the 2010 Annular Solar Eclipse and its effects on the D-region electron density profile', 'Analysis of the effects of composite solar flares on VLF signals', 'On the correlation among Solar flare, its VLF response and the Solar Zenith angle', 'Back ground measurements of Solid state detectors in RT-2 experiment', 'Canonical GRBs: the long, the disguised short

and the short, and their cosmic distances', 'Time resolved analysis of GRB 090618 and GRB 970828', 'Ejection mechanism for the disappearance of inner accretion disk of Black Holes: A theoretical study with observational signatures', 'A New Photometric Survey Design for Detection of Transiting Extrasolar Planets', 'On the Correlation Between the X-rays and the Radio emission in a Two Component Accretion Flow around a Black Hole: Results of Coupled Monte Carlo-TVD Simulation', 'Effects of Compton Cooling on the Hydrodynamic and Spectral Properties of a Two Component Accretion Flow around a Black Hole', 'Numerical simulations of a Two Component Advective flow for the study of the spectral and timing properties of BHs and NSs', 'A comparative study of the timing and the spectral properties during two similar outbursts of 2010 & 2011 of H 1743-322', 'Theoretical study of the outflow rates from an accretion disk around black holes', 'Spectral Properties of Accretion Flows Around Black Holes in Presence of Comptonization', 'Search for transient emissions using RT-2 Data', 'Numerical studies of timing and spectral properties of shocked two component accretion flow around a black hole in presence of Compton coolings', 'Behaviour of accretion flow around the Galactic black hole candidates during their outbursts', 'Inclusion of Two Component Advective Flow model in XSPEC', 'Propagating Oscillatory Shock (POS) model for explaining QPO evolutions of some transient black hole candidates', 'Study of the timing and the spectral properties during the 2010-11 outburst of black hole candidate GX 339-4', 'Prediction of the variability class transition sequence of GRS1915+105 and its observation with ASTROSAT', 'Possible ASTROSAT observation of disappearance of accretion shocks behind the horizon in outburst sources', 'Flare intensity distribution during the deep solar minimum of 2009 based on RT-2 Data', 'Multi-satellite observation of Lunar Occultation of X-ray emission from a Solar Flare during the 2010 Annular Solar Eclipse', 'Synthesis of prebiotic molecules and origin of life', 'A quantum chemical approach to set a guideline for the observation of different pre-biotic molecules in the interstellar space', 'A 2D hydrodynamic simulation coupled with the chemical evolution to study the physics and Chemistry of the ISM', 'A Monte Carlo Study to Explore the Composition of the Grain Mantle', 'Formation of some of the bases of DNA in the interstellar space during the molecular cloud collapse', 'Effect of photo-dissociation on the composition of the grain mantle', 'Spectral signature and chemical evolution of some complex molecules which could be treated as the precursor of some bio-molecules in the ISM', and 'X-ray imaging with Fresnel's Zone Plate based Shadow-casting device'

July, 2012: "Trend of the Studies on Chemical Evolution and Origin of Life" at the International Conference on "Chemical Evolution in Star Forming Region" at SNBNCBS

August, 2012: "My Experiments with Astrophysics" Bose colloquium at SNBNCBS

December, 2012: "Universe from the large scale to the small scale", 2012, Key Speaker at 150th year celebration of A.C.C. Institution, Malda

January, 2013: "Black Hole Accretion", Plenary speaker of Centenary celebration of Indian Science Congress

January, 2013: "Mysterious Universe", Invited speaker of the Children Science Congress, a part of Centenary celebration of Indian Science Congress

March, 2013: "Chemical Evolution of the Universe and the Origin of Life" at the Astrofest of

Cotton College University, Guwahati
March, 2013: "Interpretation of the spectral and temporal behaviour of black hole candidates from transonic flow solution of accretion flows", a plenary talk at "Recent Trends of Compact Objects" conference at IIT/Guwahati
June, 2013: "Latest Developments of the Black Hole Accretion Flow Dynamics" Two Lectures at ICRANET, Pescara, Italy
June, 2013: "Low Cost Balloon flight programme of Indian Centre for Space Physics", at 21st conference on the European balloon and rocket programme, Thun, Switzerland
Sept. 2013: "Predictability of Two Component Advective Flow Solution" An Invited Talk at the conference on 'Accretion of Black Holes' at International Centre, Goa.
January, 2014: 'Earth as a Gigantic detector: GEANT4/LWPC simulation of X-ray detection and comparison with observation' and Propagation Effects of VLF signals in Earth-Ionosphere waveguide during the eclipses of July 2009 and January, 2010': oral contributions and 'Effective recombination coefficient and solar zenith angle effects on low-latitude D-region ionosphere evaluated from VLF signal amplitude and its time delay during X-ray solar flares' and 'Study of Precursors of Earthquakes from Indian Centre for Space Physics' poster contributions at VERSIM-6 conference in University of Otago, New Zealand
February, 2014: "Innovations in Space and Earth Science: Indian way" at 101st Indian Science Congress, University of Jammu. March, 2014: 'Comptonization in black hole accretion flows and contribution of Zeldovich', in National Academy of Science of Belarus at Minsk, Belarus
April, 2014: 'Astrochemical research: Generation and Storage of Reaction Cross-Sections', in a conference on VAMDC data base at IUAC, New Delhi
June, 2014: 'Complete Solution of Black Hole accretion including viscosity and radiative Transfer' at Zeldovich Birth Centenary Conference at Space Research institute (IKI), Moscow (June)
August, 2014: Five oral presentations at 40th COSPAR meeting held in Moscow: 'Programme of Indian Centre for Space Physics using Very Low Frequency Radio Waves', 'Two Component Advective Flows Around Black Holes: Theory, simulations and observational verifications', 'Unique Programme of Indian Centre for Space Physics using large rubber Balloons' , 'Formation of Two Component Advective Flow by Numerical Simulations and Monte-Carlo simulations of their spectral properties' and 'GRBs and Blazars testing General relativity and Cosmology'
August 2014: Co-author of the following papers presented either orally or as a poster at the 40th COSPAR meeting in Moscow: 'Co-relation of the degree of Ionization of a molecular cloud with the depletion of the neutral species on the interstellar dust', 'Chemical composition of interstellar dust', 'Effective formation of simple molecules like H2, D2, HD on grain surfaces and various consequences', 'Explaining the deuterium fractionation of Water: Modelling and observations', 'Structure, spectroscopy and chemistry on interstellar dust', 'Characterization of few transient black hole candidates with TCAF model during their outbursts,' 'Inclusion of TCAF model in XSPEC to study accretion flow dynamics around black hole candidates', 'Chemical evolution of life making molecules in extreme environments', 'Physics and Chemistry on interstellar dust', 'Velocity of shock propagation and evolution of quasi-periodic oscillations in outbursting black holes', 'Study of the spectral and the temporal properties of few black

hole candidates with TCAF model', 'Existence of some pre-biotic molecules in and around the Interstellar Medium', 'On the detection of different chlorine bearing molecules in ISM through Herschel/HIFI', 'A study of the behavior of the terminator time shifts using multiple VLF propagation paths during the Pakistan earthquake (M = 7.2) of 18 January 2011', 'Modeling VLF signal modulation during solar flares with GEANT4 Monte Carlo simulation, a simple chemical model and LWPC', 'Effective recombination coefficient and solar zenith angle effects on low-latitude D-region ionosphere evaluated from VLF signal amplitude and its time delay during X-ray solar flares', 'Remote Sensing of Planetary Wave Type Oscillations (PWTOs) in the mesosphere-ionosphere system using Very Low Frequency transmitter data', 'Atmospheric effects on X-ray detectors at balloon heights', 'Remote Sensing of Atmospheric Gravity Waves (GWs) and Planetary Wave Type Oscillations (PWTOs) in the upper mesosphere- lower ionosphere system using the Very Low Frequency transmitter data', 'Sub-Ionospheric VLF data analysis to find the evidence of Atmospheric Gravity Waves into the Lower Ionosphere during some recent Solar Eclipse events', 'Characteristics of lightning associated transient perturbations in low latitude VLF path', 'A Study of the Variation of Geometry of Accretion Flows of Compact Objects through Timing and Spectral Analysis of Their Outbursts', 'Unusual nighttime fluctuation in VLF signal during earthquake for NWC-IERC baseline', 'Observation of ionospheric perturbation through ground-based VLF receiver and the DEMETER Satellite during some recent Solar Eclipses', 'Study of precursors of earthquake using anomalies in amplitude and phase of Very Low Frequency radio signal', 'Studies of precursory effects in the VLF signal for some recent earthquakes and compare with satellite observations', 'Study of dependency of propagation paths in precursory effects of earthquakes', 'Study of long path VLF signal propagation characteristics as observed from Indian Antarctic station, Maitri', 'Correlation between night time VLF amplitude fluctuations and seismic events in Indian subcontinent', 'Correlation between seismic events and anomalous 'VLF day-length' for west-east and east-west propagation paths', 'A Probe of magnetosphere-ionosphere coupling using Very Low Frequency (VLF) Radio Signal from North-West Cape (Australia) to Kolkata (India)', 'Modeling Effects of Plasma Drag on Low Earth Orbiting Satellites due to Upper Atmospheric Heating by Coronal Mass Ejections and other Solar Events', 'Theoretical Model of Drag Force Impact on a Model International Space Station (ISS) Satellite due to Solar Activity', 'Effective negative ion profile of low-latitude D-region during solar flares evaluated from VLF signal analysis', 'Peak time delay of electron density in the lower ionosphere as a function of altitude and flare characteristics : Theory and simulations', 'Study of the effect of solar flares on the VLF signal during D layer disappearance time', 'A study of Magnetospheric-Ionospheric Coupling as a Precursory Effects of Earthquakes'

August, 2014: 'Chemical Evolution of the Universe and origin of Life' at Institute of Culture, Vivekananda Centenary Hall, Gol Park, Kolkata.

Sept. 2014: Inaugural lecture on "Accretion Disks Around Black Holes: A review" at the conference in Goa on "Hard X-ray Astronomy: Astrosat

October 2014: "Accretion Disks Around Black Holes: A review" Colloquium at ARIES, Nainital.

November 2014: "Chemical Evolution of the Universe and Origin of Life" at Department of Atmospheric Science, Calcutta University.
December, 2014: "Two Component Advective Flows" at Departmental Seminar of Tata Institute of Fundamental Research, Mumbai.
December, 2014: "LAXPC Observations of Stellar Black Holes: Predictions of Two component Advective Flows", at Science with ASTROSAT/LAXPC workshop, TIFR balloon facility, Hyderabad.
January, 2015: Attended NAAC assessors interaction Meeting and participated in mock evaluation of Institutes at NAAC HQ, Bangalore
May, 2015: "Whither TCAF?" Invited talk at "Recent Trends of Study of Compact Objects - Theory and Observations", in "Recent Trends in Compact Objects -II" conference at ARIES
June 2015: "Unique high energy astrophysics experiment with weather balloons", at 22nd PAC Symposium at Tromso, Norway
July 2015: Chairman of "Accretion Processes on Black Holes" at the 14th Marcel Grossman meeting in Rome and invited talk at AC1 session
Sept. 2015: "Two Component Advective Flows: Theory and Observations" at the "Conference celebrating 100th Birth Anniversary of Prof. V.V. Sovolev at St. Petersburgh
Mar. 2016: "Gravitational Waves and Black Holes" at 'Togetherness for Better Tomorrow' Forum, Tollygaunj
Jul. 2016: 'Black Holes and the Universe' at LLSM Institution as a part of golden Jubillee Celebration
Jul. 2016: About 70 Oral papers and posters were selected for presentation at 41st COSPAR meeting (cancelled due to unrest).
Sept. 2016: 'Food Habits of black holes' a Departmental Seminar and 'Chemical Evolution of the Universe Since Big Bang and Origin of Life' – a Public talk at the University of Durban.
Sept. 2016: A series of 6 hours of talks on "Accretion processes of Black Holes" at the University of Cape Town graduate students at the joint departmental course.
Sept. 2016: 'Food Habits of black holes' a Departmental Seminar and 'Chemical Evolution of the Universe Since Big Bang and Origin of Life' – a Public talk at the University of Cape Town.
Sept. 2016: Oral presentation on 'Earth as a gigantic detector: Using VLF signals to recreate spectrum of injected radiation on earth' and "ICSP observations of long term VLF propagation effects from Antarctic Stations at Maitri and Bharati of India" at the VERSIM Conference at South African National Space Agency, Harmanus; also presented a poster on "Results of VLF Campaigns and DEMETER satellite during several Total and Annual Solar Eclipses".
December, 2016: Meeting with Team Indus at their HQ in Bangalore for presentation on the "X-Ray Spectroscopy from Lunar Surface (XSLS)" to send a 4kilo payload to Moon
January 2017: Invited public talk on "Mysterious Black Holes" at Malda College Ground on the occasion of Annual Book fair. January 2017: Invited public talk on "Excitements in Astronomy, Astrophysics and Space Research" at RKMR College (Auton.), Narendrapur.
January, 2017: Inaugural talk on "Accretion processes on black holes becomes Science" at the 'Wide Band Spectral and Timing Studies of Cosmic X-ray Sources' conference at TIFR

March, 2017: Attended ASI meeting at Jaipur.
March 2017: Organized one day workshop on 'Xray Observations and Data Analysis of Compact Sources' at M.P. Birla Auditorium, Jaipur, 6th March, 2017 jointly with Dr. D. Debnath of ICSP, Kolkata) and presented an inaugural talk on "X-ray Studies of Compact objects: theory and observational support"
May, 2017: Co-organized a One Day seminar on "Natural Hazards" jointly with Prof. S. Midya at the Dept. of Atmospheric Physics, Calcutta University
July, 2017: S. Chandrasekhar Memorial Lecture on 'Evolution of Life since big bang and the origin of life' at the University of Gour Banga, Malda.
August, 2017: A series of Lectures at the Astrophysics Section of the University of Notre Dame
August, 2017: A Contributed talk on the 'Synthesis of Biomolecules in Interstellar Medium", at the 254th ACS meeting on "Molecules in Space" Linking the Interstellar Medium to (EXO)-Planets, in Walter E. Washington Convention Center, Washington, DC, USA
September, 2017: Oral Presentation on "High Energy Astronomy with meteorological balloons" and poster on the "Trend of Cosmic Ray Intensity with solar activity using low cost Meteorological balloons" at the 3rd COSPAR Symposium on "Small Satellites for Space Research" Jeju Island, S. Korea

Administrative Capabilities

Head of the Department since the inception of the Department till Oct. 2017: Helped growing the Astrochemistry Department and Optical Astronomy Department. Organized major conferences in the last 17 years. Edited proceedings of all the five major conferences held at SNBNCBS by Kluwar and American Institute of Physics. Invited many luminaries for memorial lectures of SNBNCBS.

Acting Administrative Officer at SNBNCBS during 4/1998-10/1998

Dean, Academic programme at SNBNCBS (5/2010-1/2013)

Honorary In Charge, Academic Affairs and Founding General Secretary: Indian Centre for Space Physics (since 1999)

Popular Science

PS1. S.K. CHAKRABARTI: 'Introduction of Astronomy and Astrophysics in the University Syllabus', 1997, Physics Teachers, v. 39, p.25
PS2. S.K. CHAKRABARTI: 'My encounter with Chandra', In Bulletin of the Calcutta Mathematical Society, Vol. 20, No. 10 (1997)
PS3. S.K. CHAKRABARTI: 'Mahabiaswe-o-Aami' in the Bulletin of the Indian Centre for

Space Physics 'Mahaviswa O Aami' (June 2000)
PS4. S.K. CHAKRABARTI: Editor of the Bulletin of the Indian Centre for Space Physics 'Mahaviswa-O-Aami' (Nov. 2000)

Some News Media

There are over 250 media reports on my activities. These include Newspapers, Magazines, reviews, Television coverages, newpaper and television interviews, radio interviews etc.

Five of my articles got reviewed in Nature India

Current Ph.D. Students

1. A. Roy, SRF
2. A. Deb, SRF
3. A. Ghosh, SRF
4. A. Bhattacharjee, SRF
5. A. Banerjee, SRF
6. S. Nagarkoti, SRF (submitting)
7. P. Santra, JRF
8. P. Nandi, JRF

Past Post Doctoral Fellow

1. I Banerjee, 2015-2017 2. Partha S. Pal (2013-2015)

Summer students supervised

1. Nimisha Kantharia (Gujrat University) on 'Transonic Accretion Flows in presence of self-gravitating disk'
2. P. Sandhu (Delhi University) on 'Trajectories of photons in curves space time'
3. S. Sahu (Hyderabad. Univ.) on 'Bondi flow on Black Holes and neutron stars'
4. Samik Dasgupta (Pune University) on 'Solution of Navier Stokes' Equation away from equatorial plane'
5. Debashis Das (Biswabharati University) on 'Dark Matter of the Universe'
6. Sabyasachi Pal (Calcutta Univ.) 'Two temperature Solution of Spherical Accretion Flow'
7. Kinshuk Acharya (Calcutta Univ.) 'Wind Induced Instability of Accretion Flows'

8. W. M. Chenglei (Delhi Univ.) 'The Study of Gravitational Waves'
9. D. Mankane (Mumbai University) Spectra from Keplerian Disks
10. P. Agrawal (North Bengal University) Production of jets.
11. A. Saha (Post B.Sc. Integrated Ph.D. at SNBNCBS).
12. A. Pal (Post B.Sc. Integrated Ph.D. at SNBNCBS).
13. Partha S. Pal (IIT/Madras).
14. Bhupendra Mishra (IIT/Gauhati)

Organization of Conferences

C1. Convener of the workshop on 'Multiwavelength Studies of Stars and Compact Objects' (Jan. 1st - Jan. 17th, 1998) and of the Conference 'Observational Evidence for Black Holes in the Universe' (Jan. 11th - Jan. 17th, 1998).
C2. Convener of the Conference on 'Leonids 98 - A postmortem' held at the SNBNCBS (December 20th, 1998).
C3. Convener of "Young Astrophysicists of Today's India" conference at the S.N. Bose National Centre for Basic Sciences (March 24-27th, 1999)
C4. convener of "Districtwise Space Science Symposium" (Malda district) organized by Indian Centre for Space Physics (June, 2000).
C5. Convener of "Districtwise Space Science Symposium" and 'Astrophysical Flows Around Black Holes' organized by Indian Centre for Space Physics at Serampore College (November, 2000).
C6. Convener of "Young Astrophysicists of Today's India-2001" and "Black Hole Astrophysics" organized by Indian Centre for Space Physics (March, 2001)
C7. Convenor of "Districtwise Space Science Symposium" (North Dinajpur; Oct. 2001)
C8. Convenor of "Three Generations of Space Physicists of Kolkata" (Dec. 2001)
C9. Convenor of "Districtwise Space Science Symposium" (North 24 Paraganas; Mar. 2002)
C10. Convenor of "Districtwise Space Science Symposium" (East/West Medinipur Districts; Jan. 2003)
C11. Convenor of "Districtwise Space Science Symposium" (Coochbehar/Jalpaiguri Districts; Feb. 2004)
C12. Convenor of "Districtwise Space Science Symposium" (Bankura/Purulia Districts; Jan/Feb. 2005)
C13. Convenor of "Districtwise Space Science Symposium" (Dinajpur (D) and Darjeeling Districts; Feb. 2006)
C14. Convenor of "Districtwise Space Science Symposium" (Birbhum and Bardhaman Districts; May, 2007)
C15. Joint Convenor of "Second Kolkata Conference on Observational Evidence for Black Holes in the Universe"; Feb. 2008 and the Satellite SNB-ICRANet Meeting on 'Black Holes, Neutron

Stars and Gamma Ray Bursts' (Feb. 2008)
C16 Convener of "First International Conference on Very Low Frequency Radio Waves: Theory and Observations" (March, 2008)
C17 Jt. Convenor of First International Conference on Chemical Evolution of Star Forming Region and Origin of Life (Astrochem2012) 10-13 July, 2012
C18 Science Organizer of several sessions in 39th Cospar, Mysore; 40th COSPAR in Moscow; 41st COSPAR in Istanbul and 42nd COSPAR session at Caltech, USA (scheduled)
C19 Main Science Organizer of the Parallel Session on "Accretion Processes on Black Holes" Marcel Meetings on General Relativity and Gravitation at Rome (2000); Rio (2003); Berlin (2006); Paris (2009); Stocholm (2012); Rome (2015), Rome (2018).

Some Book Reviews

BR1. Edwin Hubble-Mariner of the Nebulae by Gale E. Christianson, in Ind. J. Phys. V. 79(12), p. 1427, 2005
BR2. Space Plasma Physics by A.C. Das, in Ind. J. Phys. v. 78(12), 1405, 2004
BR3. The Universe in Gamma Rays by Volker Schonfelder in Ind. J. Phys v. 77B(4), 473, 2003
BR4. Interplanetary Dust by E. Gruen et al. in Ind. J. Phys., v. 77B(5), 583, 2003

Projects successfully completed

Numerous ($\sim$ 15) Projects of DST, MoES and ISRO have been successfully completed.

Table 1: Past PhD Students and their present Status

S. No.	Name	Title of Thesis	Year	Present Status
1.	T. K. Das	Modeling The Origin Of Astrophysical Outflows From Accretion Disks Around Compact Objects	2000	Faculty of HRI (Phys.)
2.	B. Mukhopadhyay	Interaction Of Charged Fluid With Astrophysical Black Holes	2001	Faculty of IISc (Phys.)
3.	A. Bhattacharyya	Collective Effects in the Planetary Ring Particle Dynamics	2001	Scientist at BARC, Mumbai
4.	I. Chattopadhyay	Studies of the Hydrodynamic and Radiative Acceleration Processes of Cosmic Radio Jets and of Cosmic Radio Jets and Bipolar Outflows From Compact Objects	2002	Scientist at ARIES (Nainital)
5.	S. Manickam	Quasi Periodic Oscillations in the X-ray Emission from Black Hole Candidates	2003	Quest Rolls Royce
6.	A. Nandi	Spectral and timing properties of accretion flows around black holes from observational data	2005	Scientist-E at ISRO-HQ, Bangalore
7.	S. Das	Analytical studies of standing shocks in accretion flows around compact objects	2005	Faculty at IIT Guwahati
8.	S. Pal	Radio Properties of Compact Galactic Objects	2006	Proj. Scientist at IERC/ICSP
9.	S. Mandal	Theoretical studies of spectral properties of two-component advective flows around black holes	2006	Faculty at IISST, Trivandrum
10.	S. Mondal	Accretion Processes Around Kerr Black Holes	2007	Faculty at Jadavpur University
11.	K. Acharyya[1]	Formation of Complex Molecules during Star Formation	2007	Scientist Faculty PRL, Ahmedabad
12.	P. Basu[2]	Effects of Accretion Disks on Gravitational Waves from Binary	2008	Faculty at CC Univ. Guwahati
13.	A. Das[1]	Hydrodynamic Simulation of the formation of Protostars	2009	Faculty at ICSP, Kolkata
14.	R. Sarkar	X-Ray Studies of Compact Objects Data Analysis, Development of Instruments and Their Characterization	2010	Faculty at ICSP, Kolkata
15.	D. Debnath	X-ray Properties of the Sun and Some Compact objects of our Galaxy	2010	Faculty at ICSP, Kolkata
16.	B. G. Dutta (FIP)	X-Ray properties of a few Galactic Black Holes during Their Outbursts	2010	Faculty at RBC College Naihati
17.	P. S. Pal[3]	Time Dependent X-Ray Data from Flows Around Stellar Mass Black Holes and Their Implications	2013	Post Doc Hong Kong
18.	H. Ghosh	Monte-Carlo Simulations of the Advective Inflow and Outflow around a Black Hole	2013	Faculty Engg. Coll. HIT
19.	C. B. Singh	Analytical studies of origin of outflows from accretion disk around black holes	2013	Post-doc Univ. Sao Paolo
20.	S. Sasmal	Study of Terrestrial and Solar Energetic Phenomena through propagation characteristics of Very Low Frequency (VLF) Waves	2013	Faculty ICSP
21.	K. Giri	Numerical Simulations of Viscous Accretion Flow Around Black Hole which Includes Shocks (Thesis is being published by Springer due to its importance and originality)	2013	Faculty NITTTR Kolkata
23.	S. Palit	Study of Some X-ray Imaging Devices in Space Astronomy	2013	Post Doc Fellow at Univ. Sao Paolo
22.	S. Pal	Numerical Modeling of Radio wave propagation through Earth-Ionosphere Wave Guide its applications to SIDs	2014	Faculty GIT Kolkata
24.	T. Basak	Study of the Effects on Lower Ionosphere due to solar phenomena using very low frequency radio wave propagation	2014	Faculty Amity Univ
25.	S.K. Mondal	Study of High Energy Phenomena in the Universe using Earth's Ionosphere as a detector	2014	Faculty SKB University Purulia
26.	S. Garain	Numerical Simulation of Spectral and Timing properties of galactic black holes	2014	Post Doc at Univ. Notre Dame
27.	S. Ray	Study of the Very Low Frequency (VLF) Radio Wave Propagation in Earth-ionosphere Wave-guide and its Application for Possible Correlation of VLF Signal Anomalies with Seismicity	2014	GH College Habra
28.	L. Majumdar	Hydrodynamics and Evolving Composition of the Collapsing Interstellar Clouds	2014	Post Doc at JPL/Caltech
29.	S. Mondal	Spectral properties of Accretion Flows Around Black Holes in Presence of Comptonization and Mass loss	2015	Post Doc at Univ. of Valparaiso Chile

Table 2: Continued

30	T. Katoch	Study of solar flares using Indian payloads Röntgen telescope - 2 (RT-2) on board coronas-photon satellite: instrumentation, observation & data analysis	2015	Scientist-D (TIFR)
31	S. Maji	Study of solar flares using Indian payloads Röntgen telescope - 2 (RT-2) on board coronas-photon satellite: instrumentation, observation & data analysis	2016	Teacher K. School
32	D. Sahu[4]	Study of solar flares using Indian payloads Röntgen telescope - 2 (RT-2) on board coronas-photon satellite: instrumentation, observation & data analysis	2016	PDF PRL Ahmedabad
33	V. U. J. Nwankwo	Effects Of Space Weather on Earth's Ionosphere And Nominal LEO Satellites' Aerodynamic Drag	2016	Faculty Abuja (Nigeria)
34	A. K. Choudhury	Sources of high energy radiation and their effects on the Very Low Frequency (VLF) radio signals	2017	Teacher LMSM, School
35	S. Chakraborty[5]	Modeling of lower ionospheric perturbations effects on the Very Low Frequency along Very Low Frequency radio wave propagation paths due to diverse physical phenomena	2017	Applied for positions ***
36	A.A. Molla[6]	Observational Evidence Of Two Component Advective Flows Around Black Holes From The Analysis Of Satellite Data	2017	Applied for positions ****
37	A. Chatterjee	Effects of Photon Bending on Observational Aspects of Black Hole Accretion	2017	Applied for positions ****

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[2] Jt. Supervisor: Dr. A. Manna

[3] Jt. Supervisor: Dr. A. Nandi

[4] Jt. Supervisor: Dr. A. Das

[5] Jt. Supervisor: Dr. S. Palit

[6] Jt. Supervisor: Dr. D. Debnath

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