Curriculum Vitae

1 Personal Information

- Name: Prasanta Kumar Das
- Designation: Professor
- Affiliation: BITS Pilani University, K K Birla Goa campus, Goa-403726
- Phone: 0832-2580-448. Mobile: 8390048665
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2 Academic Appointments

- 2021 - : Professor at Dept. of Physics, BITS Pilani K K Birla Goa Campus
- 2015 - 2021 : Associate Professorat at Dept. of Physics, BITS Pilani K K Birla Goa Campus
- 2007 - 2015 : Assistant Professor at Dept. of Physics, BITS Pilani K K Birla Goa Campus

3 Academic Preparations

- 2005 - 2007: Post-doctoral fellow, Institute of Mathematical Science, Chennai
- 2004 - 2005: Post-doctoral fellow, CYCU, Chung-Li, Taiwan, ROC
- 2002 - 2004: Post-doctoral fellow, Harish-Chandra Research Institute, Allahabad
- 1996 - 2002: PhD, Theoretical Physics, Indian Institute of Technology, Kanpur

4 Professional Accomplishments

- Visiting Associate of Inter-University Center of Astronomy and Astrophysics(IUCAA), Pune from 2022 onwards.
- Member of the Executive Council of the Square Kilometer Array (SKA)-India Consortium.
- Referee of *Nuclear Physics A, European Physical Journal C, Journal Advances in High Energy Physics, Journal Progress of Theoretical and Experimental Physics.*
- Reviewer of DST SERB Project.

5 Administrative Experience

- Associate Dean, Faculty Affairs Division, BITS Pilani, K K Birla Goa Campus (2022 - 2025)
- Associate Dean, Academic Research Division, BITS Pilani, K K Birla Goa Campus (2014 - 2018)
- Local coordinator, Convener, Internal Quality Assurance Cell, BITS Pilani, K K Birla Goa Campus (2014 - 2018).
- Resident Warden of AH-7, BITS Pilani, K K Birla Goa Campus (2009 - 2013).

6 Teaching

I have taught the following courses: (i) Mechanics, Oscillations and Waves, (ii) Introduction to Astronomy & Astrophysics, (iii) Electrodynamics I & II, (iv) Classical Mechanics, (v) Quantum Mechanics I & II, (vi) Quantum Mechanics for Engineers, (vii) Quantum Physics & Applications, (iX) Advanced Quantum Mechanics, (x) Statistical Mechanics, (xi) Theory of Relativity, (xii) General Relativity & Cosmology, (xiii) Cosmology, (xiv) Introduction to Quantum Field Theory, (xv) Mathematics III (Differential equations) (xvi) Physical Laboratory I, (xvii) Advanced Physics laboratory.

7 Research

By training, I am a Theoretical Physicist and my interest ranges from small-scale high-energy and quantum physics to large-scale gravitational physics. I work in the areas of High Energy Physics, Astrophysics, and Cosmology. Looking for the signature of new physics in high energy particle interactions at collider and astrophysical laboratories and finding answers to some pressing issues of early universe cosmology, e.g. inflationary expansion, non-singular bouncing, and emergent cosmology, primordial gravitational waves, compacts neutron star interests me. In particular, I am interested in

1. Early Universe Cosmology - inflation, dark energy, modified gravity theory, and gravitational wave.
2. Studying the dynamics of neutron star in the presence of dark matter.
3. Looking for the collider and astrophysical signatures of Dark matter.

7.1 Sponsored Research activities

7.1.1 Projects ongoing

1. Title: *Probing the (P)Reheating Epochs of the Early Universe by Gravitational Waves in Inflationary Models*
   PI: Dr. Prasanta Kumar Das
   Funding agency: Anusandhan National Research Foundation(ANRF), SERB, Government of India
   Project status: Ongoing.

7.1.2 Projects completed

1. Title of the project: *Signature of space-time noncommutativity in high energy colliders*
   PI: Dr. Prasanta Kumar Das
   Funding agency: SERB, Govt. of India,
   Duration: March 2017 - March 2020.
2. Title of the project: *Dark Matter, Dark Energy and Cosmic Acceleration of the Universe in Modified Gravity*
   PI: Dr. G C Samanta & Co-PI: Dr. Prasanta Kumar Das
   Funding agency: EMR-II, CSIR, Govt. of India,
   Duration: July 2017 - July 2020.
3. Title of the project: *Probing New Physics at High Energy Colliders*
   PI: Dr. Prasanta Kumar Das
   Funding agency: CSIR, Govt. of India,
   Duration: January 2013 - January 2016.
4. Title of the project: *Aspects of some Astrophysical systems like Supernovae and Neutron stars in the light of New Physics*
   PI: Dr. Prasanta Kumar Das & Co-PI: Dr. T K Jha and Dr. C Sharma
   Funding agency: BRNS, DAE, Govt. of India,
   Duration: April 2011 - October 2015.

5. Title of the project: *Radion contribution to various flavour changing neutral current(FCNC) processes in B meson decay*
   PI: Dr. Prasanta Kumar Das
   Funding agency: SERB DST (Fast Track Young Scientist Project), Govt. of India,
   Duration: December 2008 - December 2011.

7.2 Ph.D. guidance

7.2.1 Ph.D.(completed)

1. **Selvaganapathy J.** (Ph.D. 2018). Postdoctoral fellow at PRL, Ahmedabad.
2. **Atanu Guha** (Ph.D. 2020). Postdoctoral fellow at Chungnam National University, South Korea.
3. **Payel Sarkar** (Ph.D. 2023). Postdoctoral fellow at University of Cape Town (UCT), South Africa.
4. **Saumyen Kundu** (Ph.D. 2023). Postdoctoral fellow at HRI, Allahabad, U.P.
5. **Manish Kumar Sharma** (Ph.D. 2025). Teacher in a college of Maharastra.
6. **Ashmita** (Ph.D. 2025).

7.2.2 Ph.D. (ongoing)

(1) Premachand Mahapatra, (2) Mayur Madhav Abhisheki, (3) Tom Raj Daniel and (4) Charul Rathod (Charul has registered in BITS Pilani, Pilani campus and I am her Ph.D. co-supervisor).

7.2.3 Postdoctoral fellow(supervised)

Dr. Ravi S Manohar, Ph.D. from IIT Mumbai, worked in my CSIR project during the period 2013-14 as a postdoctoral fellow.

8 Research publications

1. **Revealing Dark Matter's Role in Neutron Stars Anisotropy: A Bayesian Approach Using Multi-messenger Observations**, Xue-Zhi Liu, Premachand Mahapatra , Chun Huang, Ayush Hazarika, Chiranjeeb Singha and Prasanta Kumar Das. Phys. Rev. D 112, (2025) 083032.
2. **Slow-roll inflation in the $f(\phi, T)$ gravity theory**, Ashmita, Payel Sarkar and Prasanta Kumar Das, Int.J.Geom.Meth.Mod.Phys. (2025) 2550286.
3. **Implications of Fermionic Dark Matter Interactions on Anisotropic Neutron Stars**, Premachand Mahapatra(BITS Pilani,Goa campus) , Chiranjeeb Singha (IUCAA, Pune), Ayush Hazarika(IUCAA, Pune) and Prasanta Kumar Das(BITS Pilani, Goa campus)(Accepted for publication in Astrophysical Journal(APJ) 985 (2025) 74. IF: 4.9
4. **Revisiting the Inert Scalar Dark Matter with Vector-like Quarks**, Prasanta Kumar Das(BITS Pilani, Goa campus), Shyamashish Dey(HRI, Allahabad), Saumyen Kundu(HRI, Allahabad), Santosh Kumar Rai(HRI, Allahabad), JHEP 2025 (2025) 27. IF: 5.0
5. **Constructing Viable Interacting Dark Matter and Dark Energy Models: A Dynamical Systems Approach**, Ashmita, Kinjal Banerjee and Prasanta Kumar Das(BITS Pilani, Goa campus), JCAP 11 (2024) 034. IF: 5.3
6. **Freeze-In Dark Matter Search at Colliders with Jet Substructure Analysis**, Saumyen Kundu(HRI, Allahabad), Sudipta Show(PRL, Ahmedabad), Partha Konar(PRL, Ahmedabad) and Prasanta Kumar Das(BITS Pilani, Goa campus), Ref. Springer Proc.Phys. 304 (2024) 393-396. IF: 5.0
7. **Jet substructure probe to freeze-in dark matter in alternative cosmological background**, Saumyen Kundu(BITS Pilani Goa campus), Sudipta Show(PRL, Ahmedabad), Partha Konar(PRL, Ahmedabad) and Prasanta Kumar Das(BITS Pilani, Goa campus), Eur.Phys.J.ST (2024). IF: 2.8

8. **Jet substructure probe to unfold singlet-doublet dark matter in the presence of non-standard cosmology**, Prasanta Kumar Das(BITS Pilani, Goa campus), Partha Konar(PRL, Ahmedabad), Saumyen Kundu(BITS Pilani,Goa campus), Sudipta Show(PRL,Ahemedabad), JHEP 06, 198 (2023). Impact Factor(IF): 8.3

9. **EFT analysis of leptophillic dark matter at future electron-positron colliders in the monophoton and mono-Z** , Saumyen Kundu, Prasanta Kumar Das (BITS Pilani, Goa campus), Atanu Guha(CNU, South Korea), P S Bhopal Dev (Washington University, USA), Phys. Rev. D 107, 015003 (2023). IF: 5.0

10. **Inflationary cosmology with a non-minimal curvature and scalar mixing $\xi R\phi^2$ term**, Payel Sarkar, Ashmita Rai and Prasanta Kumar Das (BITS Pilani, Goa campus), Annals of Physics (2023) 169340. IF: 2.3

11. **SN1987A cooling due to Plasmon-Plasmon scattering in the Randall-Sundrum Model**, Manish Kumar Sharma, Saumyen Kundu and Prasanta Kumar Das(BITS Pilani, Goa campus), Physics of the Dark Universe. 40 (2023) 101218. IF: 4.243

12. **Inflationary Cosmology in a non-minimal $f(R,T)$ gravity theory using a RT mixing term**, Payel Sarkar, Ashmita and Prasanta Kumar Das, (BITS Pilani, Goa campus), Physics of the Dark Universe, 40, 101190 (2023). IF: 4.243

13. **Emergent Cosmology in Non-Linear Electrodynamics**, Payel Sarkar and Prasanta Kumar Das(BITS Pilani, Goa campus), Journal of New Astronomy, 101, 102003 (2023). IF: 1.325

14. **Bounce Scenario in Modified f(R, T) Gravity**, Payel Sarkar and Prasanta Kumar Das((BITS Pilani, Goa campus)), Physics of the Dark Universe, 39, 101143 (2022). IF: 4.243

15. **Inflationary cosmology in a Modified f(R, T) Gravity**, Ashmita, Payel Sarkar and Prasanta Kumar Das (BITS Pilani, Goa campus), International Journal of Modern Physics(IJMP) D 2250120, 1-14 (2022). IF: 2.2

16. **Inflationary cosmology- A new approach using Non-linear electrodynamics**, Payel Sarkar, Prasanta Kumar Das and Gauranga Charan Samanta (BITS Pilani, Goa Campus), Physica Scripta. 96, 065305 (2021). IF: 2.9

17. **Inferring the covariant θ-exact noncommutative coupling in the top quark pair production at linear colliders,** Selvaganapathy J, Partha Konar(PRL, Ahmedabad) and Prasanta Kr. Das (BITS Pilani Goa Campus), Journal of High Energy Physics(JHEP) 06, 108 (2019). IF: 8.3

18. **Model-independent Astrophysical Constraints on Leptophilic Dark Matter in the Framework of Tsallis Statistics,** Atanu Guha(BITS-Pilani Goa Campus, Bhupal Dev (Washington University, USA) and Prasanta Kumar Das(BITS Pilani Goa Campus and University of Kansas, USA), Journal of Cosmology and Astroparticle Physics (JCAP) 02 (2019) 032. IF: 6.4

19. **Constraints on Light Dark Matter fermions from relic density consideration and Tsallis statistics,** Atanu Guha and Prasanta Kumar Das (BITS-Pilani Goa Campus), Journal of High Energy Physics 06 (2018) 139. IF: 8.3

20. **An Extensive Study of Bose-Einstein Condensation in Liquid Helium using q-deformed Statistics,** Atanu Guha and Prasanta Kumar Das (BITS-Pilani Goa Campus), Physica A 497 (2018) 272-284.

21. **q-deformed Einstein model to describe specific heat of solid,** Atanu Guha and Prasanta Kumar Das (BITS-Pilani Goa Campus), Physica A 495 (2018) 18-29. IF: 3.778

22. **q-deformed statistics and the role of a light fermionic dark matter in SN1987A cooling,** Atanu Guha, Selvaganapathy J and Prasanta Kumar Das (BITS-Pilani Goa Campus), Phys.Rev.D 95:015001, 2017. IF: 5.0

23. **Drell-Yan as an avenue to test noncommutative standard model at large hadron collider,** Selvaganapathy J, Prasanta Kumar Das (BITS-Pilani Goa Campus) and Partha Konar(PRL, Ahmedabad), Phys.Rev.D 93:116003, 2016. IF: 5.0

24. **Search for the associated production of Higgs boson with a Z boson in the NCSM at linear colliders** J Selvaganapathy, Prasanta Kumar Das(BITS-Pilani Goa campus) and Partha Konar (PRL,Ahmedabad), Int. Journal of Modern Physics(IJMP) A 30:1550159, 2015. IF: 1.6

25. **Probing space-time noncommutativity in the top Quark Pair Production at e+e- collider,** Ravi S Manohar, J Selvaganapathy and Prasanta Kumar Das (BITS Pilani Goa Campus), IJMPA 29:1450156, 2014. IF: 1.6

26. **Tsallis statistics and the role of a light stabilized radion in supernovae cooling,** Prasanta Kumar Das, J Selvaganapathy, C. Sharma, T.K.Jha and V Sunilkumar (BITS-Pilani, Goa Campus), IJMP A 28:1350152, 2013. IF: 1.6

27. **126 GeV Higgs boson pair production at the Linear Collider in the noncommutative space-time** Prasanta Kumar Das(BITS-Pilani Goa campus), Abhishodh Prakash (SUNY, Stonybrook, USA), IJMPA 28:1350004, 2013. IF: 1.6

28. **Laboratory frame analysis of $e^+e^- \to \mu^+\mu^-$ scattering in the NC Standard Model,** Prasanta Kumar Das(BITS-Pilani, Goa), Abhishodh Prakash (SUNY, Stonybrook, USA), IJMPA, 27:1250141, 2012. IF: 1.6

29. **The inclusive semi-leptonic $Bbar \to X_s\mu^+\mu^-$ and leptonic $\overline{B}_s \to \mu^+\mu^-$ decays in the presence of a light stabilized radion in Randall-Sundrum model,** Prasanta Kumar Das (BITS-Pilani Goa campus), Mod. Phys. Lett. A27:1250043, 2012. IF: 1.4

30. **TeV Scale Implications of Noncommutative Spacetime in Laboratory Frame with Polarized Beams,** Sumit K. Garg (IISc, Bangalore), T. Shreecharan (Hyderabad U.), P.K. Das (BITS-Pilani, K K Birla Goa campus), N.G. Deshpande (Oregon U., USA),G. Rajasekaran (Chennai Math. Inst.), Journal of High Energy Physics(JHEP) 1107:024,2011. IF: 8.3

31. **Neutral Higgs boson pair production at the LC in the Noncommutative Standard Model,** Prasanta Kumar Das, Abhishodh Prakash, Anupam Mitra, (BITS-Pilani Goa campus), Phys.Rev.D83:056002,2011. IF: 5.0

32. **$e^+e^- \to \mu^+\mu^-$ scattering in the Noncommutative standard model,** Abhishodh Prakash, Anupam Mitra, Prasanta Kumar Das, (Birla Inst. Tech. Sci.-Pilani Goa campus) Phys. Rev. D82: 055020, 2010. IF: 5.0

33. **Implication of the HyperCP boson X0 (214-MeV) in the FCNC processes,** Prasanta Kumar Das (BITS-Pilani Goa campus), Phys.Rev. D80:034017,2009. IF: 5.0

34. **Plasmon Annihilation into Kaluza-Klein Graviton: New Astrophysical Constraints on Large Extra Dimensions?** Prasanta Kumar Das (BITS-Pilani, K K Birla Goa campus), V.H.Satheesh Kumar, P.K. Suresh, (Hyderabad U.) Phys.Rev.D78:063011,2008. IF: 5.0

35. **Moller and Bhaba scattering in the noncommutative standard model,** P.K. Das (BITS-Pilani, K K Birla Goacampus), N.G. Deshpande,(Oregon U. USA), G. Rajasekaran, (IMSc), Phys.Rev.D77:035010,2008. IF: 5.0

36. **Unparticle effects in Supernovae cooling,** Prasanta Kumar Das (BITS-Pilani Goa campus), Phys.Rev.D76:123012,2007. IF: 5.0

37. **Finding gamma from the eta-eta-prime mixing within QCD factorization,** Prasanta Kumar Das (IMSc, Chennai) Int.J.Mod.Phys.A22:2493-2511,2007. Impact factor: 1.6

38. **Muon anomaly and a lower bound on Higgs mass due to a light stabilized radion in the Randall-Sundrum model,** P. K. Das (Harish-Chandra Res. Inst.) Int. J. Mod. Phys. A21:5205-5220,2006. Impact factor: 1.6

39. **$\overline{B}_s \to \mu^-\mu^+$ decay in the Randall-Sundrum model,** Basudha Misra, Jyoti P. Saha, Prasanta Kr Das(IMSc, Chennai), Phys.Rev.D74:074011,2006. IF: 5.0

40. **Neutral Z boson pair production due to radion resonance in the Randall-Sundrum model: Prospects at the CERN LHC,** Prasanta Kumar Das (Taiwan, Chung Yuan Christian U.) Phys.Rev.D72:055009,2
IF: 5.0

41. **Data for polarization in charmless $B \to \phi K^*$: A Signal for new physics?** Prasanta Kumar Das, Kwei-Chou Yang, (Taiwan, Chung Yuan Christian U.) Phys.Rev.D71:094002,2005. TOPCITE = 113

42. **On distinguishing radion from Higgs bosons,** Prasanta Kumar Das (Taiwan, CYCU, Taiwan), Santosh Kumar Rai, Sreerup Raychaudhuri (IIT Kanpur), Phys.Lett.B618:221-228,2005. IF: 4.4

43. **The Effect of a light radion on the triviality bound on Higgs mass,** Uma Mahanta, Prasanta Kr. Das (Harish-Chandra Res. Inst.), Int.J.Mod.Phys.A20:1089-1093,2005. IF: 1.7

44. **Implications of a light radion on beta(lambda) and beta(g(t)) and a lower bound on radion vev,** P.K. Das, U. Mahanta, (Harish-Chandra Res. Inst.) Mod.Phys.Lett.A19:1855-1861,2004. IF: 1.4

45. **Testable muon g-2 contribution due to a light stabilized radion in the Randall-Sundrum model,** Prasanta Kr. Das and Uma Mahanta, (Harish-Chandra Res. Inst.) Nucl.Phys.B 644:395-400,2002. IF: 2.8

46. **ρ parameter constraints on radion phenomenology and a lower bound on Higgs mass,** Prasanta Kr. Das (IIT Kanpur), Uma Mahanta, (Harish-Chandra Res. Inst.), Phys.Lett.B528:253-258,2002. IF: 4.4

47. **Implication of a light radion on the RG evolution of Higgs self-coupling in the Randall-Sundrum model,** Uma Mahanta, (Harish-Chandra Res. Inst.) Prasanta Kumar Das(IIT Kanpur), Phys.Lett.B520:307-312,2001. IF: 4.4

48. **Cosmic birefringence within the framework of heterotic string theory,** Prasanta Kr. Das, Pankaj Jain, Sudipta Mukherji, (Indian Inst. Tech., Kanpur), Int.J.Mod.Phys.A16:4011-4024,2001. IF: 1.7

49. **HERA constraint on warped quantum gravity,** Prasanta Das, Sreerup Raychaudhuri, Saswati Sarkar, (Indian Inst. Tech., Kanpur), JHEP 0007:050,2000. IF: 8.3

50. **Dynamically gauge symmetry breaking in $SU(3)_L \otimes U(1)_X$ extension of the standard model,** Prasanta Kr. Das, Pankaj Jain, (Indian Inst. Tech., Kanpur), Phys.Rev. D62:075001,2000. IF: 5.0

51. **Limits on exotic quarks in the $SU(3)_L \otimes U(1)_X$ extension of the standard model from SUSY search data,** Prashanta Kr. Das, Pankaj Jain (Indian Inst. Tech., Kanpur), Douglas W. McKay (Kansas U.), Phys. Rev. D59 (1999) 055011. IF: 5.0

9 Conference proceedings:

1. **Supernovae as Probes of Extra Dimensions**. V.H. Satheesh Kumar, P.K. Suresh, (Hyderabad U.), P.K. Das., AIP Conf.Proc.939:258-262,2007.

10 Book/ Book chapter published:

1. Anomalous magnetic moment of the muon in a composite model, Prasanta Kumar Das, Santosh Kumar Rai, Sreerup Raychaudhuri, (IIT, Kanpur) . Feb 2001. 10pp. Cited 25 times, In *Caparthy, J. (ed.): Muons* 35-44.

11 Invited Workshop/Conference/School

11.1 National/International

1. Invited as a Plenary Speaker in the International Conference on Frontiers in High Energy Physics(ICFHEPP), IIT Bhilai (13th - 15th Feb, 2025).

2. Invited as a speaker in the Conference on Cosmology, Astrophysics, and Particle Physics (CCAPP), SRMIST, Chennai (30th Jan 2025- 2nd Feb 2025).

3. "Inflationary Cosmology in f(R,T) gravity theory", COSMO2024, Yukawa Institute for Theoretical Institute(YITP), Kyoto University, Kyoto, Japan(21st Oct - 25th Oct 2024).

4. "Matter bounce scenario in modified f(R,T) gravity", Kashiwa-no-ha Dark Matter and Cosmology Symposium 2024", Kavli IPMU, University of Tokyo, Japan (28th Oct - 31st Oct 2024).

5. "Matter bounce in $f(R,T)$ Gravity", 32nd Meeting of Indian Association for General Relativity and Gravitation, IISER Kolkata, December 19-21, 2022.

6. "Model-independent astrophysical constraints on leptophilic Dark Matter in the framework of Tsallis statistics", Conference on "The First Billion Years of the Universe using Next Generation Telescopes", IIT Indore, 20th Jan - 24th Jan 2020.

7. "Nonlinear electrodynamics: a model of the inflationary universe", Australia-India Research and Development in Radio Astronomy (ARDRA) meeting, Silver Hills, Lonavala, Pune, 13th - 15th Nov 2019.

8. I have participated in the International Meeting on High Energy Physics - 2019 which was held in IOP, Bhubaneswar during the period 17th - 22nd January 2019.

9. I participated in the Annual meet of ASI-2018 held at Osmania University, Hyderabad as an Invited speaker of Hyderabad during the period 5 - 9 February 2018.

10. I participated in the Indo-US workshop on Dark Matter and Dark Energy which was held at the University of Hyderabad during the period 16th-18th November 2016.

11. I participated in the International Workshop on the High Energy Physics Phenomenology(WHEPP XIV) that was held at IIT Kanpur during the period 4th-13th December 2015.

12. I attended the International Workshop on the High Energy Physics Phenomenology(WHEPP XII) that was held in Mahabaleshwar, Pune. The workshop was from 2 January 2012 to 15 January 2012.

13. Workshop on High Energy Physics Physics Phenomenology(WHEPP-9), IOP, Orissa,India (2006).

14. Workshop on High Energy Physics Physics Phenomenology(WHEPP-8), IITB, Mumbai, India (2004).

15. 6th ACFA workshop on Linear Collider, TIFR, Mumbai, India (2003).

16. SERC School on High Energy Physics, HRI, Allahabad, India (2001).

17. Fourteenth DAE High Energy Physics Symposium, Hyderabad, India (2000).

18. SERC School on High Energy Physics, SINP, Calcutta, India (2000).

12 Invited Lectures/Seminars

12.1 International

1. *Tsallis statistics and its application in High Energy Physics and Astrophysics*, June 22, 2018, at 3 PM, Department of Physics, Kansas State University, Kansas City, KS, USA

2. *Nonequilibrium Statistical Mechanics, fermion dark matter and supernova SN1987A cooling*, June 18, 2018, at 3:00 pm, 241 Compton, Department of Physics, Washington University in St. Louis, MO 63130 USA.

3. *Nonequilibrium Statistical Mechanics and its Application in Astrophysics and Collider Physics*, May 29, 2018 at Noon, Malott Hall, Department of Physics and Astronomy, University of Kansas, Lawrence, USA.

4. *B to phi K* polarization puzzle and New Physics*, Department of Physics, Chung-Yuan Christian University, Taiwan, R.O.C.(2005).

5. *Radion signatures at the Large Hadron Collider*, Department of Physics, University of Vienna, Austria (July, 2004).

6. *The implication of a light radion in models of Warped Quantum Gravity*, Department of Physics and Astronomy, University of Kansas, USA (2003).

7. *Radion Phenomenology in models of warped geometry*, Department of Physics, Syracuse University, USA, (2003).

8. *Radion phenomenology in Brane World scenario*, Universit de Montral, Qubec, Canada H3C 3J7 (2003)

12.2 National

1. "Fermionic Dark Matter and SN1987A cooling", PRL Ahmedabad, March 2017.

2. "SN1987A cooling and Dark Matter", IIT Indore, March 2017.

3. Associated Higgs production in the noncommutative Standard Model, IISER Kolkata, January 2016.

13 Workshop/Conference/School/Meeting (organized)

1. The Physics department conducted the SERC Main school in Theoretical High Energy Physics - from December 2014 to January 2015. I was the Director of the school.

2. The Physics department conducted the SERC Preparatory school in Theoretical High Energy Physics(THEP)- from 20th October to 15th November 2010. I was the Director of the school.

3. The International workshop HIGGSTOP-2013 was conducted in BITS Pilani K K Birla Goa Campus from 25th February 2013 to 27th February 2013. It was jointly organized by BITS Pilani and RECAP, HRI, Allahabad. I was the Convenor of that workshop.

4. The department hosted the DST Planning Committee meeting, BITS-Pilani, K K Birla Goa campus during the period 22nd April - 23rd April 2013. I was the Convener of that meeting.