Prasanta K. Panigrahi

Emeritus Professor, Higher Academic Grade (HAG)
Department of Physical Sciences
Indian Institute of Science Education and Research Kolkata
Mohanpur 741246, West Bengal
& Director at Center for Quantum Science and Technology,
Siksha 'O' Anusandhan University

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Research Interests

Quantum Computation and Quantum Information,
Dynamics of Quantum Many-Body Systems, Physics of Cold Atoms and Molecules,
Nonlinear Dynamics, Quantum Field Theory, Wavelet Transform, Quantum Optics.

Education

University of Montreal, Canada
Post-Doctoral fellow (1990-1993)
University of Illinois at Chicago, USA
Post-Doctoral fellow (1988-1990)
University of Rochester, New York, USA
PhD (Field Theory) (1983-1988)
Ravenshaw College, Utkal University, Bhubaneswar
MSc (Physics) (1978-1980)
Revenshaw College, Utkal University, Bhubaneswar
BSc (Physics) (1976-1978)

Official Positions

Siksha 'O' Anusandhan University
Director at Center for Quantum Science and Technology (01.01.2024 - Present).
Indian Institute of Science Education and Research Kolkata
Director (12.10.2022 - 2023).
Indian Institute of Science Education and Research Kolkata
Dean of International Relations and Outreach (1.01.2017 - 30.10.2020).
Indian Institute of Science Education and Research Kolkata
Director (25.07.2017 - 07.11.2017).
Indian Institute of Science Education and Research Kolkata
Dean of Faculty (01.04.2013 – 31.03.2017).
Indian Institute of Science Education and Research Kolkata
Head of Department of Physical Sciences (02.07.2012 – 31.05.2014).
Physical Research Laboratory (PRL), Ahmedabad
Division Head (2004 – 2006).

Positions Held

Siksha 'O' Anusandhan University
Professor (01.01.2024 - Present).
Professor, Indian Institute of Science Education and Research Kolkata
Professor, Department of Physical Sciences (2007 - 2023).
Physical Research Laboratory (PRL), Ahmedabad
Associate Professor (2005 - 2007).
Physical Research Laboratory (PRL), Ahmedabad
Reader (2002 – 2004).
University of Hyderabad, Hyderabad
Senior Lecturer, School of Physics (1998 – 2002).
University of Hyderabad, Hyderabad
Lecturer in Physics, School of Physics (1993 – 1998).

Professional Activities

1. **Chairman** of the Task Force-1, **Inter-Ministerial/Expert Committee (IM/EC), Govt of India** for the development of Quantum Computing.

2. **Chairman** of the Project Review Steering Group (PRSG), **Centre for Development of Advanced Computing-Pune (C-DAC PUNE)** for the project entitled "Agile and Ad-Hoc Free Space-based Quantum Communication using Drone."

3. **International Project Evaluator:**
For Austrian Science Fund (Austrian Academy of Science) 2018
Quantum Information Systems Beyond Classical Capabilities
Austrian Science Foundation
Swiss National Science Foundation
National Academy of Science, Ukraine,

4. **National Project Evaluator:**
SERB; BRNS; DST;
Indo-US Science and Technology Forum
CSIR, Homi Bhabha Fellowship Council,

5. **Technical/Scientific Achievement:**
Augmentation of high-performance computing in the institute;
Training of undergraduate students in large scale
in the use of quantum computation and information;
A team of students won the challenge by IBM Hackathon;
Students' placement for masters and doctoral degrees across the globe;
Faculty development programme;
ATAL -Faculty development programme (AICTE);
Questions designed for AICTE in the area of Quantum Computation;
Quantum Computation projects offered to students at National Initiative on Undergraduate Science (NIUS)

6. **Research Project:**
Quantum Enabled Science and Technology (QuEST) (in process).
India-Trento Programme for Advanced Research (ITPRA): A cheap, light and compact source for QKD based on intraparticle entanglement in an integrated photonic circuit.

Referee of Peer Reviewed Journal

Physical Review Letters,
Physical Review B,
Journal of Physics,
Pattern Recognition Letters,
Physics Letter A,
Pramana,
European Physics Letters,
Annals of Physics,
Quantum Information Processing,
Journal of the Optical Society of America B,

Physics Education,
International Journal of Theoretical Physics,
Frontiers,
The European Physical Journal D,
IEEE Access, Royal Society Open Science,
International Journal of Quantum Information,
Asian Journal of Physical and Chemical Sciences,
Mathematical methods in the applied sciences,
Chaos, Solitons and Fractals,
Canadian Journal of physics.

Editor

Quantum Physics in journal Current Physics;
Physics Open (PO), Elsevier.

Editorial Board Member

'Prayas'-Student's Journal of Physics;
Physics Education and Discrete Dynamics in Nature and Society;
Journal of Quantum Information;
Atoms;
Editorial Board of Pramana;
Academy of Sciences Malaysia
International Journal of Modern Physics B (IJMPB)
Modern Physics Letter B (MPLB);

Fellowships

Fellow, Gujarat Science Academy
Fellow of National Academy of Sciences (FNASc)
NASI, Allahabad, 2012

Academic Experience

Course and Curriculum Development:
NIT Patna, NIT Rourkela, Sikkim University,
Dayalbagh Institute of Technology,
Indian Institute of Science and Technology, TVM,
Indian Institute of Engineering and Science Technology, Shibpur
Utkal University, Odisha

QKD Initiative:
Quantum Key Distribution (QKD) initiative,
Jagadish Chandra Bose Centre for Advanced Technology (JCBCAT)

Resource Person on Quantum Computation:
National Initiative on Undergraduate Science,
Homi Bhabha Centre for Science Education, TIFR Mumbai

Ranked among Top 10 Indian Science Personalities 2017 by Scientific India For Social Contribution [1]

The citation reads, "Prof. Panigrahi and his team has developed an artificial intelligence-based algorithm which help in diagnosing early-stage cervical cancer using artificial intelligence. The algorithm developed by the team not only differentiates normal and precancerous tissue but also makes it possible to tell different stages of progression of the disease within a few minutes and with accuracy exceeding 95%".
1. URL: http://www.scind.org/987/Science/top-10-indian-science-personalities-of-2017.html

Research in News:

1. https://www.newscientist.com/article/2140242-quantum-cheques-could-be-a-forgery-free-way-to-move-money/

2. http://www.thehindu.com/sci-tech/science/diagnosing-early-stage-cervical-cancer-using-artificial-intelligence/article22267117.ece

3. https://www.natureasia.com/en/nindia/article/10.1038/nindia.2009.15

Courses Taught

1. Mechanics
2. Wave and Optics
3. Quantum Mechanics
4. Advanced Mathematical Methods
5. General Relativity
6. Statistical Mechanics
7. Particle Physics
8. Field Theory
9. Nuclear Physics
10. Lie Groups
11. Advanced Electricity, Magnetism, and Optics
12. Quantum Information Processing
13. Research Methodology
14. NIUS Resource person (HBCSE) in Quantum Computation, mentored several students with projects.
15. Course conductor, Global Initiative for Academic Network Programme.
16. Advanced math for physicists
17. Advanced Quantum Mechanics
18. Space Astronomy

BS-MS Project Students

1. Challenger Mishra, Univ. of Oxford (Rhodes Scholarship)
2. Abhishek Dasgupta, Univ. of Oxford (Clarendon Scholarship)
3. Sayan Choudhury, Cornell University
4. Anshul Saini, SUNY at Buffalo
5. Amit Anand, MBA, Xavier Institute, Jamshedpur
6. Sudhanshu Pandey, Univ. of Utrecht
7. Krishna Hare, Univ. of Denmark
8. Abhishek Kumar, Univ. of Florida, Gainesville
'9. Aritra Kumar Mukhopadhyay, Univ. of Hamburg
10. Juhi Rajhans, Brandeis University.
11. Debashis Saha, Univ. of Gdansk
12. Sumeet Kumar
13. Suman Basak (PhD, IISER Kolkata)
14. Abhishek Rakshit
15. Sanmoy Mandal
16. Swapnil Barmase (MRM-PhD, IESE Business School, Barcelona)
17. C. Bangurusai
18. Prasoon Kumar Shandilya
19. Shouvik Ghorai
20. Tanmoy Kumar Biswas
21. Suman Mandal
22. Neeraj (PhD, IISER Kolkata)
23. Bikash K. Behera (PhD, IISER Kolkata)
24. Sristy Agrawal (Founder CEO of MesaQuantum, USA)
25. Aswathy Raj
26. Abhinash Kumar Roy (Macquire University)
27. Nitish Chandra (Pitsburg University)
28. Sarang Bhosle (Texas A&U)
29. Varun Srivastav (Macquire University)
30. Kumar Nilesh
31. Subhas Pandey

(Joint Supervision)

1. Gokul P. M., Lodz University of Technology, Poland
(with Dr. Anandamohan Ghosh)
2. Vimal Rathee, University of Michigan, Commonwealth Scholarship
(with Dr. Chiranjib Mitra)
3. Abhijeet Jha (IISER Pune), MBA, IIFT Delhi.
4. Anirban Chowdhury (IISER Pune), University of New Mexico.

Masters by Research

1. Sabyasachi Mukhopadhyay
2. Ashutosh Goswami at IISER Kolkata

MPhil Students

1. S. Raja Reddy, University of Hyderabad
2. Thokala Soloman Raju, University of Hyderabad
3. P. Mohanty, University of Hyderabad

Doctoral Students

1. Dr. N. Gurappa at University of Hyderabad
(Faculty in Velammal Engineering College, Chennai)
2. Dr. Thokala Soloman Raju at University of Hyderabad
(Faculty in IISER Tirupati)
3. Dr. Rajneesh Atre at University of Hyderabad/PRL, Ahmedabad
(Faculty in JUET, Guna)
4. Dr. Shreecharan Tangirala at University of Hyderabad/PRL, Ahmedabad
(Faculty in IFHE, Hyderabad)
5. Dr. P. Manimaran at University of Hyderabad/PRL, Ahmedabad
(Faculty in C R Rao Advanced Institute of Mathematics,
Statistics and Computer Science, Hyderabad)
6. Dr. Utpal Roy at PRL, Ahmedabad (Faculty in IIT Patna)
7. Dr. Priyam Das at PRL, Ahmedabad/IISER Kolkata
(Postdoctoral Fellow, IIT Delhi)
8. Dr. Vivek Vyas at PRL, Ahmedabad/IISER Kolkata
(Postdoctoral Fellow, RRI Bengaluru)
9. Dr. Kumar Abhinav at IISER Kolkata
(Postdoctoral Fellow, SNBNCBS, Kolkata)
10. Subhrajit Modak at IMSc Chennai
11. Neeraj at IISER Kolkata
12. Shreya Banerjee at IISER Kolkata
(Postdoctoral Fellow, University of Sherbrooke,Canada)
13. Anant Vijay Varma at IISER Kolkata
14. Ramita Sarkar at IISER Kolkata
(Postdoctoral Fellow, IOP Bhubaneswar)
15. Bikash K. Behera at IISER Kolkata
16. Tadasha Dash at IISER Kolkata
17. Rajiuddin Sk at IISER Kolkata
18. Arman at IISER Kolkata
19. Dheerendra Singh at IISER Kolkata

Postdoctoral Fellows

1. Dr. Suranjana Ghosh, PRL Ahmedabad
2. Dr. C. Sudheesh, PRL Ahmedabad
3. Dr. Abhijit Sen, IISER Kolkata
4. Dr. Alok K. Pan, IISER Kolkata
5. Dr. Ayan Khan, IISER Kolkata
6. Dr. Aradhya Kumar Shukla, IISER Kolkata
7. Dr. Kousik Mukharjee
8. Dr. Subimal Deb
9. Dr. Abdul Q. Batin

Research Associates

1. Dr. Suranjana Ghosh [DST]
2. Dr. Pei Liang [DST]

Books Written

1. Quantum Computation: An Introduction, P K Panigrahi, C Mitra.
http://ictwiki.iitk.ernet.in/wiki/index.php/Quantum Computation: An Introduction

2. "Mathematical Methods for Physics", P. K. Panigrahi and K. Abhinav, Digital book material, Indian Institute of Technology, Kanpur in http://ictwiki.iitk.ernet.in/wiki

Publications in International Journals

1. A. Das, V. S. Mathur and P. K. Panigrahi, "QCD Sum-rules and Vector-Meson Masses and Widths", Phys. Rev. D 35, 2178 (1987).

2. K. S. Babu, A. Das and P. K. Panigrahi, "Quark Mixing at Finite Temperature", Phys. Lett. B 188, 133 (1987).

3. K. S. Babu, A. Das and P. K. Panigrahi, "Derivative Expansion and the Induced Chern-Simons Term at Finite Temperature in 2+1 Dimensions", Phys. Rev. D 36, 3725 (1988).

4. Y. H. Kwon and P.K. Panigrahi, "Path Integral Derivation of the Chern-Simons Terms in Heterotic String Theories", Phys. Rev. D 37, 1702 (1988).

5. P. K. Panigrahi, "Chern-Simons Terms in String Theories", Z. Phys. C38, 565 (1988).

6. C. R. Hagen, P. K. Panigrahi and S. Ramaswamy, "Still More Corrections to the Topological Mass".

7. W. Scherer, P. K. Panigrahi and S. Roy, "Rotational Anomaly and Fractional Spin in the Gauged CP1 sModel with the Chern-Simons term", Phys. Rev. Lett. 61, 2827 (1988).

8. W. Scherer, P. K. Panigrahi and S. Roy, "Canonical Quantization of the CP1 Nonlinear s-model with Chern-Simons term", Phys. Rev. D 38, 3199 (1988).

9. A. Das, J. Maharana and P. K. Panigrahi, "Path Integral Derivation of the Chern-Simons Terms in String Theories", Mod. Phys. Lett. A 3, 759 (1989).

10. K. S. Babu, P. K. Panigrahi and S. Ramaswamy, "Radiative Symmetry Breaking in 2+1 Dimensions", Phys. Rev. D 39, 1190 (1989).

11. T. Olczyk, P. K. Panigrahi and S. Ramaswamy, "Canonical Structure of the O(3) Non-linear σ-Model with a topological term", Z. Phys. C 45, 653 (1990).

12. P. K. Panigrahi, T. Olczyk and S. Roy, "Radiative Decay of Mesons and Anomaly in 2+1 Dimensions", Z. Phys. C 47, 37 (1990).

13. P. K. Panigrahi, R. Ray and B. Sakita, "Effective Action for Anyonic Superconductors", Phys. Rev. B 42, 4036 (1990).

14. Q. Wang, U. Sukhatme, P. K. Panigrahi and W.Y. Keung, "Covariant Operators and Higher-Spin Conformal Algebras", Nucl. Phys. B 344, 196 (1990).

15. A. Gangopadhyaya and P. K. Panigrahi, "Anyonic Superconductivity in a Modified Large-U Hubbard Model", Phys. Rev. B 44 (Rapid Communication), 9749 (1991).

16. J.-M. Lina and P. K. Panigrahi, "Lax Pair and Cosmological Constant for Induced 2D-Gravity in the Light Cone Gauge", Mod. Phys. Lett. A 6, 3517 (1991).

17. J.-M. Lina and P. K. Panigrahi, "Lax Pair Formulation of the W-Gravity Theories in two Dimensions", Int. J. Mod. Phys. A 7, 6907 (1992).

18. P. K. Panigrahi and U. Sukhatme, "Singular Superpotentials in Supersymmetric Quantum Mechanics", Phys. Lett. A 178, 251 (1993).

19. R. MacKenzie, P. K. Panigrahi and S. Sakhi, "Superconductivity in a Planar Field Theory through Kosterlitz Thouless Mechanism", Phys. Rev. B 48. II, 3892 (1993).

20. A. Gangopadhyaya, P. K. Panigrahi and U. Sukhatme, "Supersymmetry and Tunneling in an Asymmetric Double Well", Phys. Rev. A 47, 2720 (1993).

21. R. MacKenzie, P. K. Panigrahi and S. Sakhi, "Superconductivity in 2+1 Dimensions via Kosterlitz-Thouless Mechanism: Large-N and Finite Temperature Analyses", Int. J. Mod. Phys. A9, 3603 (1994).

22. A. Gangopadhyaya, P. K. Panigrahi and U. Sukhatme, "Analysis of the Inverse-Square Potentials Using Supersymmetric Quantum Mechanics", J. Phys. A27, 4295 (1994).

23. A. Gangopadhyaya, P. K. Panigrahi and U. Sukhatme, "Inter-Relations of Solvable Potentials", Helv. Phys. Acta. 67, 363 (1994).

24. R. MacKenzie, P. K. Panigrahi, M.B. Paranjape and S. Sakhi, "On the Quantization of Identical Particles", Teoreticheskaya I Matematicheskaya Fizika. 98, 80 (1994).

25. M. Leblanc, R. MacKenzie, P. K. Panigrahi and R. Ray, "Induced B-F Terms and Photon Mass Generation in 3+1 Dimensions", Int. J. Mod. Phys. A 9, 4717 (1994).

26. A. Khare, R. MacKenzie, P. K. Panigrahi and M.B. Paranjape, "Spontaneous Symmetry Breaking and the renormalization of the Chern-Simons term", Phys. Lett. B 355, 236 (1995).

27. P. K. Panigrahi, A. Khare and P. Ghosh, "B-F term by Spontaneous Symmetry Breaking in a Generalized Abelian Higgs Model", J. Phys. G 21, 1303 (1995).

28. V. Srinivasan, P. K. Panigrahi and S. Chaturvedi, "New Incarnations of Infinite Statistics", Mod. Phys. Lett. B 9, 373 (1995).

29. P. K. Panigrahi and M. Sivakumar, "Laughlin Wave Function and one-dimensional free fermions", Phys. Rev. B 52, 13742 (BR) (1995).

30. P. K. Panigrahi, A.K. Kapoor and R.S. Bhalla, "Exactness of the Supersymmetric WKB Approximation scheme", Phys. Rev. A 54, 951 (1996).

31. N. Gurappa and C. Nagaraja Kumar, P. K. Panigrahi, "Conditionally Exactly Solvable N-Body Problems in One Dimension", Mod. Phys. Lett. A 11, 1737 (1996).

32. N. Gurappa and P. K. Panigrahi, "On An Explicit Set of Complete Eigenfunctions for the Calogero Sutherland Model", Mod. Phys. Lett. A 11, 891 (1996).

33. P. K. Panigrahi, A. K. Kapoor and R. S. Bhalla, "Energy Eigenvalues for a Class of One Dimensional Potentials via Quantum Hamilton-Jacobi Formalism", Mod. Phys. Lett. A 12, 295 (1997).

34. P. K. Panigrahi, A. K. Kapoor and R. S. Bhalla, "Quantum Hamilton-Jacobi Analysis of the Phases of Supersymmetry in Quantum Mechanics", Int. Jour. Mod. Phys. A 12, 1875 (1997).

35. S. Chaturvedi, P. K. Panigrahi, V. Srinivasan and R. Mackenzie, "Equivalence of the Grand Partition Functions of Particles with different Statistics", Mod. Phys. Lett. A 12, 1095 (1997).

36. P. K. Panigrahi, A. K. Kapoor and R. S. Bhalla, "Quantum Hamilton-Jacobi Formalism and the Bound State Spectra", Am J. Physics 65, 1187 (1997).

37. N. Gurappa, P. K. Panigrahi and V. Srinivasan, "Degeneracy Structure of the Calogero-Sutherland Model: An Algebraic Approach", Mod. Phys. Lett. A 13, 339 (1998).

38. N. Gurappa, P. K. Panigrahi and A. Khare, "Connection between Calogero-Marchioro-Wolfs Type Few-body Models and Free Oscillators", Phys. Lett. A 244, 467 (1998).

39. S. Chaturvedi, R. Dutt, P. K. Panigrahi, C. Rasinariu, U. Sukhatme, and A. Gangopadhyaya, "Algebraic Shape Invariant Potentials", Phys. Lett. A 248, 109 (1998).

40. S. Chaturvedi, R. Dutt, P. K. Panigrahi, C. Rasinariu, U. Sukhatme, and A. Gangopadhyaya, "Erratum: Algebraic shape invariant models (Physics Letters A 248 (1998) 109)", Phys. Lett. A 2251, 406 (1998).

41. N. Gurappa and P. K. Panigrahi, "Equivalence of the Calogero-Sutherland Model to Free Harmonic Oscillators", Phys. Rev. B (Rapid Communication) 59, 2490 (1999).

42. N. Gurappa, P. S. Mohanty and P. K. Panigrahi, "Realization of the Calogero-Moser Scattering States as Coherent States", Phys. Rev. A 61, 034703 (2000).

43. N. Gurappa and P. K. Panigrahi, Calogero-Sutherland models, "Free Particles and Decoupled Oscillators", Phys. Rev. B 62, 1943 (2000).

44. N. Gurappa, P. K. Panigrahi, T. S. Raju and V. Srinivasan, "Quantum Equivalent of the Bertrand's Theorem", Mod. Phys. Lett A 15, 1851 (2000).

45. B. A. Bambah, R. Jagannathan, P. K. Panigrahi, V. Srinivasan and V. Sunil Kumar, "Coherent States of NonLinear Algebras: Applications to Quantum Optics", J. Opti cs B: Quantum Semi class Opt. 2, 126 (2000).

46. P. K. Panigrahi and U. Sarkar, "Nuclear Devices and Basic Neutrino-Oscillation Research", Mod. Phys. Lett. A 29, 1893 (2002).

47. B. Chandrasekhar and P. K. Panigrahi, "Finite Temperature Effects on the Induced Chern-Simons Term in Noncommutative Geometry", J. High Energy Phys. 032003015 (2003).

48. P. K. Panigrahi and G. S. Agarwal, "Existence of Superposition Solutions for Pulse Propagation in Nonlinear Resonant Media", Phys. Rev. A 67, 033817 (2003).

49. N. Gurappa and P. K. Panigrahi, "A Unified Algebraic Approach to Few and Many Body Correlated Systems", Phys. Rev. B. 67, 155323 (2003).

50. N. Gurappa, P. K. Panigrahi and T. Shreecharan, "A New Perspective on Single and Multi-Variate Differential Equations", J. Comp. Appl. Math, 160, 103 (2003).

51. N. Agarwal, S. Gupta, Bhawna, A. Pradhan, K. Vishwanathan and P. K. Panigrahi, "Wavelet Transform of Breast Tissue Fluorescence Spectra: A Technique for Diagnosis of Tumors", IEEE 9, 154, (2003).

52. R. Atre and P. K. Panigrahi, "Quasi-exactly Solvable Hamiltonians: A new approach and an approximation scheme", Phys. Lett. A 317, 46 (2003).

53. S. Sree Ranjani, K. G. Geojo, A. K. Kapoor and P. K. Panigrahi, "Bound State Wave Functions through Quantum Hamilton-Jacobi Formalism", Mod. Phys. Lett. A 19, 1457 (2004).

54. N. Gurappa, P. K. Panigrahi and T. Shreecharan, Phys. News, 34, No. 4 & 35, 4-11 (2004).

55. N. Gurappa and P. K. Panigrahi, "On Polynomial Solutions of the Heun Equation", J. Phys. A 37, L605 (2004).

56. P. C. Biswal, B. Kamaiah and P. K. Panigrahi, "Wavelet Analysis of The Bombay Stock Exchange Index, J. Quantitative Economics", 2, 133 (2004).

57. T. Shreecharan, P. K. Panigrahi, and J. Banerji, "Coherent States for Exactly Solvable Potentials", Phys. Rev. A 69, 012102 (2004).

58. R. Atre, A. Kumar, N. Kumar, and P. K. Panigrahi, "Quantum-information Entropies of the Eigenstates and the Coherent State of the Pöschl-Teller Potential", Phys. Rev. A 69, 052107 (2004).

59. B. Deb, A. Mishra, H. Mishra, and P. K. Panigrahi, "Interior Gap Superfluidity in a Two-Component Fermi Gas of Atoms", Phys. Rev. A (Rapid Communication) 70, 011604 (2004).

60. S. P. Navnavati and P. K. Panigrahi, "Wavelet Transform: A New Mathematical Microscope", Resonance Vol. 9, 50, March (2004).

61. S. Sree Ranjani, A. K. Kapoor and P. K. Panigrahi, "Band Edge Eigenfunction and Eigen Values for Periodic Potentials through the Quantum Hamilton-Jacobi Formalism", Mod. Phys. Lett. A 19, 2047 (2004).

62. J. K. Modi, S. P. Navnavati, A. S. Phadke and P. K. Panigrahi, "Wavelet Transform: Application to Data Analysis-I", Resonance, 9, 10, Nov. (2004).

63. Jatan K. Modi, Sachin P. Navnavati, Amit S. Phadke and P. K. Panigrahi, "Wavelet Transform: Application to Data Analysis-II", Resonance, 9, 8, (2004).

64. P. K. Panigrahi and T. Shreecharan, "Induced magnetic moment in noncommutative Chern–Simons scalar QED", J. High Energy Phys. 02, 45 (2005).

65. U. Roy, J. Banerji and P. K. Panigrahi, "Coherent states of the Pöschl–Teller potential and their revival dynamics", J. Phys. A: Math. Gen. 38, 9115 (2005).

66. P. Manimaran, P. K. Panigrahi, and Jitendra C. Parikh, "Wavelet analysis and scaling properties of time series", Phys. Rev. E 72, 046120 (2005).

67. S. P. Nanavati and P. K. Panigrahi, "Wavelets: Application to Image Compression-I", Resonance Vol. 10, 52, (2005).

68. S. P. Nanavati and P. K. Panigrahi, "Wavelets: Application to Image Compression-II",Resonance 10, 19, (2005).

69. T. S. Raju, P. K. Panigrahi, and K. Porsezian, "Nonlinear Compression of Solitary Waves in Asymmetric TwinCore Fibers", Phys. Rev. E. 71, 026608 (2005).

70. M. Ezung, N. Gurappa, A. Khare, P. K. Panigrahi, "Quantum Many-Body Systems with Nearest and Next-toNearest Neighbor Long-Range Interactions", Phys. Rev. B 71, 125121 (2005).

71. S. Sree Ranjani, A. K. Kapoor, and P. K. Panigrahi, "Bound states and band structure-A unified treatment through the quantum Hamilton-Jacobi approach", Annals of Phys. 320, 164 (2005).

72. T. S. Raju, C. Nagaraja Kumar and P.K. Panigrahi, "On exact solitary wave solutions of the nonlinear Schrödinger equation with a source", J. Phys. A: Math. Gen. 38 L271 (2005).

73. S. Sree Ranjani, A. K. Kapoor, and P. K. Panigrahi, "Quantum Hamilton-Jacobi Analysis of PT Symmetric Hamiltonians", Int. J. Mod. Phys. A 20, 4067 (2005).

74. S. Sree Ranjani, A. K. Kapoor, and P. K. Panigrahi, "Periodic Quasi-Exactly Solvable Models", International Journal of Theoretical Physics 44, 1167 (2005).

75. T. S. Raju, P. K. Panigrahi, and K. Porsezian, "Modulation instability of two-component Bose-Einstein condensates in a quasi-one-dimensional geometry", Phys. Rev. A. 71, 035601 (2005).

76. T. S. Raju, P. K. Panigrahi, and K. Porsezian, "Self-similar propagation and compression of chirped self-similar waves in asymmetric twin-core fibers with nonlinear gain", Phys. Rev. E 72, 046612 (2005).

77. S. Gupta, M. S. Nair, A. Pradhan, N. C. Biswal, N. Agarwal, A. Agarwal, and P. K. Panigrahi, "Wavelet-based characterization of spectral fluctuations in normal, benign, and cancerous human breast tissues", Journal of Biomedical Optics 10, 054012 (2005).

78. S. Ghosh, A. Chiruvelli, J. Banerji, and P. K. Panigrahi, "Mesoscopic superposition and sub-Planck-scale structure in molecular wave packets", Phys. Rev. A 73, 013411 (2006).

79. K. Pradhan and P. K. Panigrahi, "Parametrically controlling solitary wave dynamics in the modified Kortewegde Vries equation", J. Phys. A: Math. Gen. 39, L343-L348 (2006).

80. R. Atre, P.K. Panigrahi, and G. S. Agarwal, "Class of solitary wave solutions of the one-dimensional GrossPitaevskii equation", Phys. Rev. E 73, 056611 (2006).

81. V. M. Vyas, T. S. Raju, C Nagaraja Kumar and P.K. Panigrahi, "Soliton solutions of driven non-linear Schrödinger equation", J. Phys. A: Math. Gen. 39, 9151-9159 (2006).

82. P. Manimaran, P Anantha Lakshmi and P. K. Panigrahi, "Spectral fluctuation characterization of random matrix ensembles through wavelets", J. Phys. A: Math. Gen. 39, L599 (2006).

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17. S. Mukhopadhyay, N. K. Das, A. Pradhan, N. Ghosh and P. K. Panigrahi, Wavelet and Multifractal based analysis on DIC Images in stromal region to distinguish between normal and cancerous tissue. Proceedings of SPIE Photonics Europe; 91290Z (2014).

31 N. K. Das, S. Chatterjee, S. Chakraborty, P. K. Panigrahi, A. Pradhan and N. Ghosh, Fractal anisotropy in tissue refractive index fluctuations: potential role in precancer detection. Proceedings of SPIE Photonics Europe; 91290V0 (2014).

18. S. Mukhopadhyaya, N. K. Das, R. Kumar, D. Dash, A. Mitra and P. K. Panigrahi, Study of the Dynamics of Wind Data Fluctuations: A Wavelet and MFDFA Based Novel Method. Proceedings of 1st International Science & Technology Congress ; 541. 2014.

19. S. Mukhopadhyay, R. Barman, S. Dey, A. Mitra, P. K. Panigrahi, P. Bhattacharya and K. K. Dhar, Diagnosing Heterogeneous Dynamics for wind particle trajectory in wavelet domain. Proceedings of Third International Conference on Computer, Communication, Control and Information Technology (C3IT), IEEE. (2015).

20. S. Sree Ranjani, A.K. Kapoor and, P. K. Panigrahi "Designing bound states in a Band as a Model for a Quantum Networks", "Quantum Computing Back Action 2006", American Institute of Physics conference proceedings, 864, 236 (2006).

21. P. K. Panigrahi, M. Gupta, A. Pathak and R. Srikanth, "Circuits for distributing Quantum Measurement", "Quantum Computing Back Action 2006", American Institute of Physics conference proceedings, 864, 197 (2006).

22. S.Mukhopadhyay, N.Ghosh, R.Barman, P.K.Panigrahi, S.Pratiher, M.Venkatesh, S.Mandal, S.Changdar, "An Optimized Hyper Kurtosis based Modified Duo-Histogram Equalization (HKMDHE) method for Contrast Enhancement Purpose of Low Contrast Human Brain CT scan images", IEEE Proceeding, ICACCI-2015, India.

23. S.Mukhopadhyay, N.K. Das, S Mandal, S Pratiher, A Mitra, A Pradhan, N Ghosh, P.K. Panigrahi, "Wavelet based approach for tissue fractal parameter measurement: Pre cancer detection", Proceeding of ICOP15, International Conference on Optics & Photonics 2015, Optical Society of India, India.

24. S.Mukhopadhyay, S Mandal, N Das, S Dey, A Mitra, N Ghosh, P.K. Panigrahi "Diagnosing Heterogeneous Dynamics for CT Scan Images of Human Brain in Wavelet and MFDFA domain", Proceeding of Springer, IEM Optronix, India.

25. S.Mukhopadhyay, I.Kurmi, R.Dey, N.K.Das, S.Pradhan, A.Pradhan, N.Ghosh, P.K.Panigrahi, S. Mohanty, "Optical diagnosis of colon and cervical cancer by support vector machine", SPIE Proceeding, SPIE Photonics Europe, Belgium, 2016, Europe.

26. S.Mukhopadhyay, N.Ghosh, R.Barman, P.K.Panigrahi, S.Pratiher, A.Pradhan, "S-TRANSFORM BASED FLUCTUATION ANALYSIS- A METHOD FOR PRECANCER DETECTION", IEEE Proceeding, Microcom-2016, India.

27. S.Mukhopadhyay, S.Pratiher, S.Pratiher, A.Pradhan, N.Ghosh, P.K. Panigrahi "Optical Diagnosis of Cervical Cancer by Intrinsic Mode Functions", SPIE Proceeding, SPIE Photonics West, 2017, USA.

28. S.Mukhopadhyay, S Pratiher, R Barman, S Pratiher, A Pradhan, N Ghosh, P.K. Panigrahi, "Recurrence Quantifications as Potential Bio-markers for Diagnosis of Pre-Cancer", SPIE Proceeding, SPIE Photonics West, 2017, USA.

29. S.Pratiher, S.Mukhopadhyay, R.Barman, S.Pratiher, A.Pradhan, N.Ghosh, P.K.Panigrahi, "Optical Diagnosis of Cervical Cancer by Boosting algorithm", SPIE Proceeding, SPIE Photonics West, 2017, USA.

30. S.Pratiher, S.Mukhopadhyay, R.Barman, S.Pratiher, A.Pradhan, N.Ghosh, P.K.Panigrahi, "Covariance weighted distance metrics for optical diagnosis of cancer", IEEE Proceeding, IEEE ICSC 2016, India (2017).

31. S.Pratiher, S.Mukhopadhyay, R.Barman, S.Pratiher, S.Banerjee, P.K.Panigrahi, "Recurrence quantification & ARIMA based forecasting of rainfall-temperature dynamics", IEEE Proceeding, IEEE ICSC 2016, India (2017).

32. Sabyasachi Mukhopadhyay, Sawon Pratiher, Rajeev Kumar, Vigneshram Krishnamoorthy, Asima Pradhan, Nirmalya Ghosh, Prasanta K Panigrahi, "Statistical classifiers on multifractal parameters for optical diagnosis of cervical cancer", International Society for Optics and Photonics, 1033524 (2017).

33. S Pratiher, S Mukhopadhyay, R Barman, S Pratiher, A Pradhan, N Ghosh, P.K. Panigrahi, "Covariance weighted distance metrics for optical diagnosis of cancer", IEEE, 340 (2017).

34. S Pratiher, S Mukhopadhyay, R Barman, S Pratiher, S Banerjee, P.K. Panigrahi, "Recurrence quantification & ARIMA based forecasting of rainfall-temperature dynamics", IEEE, 490 (2017).

35. Sabyasachi Mukhopadhyay, Nilanjan Poria, Rajanya Chakraborty, Sawon Pratiher, Sukanya Mukherjee, Prasanta K Panigrahi, "A novel algorithm for osteoarthritis detection in Hough domain", International Society for Optics and Photonics, 10506 (2018).

36. Sabyasachi Mukhopadhyay, Indrajit Kurmi, Sawon Pratiher, Sukanya Mukherjee, Ritwik Barman, Nirmalya Ghosh, Prasanta K Panigrahi, "Efficacy of hidden markov model over support vector machine on multiclass classification of healthy and cancerous cervical tissues", International Society for Optics and Photonics, 10501 (2018).

37. Sawon Pratiher, Sabyasachi Mukhopadhyay, Srideep Maity, Asima Pradhan, Nirmalya Ghosh, Prasanta K Panigrahi, "Stochastic HKMDHE: A multi-objective contrast enhancement algorithm", International Society for Optics and Photonics, 10505 (2018)

38. Anirban Mukherjee, Sabyasachi Mukhopadhyay, Prasanta K Panigrahi, Saptarsi Goswami, "Utilization of Oversampling for multiclass sentiment analysis on Amazon Review Dataset", 2019 IEEE 10th International Conference on Awareness Science and Technology (iCAST).

39. Suvasree S Biswal, T Amarnath, Prasanta K Panigrahi, Nrusingh C Biswal, "Application of Machine Learning to Predict Diseases Based on Symptoms in Rural India", International Conference on Biologically Inspired Techniques in Many-Criteria Decision Making, BITMDM 2019. Learning and Analytics in Intelligent Systems, vol 10. Springer, Cham, https://doi.org/10.1007/978-3-030-39033-4-5 (2019).

40. Mukherjee, Anirban, Sabyasachi Mukhopadhyay, Prasanta K. Panigrahi, and Saptarsi Goswami, "Utilization of Oversampling for multiclass sentiment analysis on Amazon Review Dataset." In 2019 IEEE 10th International Conference on Awareness Science and Technology (iCAST), pp. 1-6. IEEE, 2019.

41. Biswal, S. Suvasree , T. Amarnath, Prasanta K. Panigrahi, and Nrusingh C. Biswal, "Application of Machine Learning to Predict Diseases Based on Symptoms in Rural India", In International Conference on Biologically Inspired Techniques in Many-Criteria Decision Making, pp. 55-61. Springer, Cham, 2019.

42. Biswal, S. Suvasree, T. Amarnath, Prasanta K. Panigrahi, and Nrusingh C. Biswal, "Machine Learning to Diagnose Common Diseases Based on Symptoms", In Data Management, Analytics and Innovation, pp. 237-245. Springer, Singapore, 2020.

43. A Quantum Approach to Solve N-Queens Problem, GS Santhosh, Piyush Joshi, Ayan Barui, Prasanta K Panigrahi, 16th International Conference on COMmunication Systems NETworkS (COMSNETS),10035-10049, 2024.

44. Complementarity, in Paraxial and Non-Paraxial Optical Beams, Abhinash Kumar Roy, Nitish Kumar Chandra, Soumik Mahanti, Prasanta K Panigrahi, 16th International Conference on COMmunication Systems and NETworkS (COMSNETS), 10020-10032, 2024

Books Edited

1. Non-linear Dynamical Systems, Proceedings of the conference on "Dynamical Systems: Recent Developments", with A. K. Kapoor and V. Srinivasan, (1999).

2. Proceedings of XIV-DAE national symposium, 2000, with A. K. Kapoor and B. A. Bambah.

3. Proceedings of International Symposium on Quantum Optics, 2007, with J. Banerji and R. P. Singh.

4. Quantum Hamilton-Jacobi Formalism, 2022, with A. K. Kapoor & S. Sree Ranjani.

Book Chapters

1. P. K. Panigrahi, R. Atre, S. Sree Ranjani, P. Das and K. Abhinav. "Bose-Einstein Condensates in a Harmonic Trap and Optical Lattice". Atomic and Molecular Physics: Introduction to Advanced Topics; 183-202. Edited by Srivastava, Rajesh and Choubisa, Rakesh. Narosa Publishing House. 2012. ISBN: 9788184871692.

2. P. K. Panigrahi, S. Ghosh, A. Banerjee, J. Bahadur and P. Manimaran. "Characterizing Price Index Behavior Through Fluctuation Dynamics". Econophysics of Systemic Risk and Network Dynamics; 287-295. Edited by Abergel, F.; Chakrabarti, B K; Chakraborti, A. and Ghosh, A. Springer-Verlag, 2013. ISBN: 9788847025530.

3. P. K. Panigrahi, Y. Ghosh and D. Bhadra. "Unraveling Nonstationary Behavior in Rainfall Anomaly and Tree- Ring Data: A Wavelet Perspective". Wavelets and Fractals in Earth System Sciences. Edited by Chandrasekhar, E.; Dimri, V. P. and Gadre, V. M.. CRC Press. 2013. ISBN: 9781466553590.

Patent

Patent Application No. 202131020605, "PROCESS FOR PRODUCTION OF OXYGEN USING ELECTROLYTICALLY STABLE AQUEOUS SALTS AS A CATALYST" on 6th May, 2021. (Asmita Pal, Pradipta Kar, Satya Ranjan Sahoo, Pei Liang, Santu Das, Shounik Paul, Francis Verpoort, Prasanta Kumar Panigrahi, Soumyajit Roy)

Invited talks & Participation in Conferences

1. Regularly attended the yearly MRST (Montreal-Rochester-Syracuse and Toronto) Conference, from 1984-88 and delivered a talk in 1988.
2. Attended the Maryland Conference on Superstrings in 1987. Selected for participation in TASI (Theoretical Advanced Study Institute) Summer School in 1988.
3. Participated in the workshop on Fractional Statistics and its possible Relevance to High-Tc Superconductivity at University of Minnesota (November,1989).
4. Participated in the Conference on Quantum Groups at Argonne National Laboratory, (1990).
5. Participated in the Conference organised for the sixtieth birthdays of Prof. S. Okubo and Prof. B. Sakita.
6. Participated in the XXTH International Conference on Differential Geometric Methods in Theoretical Physics at Baruch College, June (1991).
7. Invited talk in the Canadian Association of Physics workshop on Quantum Groups, Integrable Models and Statistical Systems at Kingston, July (1992).
8. Participated in the Wali-Fest, University of Syracuse, May (1993).
9. Participated and delivered a talk in the Conference on New Perspectives in Coherent States, University of Hyderabad, October (1993).
10. Participated and delivered a talk in the XI DAE Symposium on high energy physics, Visva-Bharati University, Santiniketan, (1994-95).
11. Participated in the TPSC national seminar on Recent Advances in Theoretical Physics, , University of Hyderabad, April (1995).

12. Participated in the Golden Jubilee Theoretical Physics Symposium, SUJAYATA, TIFR Mumbai September (1996).
13. Invited talk in the National Seminar On Recent Advances in Physics, Dept. of Physics, Berhampur University, Berhampur, Orissa, May (1996).
14. Invited talk in the Workshop on Supersymmetry and Integrable Models, University of Illinois at Chicago, U.S.A June, (1997).
15. Invited talk in the Workshop on Solitons, Queen's University, Kingston, Canada, July, 20-26, (1997).
16. Invited talk in the International Conference on Modern Trends in Physics, , Physics Dept, Utkal University, Bhubaneswar, Orissa, January 8-12 (1998).
17. Presented and chaired asession in the workshop on Physics of Relativistic Heavy Ion Collisions, Institute of Physics, Bhubaneswar, Orissa, May 11-15 (1998).
18. Participated in the Workshop on Neutrino Physics, Nov 6-7 1998, School of Physics, University of Hyderabad, Hyderabad.
19. Invited talk at the International Conference on Mathematical Physics, Jan 10-16 1999, Dept of Mathematics, Nagpur University, Nagpur.
20. Participated in the Discussion Meeting on Quantum Computation, July 19-23, 1999. IISc. Bangalore.
21. Invited talk at the Symposium on Current Trends in Physics, Sept. 1-3, 1999, Institute of Physics, Bhubaneswar.
22. Participated and was the convenor in the conference on Dynamical Systems:Recent developments, Nov 4-6, 1999, School of Physics, University of Hyderabad, Hyderabad.
23. Invited talk at the Third International Symposium on Frontiers of Fundamental Physics, Dec 17-22 1999, B.M.Birla Science Centre, Hyderabad.
24. Invited participation in the Conference on Theoretical Physics, March 2000, Singapore National University, Singapore.
25. Participated in Lattice 2000, 17-22 August, 2000, Bangalore, India.
26. Invited talk at the Fourth International Symposium on Frontiers of Fundamental Physics, Dec 09-13 2000, B.M.Birla Science Centre, Hyderabad.
27. Participated and was the convenor in the XIV DAE Symposium on High Energy Physics, Dec 18-22, 2000, School of Physics, University of Hyderabad, Hyderabad.
28. Invited talk in the International Conference on Perspectives In Theoretical Physics, Jan 8-12, 2001, Physical Research Laboratory, Ahmedabad.
29. Participated in the conference on Geometric Phases in Physics and Foundations of Quantum Mechanics, March 28-29, 2001, Centre for Theoretical Studies, IISc, Bangalore.
30. Invited talk in the International Workshop on Optical Solitons: Theory and Experiments, Jan 24-29, 2002, Cochin University of Science and Technology, Kochi.
31. Invited talk in the Indo-Russian Workshop on Mathematical Sciences, Jan15- 19, 2002, Institute of Mathematical Sciences, Chennai.
32. Invited talk at the International Conference on Special Functions, Institute of Mathematical Sciences, Chennai.
33. Invited talk at the Fourth International Symposium on Frontiers of Fundamental Physics, Jan 09-11 2003, B.M.Birla Science Centre, Hyderabad.
34. Five Talks on "Wavelet Transform", School of Modeling, Nov. 2003.
35. Three Talks on "Quantum Entanglement", SERC School on Quantum Information and Quantum Optics, Physical Research Laboratory, Ahmedabad, Feb. 1-14, 2004.
36.Wavelet transform and applications", TPSC Seminar, Institute of Physics Bhubaneswar, September 2004, by P.K. Panigrahi.
37. "Four talks on Coherent states and quantum computation", U.G.C.Refresher Course, Sam-

balpur University, Sambalpur, September 2004, by P.K. Panigrahi.
38. "Six lectures on quantum computation", Dhirubhai Ambani Institute of Information Communication Technology, Gandhinagar, October-November 2004, by P.K. Panigrahi.
39. "Wavelet domain differentiation of cancer and normal human breast tissue fluorescence spectra", National Conference on lasers and their applications in basic and applied sciences (NCLBAS - 2005), Visva-Bharati, Santiniketan , January 10 - 13, 2005, by P.K. Panigrahi.
40. Invited talk on the topic "Wavelet transform: An introduction", JIIT, Noida, Delhi, May 2005.
41. Six invited talks on Quantum Computation, Dhirubhai Ambani Institute of Information Communication Technology, Gandhinagar, July-November (2005).
42. A colloquium on "Bose Einstein condensates: Oil exploration to quantum computation", Physical Research Laboratory, Ahmedabad, November (2005).
43. Invited Talk on "Noble Prize 2005 in Physics", Teleconference programme on Noble prize 2005 in Physics, Gujarat Science City, Ahmedabad, December (2005).
44. Invited Talk on "Noble prize 2005 in physics", District level physics competitions programmes for college students in Gujarat organized by IAPT-RC (4B) and GUJCOST, Physical Research Laboratory, Ahmedabad, December (2005).
45. "International year of Physics talk on Brownian motion", Indian Association for Physics Teachers, Ahmedabad, January (2006).
46. Invited talk on "Non-destructively discriminating orthogonal entangled states", National Conference on Quantum Computing-Back Action, IIT Kanpur, Kanpur, March (2006).
47. Invited talk on the topic "On a novel method of solving linear differential equation", Department of mathematics, Mangalore University, Mangalore, March (2006).
48. Invited talk on the topic "Brownian motion: A modern view", Department of physics, Mangalore University, Mangalore, March (2006).
49. Invited talk, "Solitons in Bose-Einstein Condensate"in the 2nd International Conference on Current Developments in Atomic, Molecular and Optical Physics with Applications, Delhi University, Delhi, March 21-23, (2006).
50. Participated and was a Convener of International Symposium on Quantum Optics, Physical Research Laboratory, Ahmedabad, July 24-27 (2006).
51. Invited Talk, "Manipulating solitons in optical fiber through distributed parameters" in Photonics- 2006, University of Hyderabad, Hyderabad, Dec. 13-16 (2006).
52. Invited Talk, "Solitons in BEC and their coherent control" in XVI National Conference on Atomic and Molecular Physics, TIFR, Mumbai, Jan. 8-11 (2007).
53. Invited Talk, "Periodicities in financial time series: A wavelet perspective", in International conference on Echono Physics, Saha Institute of Nuclear Physics, Kolkata, March 11-15 (2007).
54. Invited Talk, "Sub-Planck structure of entangled Cat-states", in Conference on Quantum Optics Quantum Information, JNU, Delhi, March 16-18 (2007).
55. Invited Talk "Solitons in Bose-Einstein Condensates Optical Lattice: Their coherent control and phase structure", in Topical Conference on Atomic and Molecular Physics, Sardar Patel University, Vallabh Vidyanagar, Gujarat, January 4-6 (2008).
56. Invited Talk "Solitons in Bose-Einstein Condensates Optical fibres: Their coherent control and phase structure", in National Conference on Nonlinear System and Dynamics, Physical Research Laboratory, Ahmedabad, Gujarat, January 4-6 (2008).
57. Invited Talk "Quantum Cryptography", in Workshop on Cryptography, National Institute of Science Education and Research, Bhubaneswar, December 5 -6 (2008).
58. Invited Talk "Statistical Properties of Fluctuations: A Method to Check Market", in Econophys – Kolkata IV, International Conference on Econophysics of Games and Social Choices, March 9-13 (2009).
59. Invited Talk "Regulating BEC in a trap", in DAE-BRNS SAMOP, Inter University Accelerator

Center, February 10 - 13, 2009. Invited Talk "Minimal classical communication and measurement complexity for quantum information splitting of a two-qubit state", in Non-Hermitian Hamiltonians in Quantum Physics, Bhaba Atomic Research Centers, January 13-16 (2009).
60. Invited Talk "Solitons in Optical System", National Seminars on Photonics and Quantum Systems, Tezpur University, November 4-6 (2009).
61. Organizer and Chaired a session, in "Of Molecules and Materials (A Survey of Recent Concepts)", Indian Institute of Science Education and Research, Kolkata, December 28 – 29 (2009).
62. Invited Talk "Quantum Information Splitting", in International Program on Quantum Information, January 4 – 30 (2010).
63. Invited Panelist, Quantum Verification and Validation Panel Discussion, Lockheed Martin, Fulbright House, New Delhi, January 20 (2010).
64. Organizer, "International Conference on Cold Atoms", Sankarpur, West Bengal, January 18 – 21 (2010).
65. Invited Talk "Quantum Teleportation and Dense Coding", in National Workshop on Quantum Entanglement, Department of Physics, Pondicherry University, Pondicherry, February 17-19 (2010).
66. Invited Talk "BEC in strongly coupled regime: nature of Lieb mode and dark solitons", in National Level TPSC Workshop on Cold Atoms, February 15-17 (2010).
67. Chaired a session in, "Recent trends in AMO Physics", Platinum Jubilee of IPS, March 17 (2010).
68. Invited Talk "Bose-Einstein condensates in one dimension: Soliton and Phase Transition", in National Level TPSC Workshop on Nonlinear Physics: Theory, Experiments and Application, March 29-31 (2010).
69. Invited participation, Indo-Brazil Workshop on Coldatoms, Mesoscopic Systems, and Quantum Information Processes, Hotel Westin, Hyderabad, October 16-18 (2010).
70. Invited Talk, Conference on Research Frontiers in Ultra-Cold Atomic and Molecular Gases, International Center, Goa, January 10-14 (2011).
71. Invited Talk, XXXV OSI symposium: International conference on contemporary trends in optics and optoelectronics, IIST, Thiruvananthapuram, January 17-19 (2011).
72. Four Invited Lectures, DST-SERC School on Cold Atoms, January 24-25 (2011).
73. Invited Talk "Soliton dynamics in cold atoms and optical fibers", Sixth National Conference on Nonlinear Systems and Dynamics (NCNSD-2011), Bharati darshan University, Tiruchirapalli, January 30 (2011).
74. Invited Talk "Gauge Theory of Graphene-Phonon Interaction; Experimental Observable Consequences", International Conference New Trends in Field Theory, BHU, Varanasi, February 7-12 (2011).
75. Invited Talk "Making use of entanglement: Teleportation, dense coding and multiparty quantum dialogues", International Conference on Quantum Optics and Quantum Computing (ICQOQC-11), Jaypee Institute of Information Technology, Noida, March 24-26 (2011).
76. Chief organizer, Field Theory: Recent Trends and Applications (FTRTA-2011), IISER Kolkata, West Bengal, August 22-25 (2011).
77. InvitedTalk"Characterizingpriceindexbehaviorthroughfluctuationdynamics", ECONOPHYS-KOLKATA VI International Workshop on Econophysics of systemic risk and network dynamics, October 21-25 (2011).
78. Invited Talk "A theory of non-BCS type superconductivity in gapped Graphene"; Frontiers in Physics 2011; University of Hyderabad, October 28-29 (2011).
79. Invited Talk "Quantum Communication and Quantum Information Splitting", International School on Quantum Information (ISCQI-2011), IOP, Bhubaneswar, December 22 (2011).
80. Invited Talk "Ultra-Short Pulses in Atomic Media"; TC 2012 ISAMP Topical Conference on

Interaction of Lasers with atoms, molecules clusters, School of Physics, University of Hyderabad; Jan. 9-12 (2012).
81. Invited Talk "Nonlinear excitations in BEC in presence of a harmonic trap and optical lattice", International Workshop on Structure and Dynamics of Trapped Quantum Gases, Department of Physics, Panjab University, Chandigarh, India, February 2 (2012).
82. Invited Talk "Dynamics and phase transitions in Bose-Einstein condensates in optical lattice", International Workshop on Structure and Dynamics of Trapped Quantum Gases, Department of Physics, Panjab University, Chandigarh, India, February 3 (2012).
83. Invited Talk "Entangled state discrimination, generation and error correction", International Workshop on Quantum Information, Harish-Chandra Research Institute, Allahabad, February 22, (2012).
84. Invited Talk "Wavelet view of geological time series: periodic behavior and their interrelations", National Workshop on Wavelets, Multiresolution and Multifractal analyses in Earth, Ocean and Atmospheric Sciences –Current Trends (WMMFA 2012), IIT Mumbai, February 29 – March 2, (2012).
85. Invited Talk "Quantum Spin Systems: entangled channel generation and decoherence", Discussion meeting on Foundations of Quantum Mechanics, S. N. Bose Centre, Kolkata, March 7 (2012).
86. Invited Talk "PT-symmetric systems: Scattering and bound state properties", CSPND 2012, S. N. Bose National Centre for Basic Sciences, March 16 (2012).
87. Invited Talk "Bell state discrimination, Error correction and Gate Teleportation", Workshop on Information and Security in Quantum World, ISI Kolkata, March 28 (2012).
88. Convener, DST-KVPY Workshop, IISER Kolkata, May 22-16 (2012).
89. Invited Talk "Solitons in Optical Fibres and in Wave Guides", NCNSD 2012, IISER-Pune, July 15 (2012).
90. Invited for participation, University-Industry Congress 2012: Eastern Region Conclave, IACS Kolkata, July 31 (2012).
91. Invited Talk, National Workshop on Photonics in Medicine and Biology, Manipal University, Manipal, August 20-22 (2012).
92. Convener, National Organizing Committee, DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, IISER Kolkata, December 14-17 (2012).
93. Invited Talk "Sub-Planck Structures in Phase-Space and their utility for Quantum Metrology", One Day Symposium on " Current Trends on Atomic, Molecular Optical (AMO) Physics"m on " Current Trends on Atomic, Molecular Optical (AMO) Physics", Department of Theoretical Physics, IACS, January 18 (2013).
94. Invited colloquium "PT-symmetric systems: Scattering and bound state properties", BARC, January 31 (2012).
95. Invited Talk "Schrödinger's Cat to Quantum Computers A journey from Science to Technology". UGC Sponsored National Workshop On General Theory of Relativity Cosmology, Department of Physics Department of Mathematics Midnapore College, February 13 (2013).
96. Invited Participation (Two posters), 13th Asian Quantum Information Science Conference, IMSc, Chennai, August 25-30 (2013).
97. Invited Talk "Behavior of Quantum Discord near quantum phase transition points and monogamous behavior of discord", Meeting on Quantum Simulation, (QS2013), Indian Institute of Science, Bangalore, September 2-3 (2013).
98. Invited Talk "'Rogue' Ocean Optics: The story of Peregrine Solutions ", Physical Research Laboratory, Ahmedabad, October 30 (2013).
99. Invited Talk "Self-Similarity in light scattering from tissue : Capturing the fractal behaviour", Workshop on "Light scattering techniques and applications in astronomy and other areas", S N Bose National Centre of Basic Sciences (SNBNCBS), Kolkata, November 19-21 (2013).

100. Invited participation, Workshop on Quantum Integrable Systems, SNBNCBS, Kolkata, December 2-6 (2013).
101. Invited Talk "Non-Equilibrium BEC in a trap: Collective modes through Symmentry", Indian Association for Cultivation , January 2 (2014).
102. Invited Talk "Small Waves are Making Big Waves: Wavelets in Action", at National Science Fest, St. Stephen's College, New Delhi, January 25 (2014).
103. Two lectures on "Rogue Solitons and Non-Linear Systems", in SERC school on Non-Linear Dynamics, Panjab University, Chandigarh, February 17-18 (2014).
104. Invited Talk "Gauge transformation and nonlinear equations ", at NMI Workshop on Nonlinear Integrable Systems and Their Applications, School of Physics, Bharathidasan University, Palkalaiperur, February 28 (2014).
105. Chaired a session at NMI Workshop on Nonlinear Integrable Systems and Their Applications, School of Physics, Bharathidasan University, Palkalaiperur, March 1 (2014).
106. Invited Talk "Non-Equilibrium BEC in a trap: Collective modes through Symmetry", IACS, Kolkata, January 2 (2014).
107. Invited Talk "Neuro-econo-physics: Stock Market Human Brain Connection: Myth or Reality", at Tata Institute of Fundamental Research, Mumbai, March 5 (2014).
108. Invited Talk "NLSE with source: exact solutions and Physical applications", NMI discussion Meeting on Integrable Non Integrable aspects of Dynamical Systems, S. N. Bose National Centre For Basic Sciences, Kolkata, March 21 (2014).
109.Invited Talk "'Rogue' Solitons in Light", Asia Student Photonics Conference, IISER Kolkata, July 18-21 (2014).
110. Invited participation, National Workshop on Big Data Analytics (BiDA2014), C R Rao Advanced Institute of Mathematics, Statistics and Computer Science, Hyderabad, August 22-24, (2014).
111. Invited Talk "Wavelet Transformation: Application to Signal Processing", Anna University, Chennai, September 23 (2014).
112. Invited Talk "Coherent Matter Transport Through Anomaly: The Role of Solitons", at National Conference on 'Nonlinear Physics and its Applications (CNPA-13), Dept. of Physics, Darjeeling Govt. College, Darjeeling, November 1-3 (2014).
113. Invited Talk "Efimov Physics in Chern-Simons Theory"; in "New Trend in Field Theories"; at Banaras Hindu University; November 5 (2014).
114. Invited Talk "Wavelet Transformation: Application to Signal Processing"; at NIT Patna; November 7 (2014).
115. Invited Talk "PT-symmetric systems: Scattering and bound states" in "Recent Trends in Information Optics and Quantum Optics (IOQO-2014)"; at IIT Patna; November 7-8 (2014).
116. Invited Talk "Weak Measurement and theoretical aspects of experimental realization"; in "Quantum and Nano Computing Advanced School-2014"; at Dayalbagh Educational Institute; November 26-30 (2014).
117. Invited Talk "Design of a Quantum Computer"; inaugural function of Physics Society, Physics Department, Allahabad University; December 2 (2014).
118. Invited Talk "Solitons in cold atoms: From strongly interacting fermionic to Bose-Einstein Condensate"; in "4th International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications (CDAMOP) 2015"; at Dept. Of Physics Astrophysics, University of Delhi; March 11-14 (2015).
119. Invited Talk "Neuro-econo-physics: Stock Market Human Brain Connection: Myth or Reality"; in "Two-day Workshop on Curriculum Design for Big Data (CDBD)"; at C R Rao AIMSCS, Hyderabad; February 28 – March 1 (2015).
120. Invited Talk "Supersymmetryc Quantum Mechanics: Example and Exceptional Polynomials";

at the Workshop on "Recent Developement in Quantum Theory"; at Banaras Hindu University; February 20-24 (2015).
121. Invited Talk "Anomaly Induced Coherent Matter Transport"; Conference on "Recent Advances in High Energy Physics" at School of Physics, University of Hyderabad; February 26-28 (2015).
122. Invited Colloquium "Human Brain Market Behavior: Are they Identical?"; in Physical Research Laboratory, Ahmedabad , April 1 (2015).
123. Invited talk "Multi-scaledynamics, causality and network structure in time series"; at Indo-US Workshop on Time Series Analysis in IISER Pune, May 25-30 (2015).
124. Four invited lectures on "'Wavelets, A Mathematical Microscope", "Discreet Wavelet Transform and Applications (1)", "Discreet Wavelet Transform and Applications (2)" and "Continuous Wavelet Transform and Applications"; in NIT Patna, June 24-25 (2015).
125. Member of national planning committee at SERC School on Nonlinear Dynamics-2015 in Department of Physics, Manipur University, Imphal, November 18-December 8 (2015).
126. Invited talk at International School on Quantum and Nano Computing Systems and Applications-2015 in Dayalbagh Educational Institute, Dayalbagh, Agra, November 26 (2015).
127. Invited talk "How to make money with quantum mechanics"; at Meeting on Quantum Information Processing and Applications in Harish-Chandra Research Institute, Allahabad, December 13, (2015).
128. Invited talk "Weak Measurement"; at International Conference on "Light Quanta: Modern Perspectives and Applications" in Department of Physics, Allahabad University, Allahabad, December 15 (2015).
129. Invited Talk "Mysteries of light"; at "Ishaan Vikas Programme" in IISER Kolkata, December 18 (2015).
130. Invited Talk "What is matter made of ?"; at "Ishaan Vikas Programme" in IISER Kolkata, December 18 (2015).
131. Invited talk "Quantum Information: Tools for non-destructive discrimination of Quantum States"; at Brainstorming Session on "Quantum Computation, Cryptography and Communication" at Vigyan Bhawan Annexe, New Delhi, December 22 (2015).
132. Invited talk "Multi-scale analysis and correlation studies for unraveling fine structure of stock market dynamics"; at Workshop on nonlinear time series analysis in IIT Madras, February 5, (2016).
133. Invited talk "Explaining coherence of sunlight"; at Frontiers in Light-Matter Interaction in IIT Ropar, March 4-5 (2016).
134. Invited talk "Quantum fluctuation, entanglement and phase transition"; at Conference on Condensed Matter in PRL Ahmedabad April 11-13 (2016).
135. Invited Talk at International Conference on "New Trend in Field Theories" Banaras Hindu University, December 6-10 (2016).
136. Talk at GIAN program, Indian Institute of Science Education and Research Kolkata (2016).
137. Invited Talk "PT Symmetry in Atomic Media: Self-Induced transparency, PT Symmetric Solitary Waves and Soliton Trains" at 21st National Conference on Atomic and Molecular Physics (NCAMP- XXI) in PRL Ahemdabad January 3-6 January (2017).
138. Invited Talk as a chief guest "Harnessing Quantum Principles for Technology" at 6th Research Scholar's Day, IIT Patna 5th March (2017).
139. Invited Talk at QOOT, IACS Kolkata, June 5-8 (2017).
140. Invited Talk "Quantum coherence, Holevo Bound and Quantum Discord"; ICQF, NIT Patna, December 4-9 (2017).
141. Invited Talk at 6th DST Inspire Internship Camp in Punjab University Chandigarh November 21-25 (2017).

142. Invited Talk "Recent Advances in Condensed Matter Physics and Complex Systems" in Savitribai Phule, Pune University Oct 30- Nov 1 (2017).
143. Invited Talk "National Student Symposium on Physics" in Panjab University Nov 10-12 (2017).
144. Invited Talk "Intensity Intensity Correlation and Monogamy Relations"; ISNFQC, SBNCBS Kolkata, Jan 29-Feb 2 (2018).
145. Invited Talk "Ultracold Chemical Reaction and Complete State Transfer", at EPCSQ, SBNCBS Kolkata, Feb 26-28 (2018).
146. Invited Talk "First realization of Bell-Rajaraman Model"; at CMP in PRL Ahmedabad March 14-16 (2018).
147. Invited Talk at PSG College of Technology Coimbatore April 13 (2018).
148. Invited Talk "Exceptional points and manipulating light in PT-media"; at QFF in RRI Bengaluru 30th April - 4th May (2018).
149. Invited Talk "International Conference on "New Trends in Field Theories', Nov 25, 2018, BHU.
150. Invited Talk "Current Developments in Quantum Field Theory and Gravity, Dec 03-07, 2018, S. N. Bose National Centre for Basic Sciences (SNBNCBS).
151. Invited Talk "Photonics 2018, The International Conference on Fiber Optics and Photonics, Dec 12-15, 2018, Indian Institute of Technology Delhi, New Delhi, India.
152. Invited Talk "International Conference on Quantum & Atom Optics-2018 (ICQAO-18), Dec 16-18, 2018, IIT Patna.
153. Invited Talk "West Bengal State Science & Technology Congress", 28th February & 1st March, 2019, Science City, Kolkata.
154. Invited Talk at "National Seminar on Quantum and Non-linear optics (NSQNLO-2019)", Department of Physics, Pondicherry University, 8th March 2019.
155. Invited Talk at "National Seminar Cum Workshop on Python Programming: Theory, application & Implementation", March 18-20, 2019, Physics Department Manipur University.
156. Invited talk at Dept. of Physics, Berhampur University, Berhampur, Orissa, May (2019).
157. Invited talk at Monday Seminar Event (19th August) at the Physics Department, IISER Pune
158. Invited talk at IIT Jodhpur (FIP), 24th August (2019).
159. Invited talk at ANIUS (HBCS).
160. Invited talk "Quantum technology: Dawn of a new era" at Ravenshaw University, Odisha, September (2019).
161. Invited talk "Quantum Computation" at IIT Kgp.
162. Invited talk at Manipur University.
163. Invited talk "Wavelet transform and its application - Jun 2019" at Hubei University (China).
164. Invited talk "Non-linear schodinger equation 2019" at Pondicherry University.
165. Invited talk at 23th Kalyani Book Fair Committee-2019.
166. Invited talk " Frequency Combs from Nonlinear and Quantumly Correlated Systems - Laser optics and photonics webinar (July 25, 2020)".
167. Invited talk on Quantum Computing at IIIT Hyderabad (Jul. 2020).
168. Invited talk on Quantum computation and Introduction at SCOP, Physical Research Laboratory, Ahmedabad, India (July-2020).
169. Invited talk on Quantum computation and Introduction at FSQT (Sept-2020)"
170. Invited talk on Simulation of coupled photons and cavity dynamics on IBM quantum computer - Optics Seminar at BarIlan University (June 2020).
171. Invited talk on Quantum Computing at TIE Talk (Nov-2020).
172. Invited talk on quantum Computation and Introduction at Mahindra University Research Symposium (Dec-2020)

173. Invited talk "Quantum Foundations, Technologies and Applications 2020".
174. Invited talk "Zero width resonance:asymmetric perspective" at ICTS Banglore (March 2021).
175. Invited talk on FDP Quantum Computing at Thakur College of Engineering and Technology - Mumbai (January-2021).
176. Invited talk on Quantum Computing at Faculty Development Program at IIST-Kota (July-2021).
177. Invited talk on AI and ML at IIIT Pune (May 2021).
178. Invited talk on Quantum Computation and Introduction at ATAL FDP BITS Mesra (June-2021).
179. Invited talk on Quantum Computation and Introduction at Amity University (July-2021).
180. Invited talk on nonlinear dynamics at Gazi University, Ankara,Turkey (May 2021).
181. Invited talk on Introduction to Quantum Computing at AICTE STTP, Maulana Abul Kalam Azad University of Technology,West Bengal (19th July 2021).
182. Invited talk on Wedge product and Geometric Quantification of Entanglement AGACSe'2021 (Aug 2021).
183. Invited talk on supersolid phase of matter in coldatoms PRLCCMP-2021 (Aug-2021).
184.Invited talk on quantum optic in V-Optics2021 (Aug 2021).
185. Invited talk on Quantum Information and Computation: From Foundations to Applications -2021 (QFA-2021) October 2021.
186. Invitation as Resource Person for our AICTE-ATAL sponsored FDP in MET's Institute of Engineering, Bhujbal Knowledge City, Nashik (Jan 222).
187. Invited talk on Quantum Computing NIUS (Physics) Camp (Dec-2021).
188. International Symposium on Advances in Nanosensors and Nanomedicine, Bannet University, (Dec-2021).
188. Invited talk on Quantum Algorithm APP-2022 (Jan-2022).
189. Invited talk on Quantum ML at KIIT University (Jan-2022).
190. Invited talk on Quantum computing Cars-2022 (Jan-2022).
191. Invited talk on Quantum computing ATAL FDP, VIT (Jan-2022).
192. Invited talk on Quantum Computing ATAL FDP, Tripura University (Feb-2022).
193. Invited talk on Quantum Computing Fundamentals ATAL FDP, IEC, Ghaziabad (Feb-2022).
194. International conference on education for building humanity with harmony and peace, KIIT Bhubaneswar, (20 November, 2022)
195. 1st Workshop for QuEST Theme-I, Chandigarh, Punjab (April, 2022). 196. National Initiative on Undergraduate Science (NIUS) programme in Physics for the year 2022, HBCSE, Mumbai, (7-14 January, 2023).
197. Invited talk on "The 7th International Conference on Data Management, Analytics and Innovation, (ICDMAI 2023), 20th-22nd January 2023.
198. Symposium on Quantum Computing, C-DAC Pune, (30th-31st, Jan, 2023).
199. Invited talk on Quantum Technology: Where are we?, National Science Day, NIT Raipur, 28 February 2023.
200. Invited talk on Emergence of quantum science and technology in the 21st century, National Science Day, Indian Institute of Technology Hyderabad, 28 February 2023.
201. 23rd National Conference on Atomic and Molecular Physics (NCAMP-23), IIST-TVM, (20th-23rd February 2023)
202. Invited talk on Symposium on Light-Matter Interaction, Quantum Photonics and amp; Quantum Information, IIT Delhi, 25 February 2023.
203. Invited talk on Emergence of Quantum technology and quantum computation, International Conference on Quantum Computing and Communications (QCC-2022) from 09-11 February, 2023, (11 February 2023), School of Entrepreneurship Baba Farid Group of Institutions,Punjab.

204. Deliver a talk, IIT Goa, (19 February, 2023).
205. Invited talk on Super solid phase of matter, International Conference on Systems and Processes in Physics, Chemistry and Biology (ICSPPCB- 2023) at Assam 206. keynote speaker on Quantum Computing and its Applications: A Modern Approaches and Practices, NIT, Raipur (27th Feb-3rd Mar, 2023)
207. International Conference on Systems and Processes in Physics, Chemistry and Biology (ICSPPCB-2023), Assam University, Silchar, (2nd-4th March, 2023)
208. University, Silchar, Assam, 4 March 2023.
209. Quantum technology and Quantum information: The technology of the 21st century, HRDC, Gauhati University, (March 2023).
210. First International Quantum Communication Conclave, TEC, C-DoT & TSDSI Vigyan Bhawan, New Delhi, (27th-28th March, 2023)
211. Foundation Day lecture of Physics Academy of North East (PANE), PANE, Gauhati University, (6 April 2023).
212. 2nd Workshop for QuEST Theme-I, Punjab, Patiala, (13th and 14th May 2023).
213. Research & Industrial Conclave-Integration'23, IIT Guwahati, (14th-16th May, 2023).
214. Distinguished Speaker for the North East Quantum Science & Technology (NEQST) workshop, Manipur University, Imphal, (5-8 June, 2023)
215. International Symposium on Quantum Theory and Symmetries(QTS12), Czech Technical University in Prague, (24th-28th July, 2023).
216. 26th International Workshop on Quantum Systems in Chemistry, Physics, and Biology (QSCP-XXVI), Jaipur, Rajasthan, (October 14-20, 2023.)
217. Delivered an invited talk on "Coherence, Entanglement and Which Way: A multi-slit manifestation" at "International Conference on Celebrating 100 Years of Quantum Mechanics" organized by St. Anthony's College and NIT Meghalaya. (2024)
218. Delivered an invited talk on "Novel robust parameters of optical waveguides Precursors for efficient sensing and communication" at "International Topical Meeting On Classical and Quantum Optics (INTOCQ-24)" organized by Indian Institute of Space Science and Technology (IIST), Trivandrum (2024).
219. Delivered an invited talk on "Quantum Computing Explained : From Qubits to Quantum Algorithms" at " ISQCI-24" organized by CDAC Kolkata (2024)
220. Delivered an invited talk on "100 year Bose Statistics" at "100 year Bose Statistics Event" organized by NISER Bhubaneswar (2024)
221. Delivered an invited talk on "Meso and Macroscopic Quantum States of Light" at the online conference "Quantum Optics and Related Topics," organized by the Steklov mathematical institute of the Russian academy of sciences, (2024)
222. Delivered a speech on "Women in Quantum Science and Technology" at " International Conference on Women in Quantum Science and Technology " organized by SNBNCBS Kolkata (2024)
223. Delivered an invited talk on "'Seeing' entanglement through light" at the conference "The Quantum LeAP," organized by IISc Bangalore (2024)
224. Delivered an invited talk on "The story of Supersolid Phase of Matter" at the conference "CONDENSED MATTER DAYS,," organized by Tezpur University (2024)
225. Delivered an invited talk on "Solutions for Quantum Droplets and Supersolid Phases in Quantum Gases" at the conference "ISAMP" organized by IIST Trivandrum (2024)
226. Delivered an invited talk on "Advantage of Probabilistic Non-Gaussian Operations in Phase Estimation" at the conference "Recent Progress in Quantum Technology (RPQT- 2024)" organized by JNU Delhi (2024)
227. Delivered an invited talk on "Quantum Communication: Insights into Channels and Capacities " at the conference "ICQTA 2024" organized by Manipal Academy of Higher Education

(MAHE)
228. Delivered an invited talk on "The story of Supersolid Phase of Matter " at the conference "National Physicists' Conclave," organized by SRM Institute of Science and Technology.
229. Delivered an invited talk on "From Droplet to Supersolid: Beyond Mean-field BEC " at the conference "Recent Advances in Materials and Particle Physics," organized by Berhampur University.
230. Delivered an invited talk on "Coherence, Entanglement and Which Way: A multi-slit manifestation" in a conference Organized by Tezpur University (2025).
231. Delivered an invited talk on "Multi-Slit Interference and Discrimination of Quantum State " at the conference "International Year of Quantum Science and Technology (IYQ-2025)," organized by TCG Crest, Kolkata.
232. Delivered an invited talk on "Emergence of quantum technology in twenty first century " at "National Science Day," organized by NIT, Rourkela (2025)
233. Delivered an invited talk on "Introduction to Quantum Technology or Quantum Machine Learning" at VIT Vellore (2025).
234. Delivered an invited talk on "Quantum for O & G Energy Solutions – National Quantum Mission (NQM) Perspectives" at Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Jais, Amethi (2025).
235. Delivered an invited talk on "The International Year of Quantum Science & Technology (IYQ), at TCG CREST, Kolkata (2025).
236. Delivered an invited talk on "Scientific approach towards curiosity driven learning", at "5 days Induction Training of PGTs in Non Gov aided Higher Secondary Schools" (2025).

Conference/Symposium Organized

1. Conference on Non-linear Dynamics, University of Hyderabad
2. Conference on Neutrino Physics, University of Hyderabad
3. DAE Symposium, University of Hyderabad
4. Two day workshop on Light-Matter interaction, July 12-13, 2015, IISER Kolkata.
5. Conference on Recent Developments in Field Theory - 2015, July 17-19, 2015, IOP, Bhubaneswar.
6. Global Initiative of Academic Network (GIAN) Programme, IISER Kolkata, 5-11 December 2016
7. Theory Conference, Jan 20-21, 2017, IISER Kolkata.
8. Asia Pacific Conference And Workshop on Quantum Information Science, Dec 19-23 2018, IISER Kolkata.
9. Summer School on Quantum Information and Quantum Technology -2021, Convener , 14 June-14 July 2021, IISER Kolkata
10. Summer School on Quantum Information and Quantum Technology -2021, Convener , June 1- June 30 2022, IISER Kolkata

Collaborative visits

1. Prof. P. K. Panigrahi (IISER Kolkata) visited KIIT, Bhubaneshwar (for collaboration), Date: 16/3/2023

2. Prof. P. K. Panigrahi (IISER Kolkata) visited IoP, Bhubaneshwar (for collaboration), Date: 17/3/2023
3. Prof. P. K. Panigrahi (IISER Kolkata) visited IIT Goa (for collaboration), Date: 17/2/2023
4. Prof. P. Durganandini (Savitribai Phule Pune University) visited IISER Kolkata on, Date: 5/02/2023
5. Prof. B. Dey (Savitribai Phule Pune University) visited IISER Kolkata on, Date: 5/02/2023