Name: Pijush Kanti Ghosh

Designation: Professor

Postal Address: Department of Physics
Siksha-Bhavana, Visva-Vharati
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Research Area: Theoretical Physics

Research Interests: High Energy Physics, Mathematical Physics, Quantum Physics, Interdisciplinary areas between High Energy Physics and Condensed Matter Physics

Education:

Degree	Year	School/Institute	Board/ University
Ph. D.	1997	Institute of Physics, Bhubaneswar	Utkal University
Advanced Diploma in Physics	1991	Institute of Physics, Bhubaneswar	
M. Sc.	1990	Siksha-Bhavana, Santiniketan	Visva-Bharati
B. Sc.	1988	Siksha-Bhavana, Santiniketan	Visva-Bharati
Pre-Degree	1985	Patha-Bhavana*, Santiniketan	Visva-Bharati
School-Final	1983	Ramnagar High School, Uttar Ramnagar, Burdwan	West Bengal Board of Secondary Education

* Formerly Uttar Siksha Sadana

Teaching Experience at Visva-Bharati (2005-2014):

Level		Courses Taught/Teaching	Academic Year
Ph.D. Course-Work		Field Theory & Integrable Models	2014-Continuing
Post-Graduate (M. Sc.)		Computer Applications In Physics	2010-Continuing
		Field Theory	2011-Continuing
		Topics In Modern Quantum Mechanics	2012-Continuing
		Particle Physics	2008-2012
		Atomic & Molecular Physics	2005-2011
		Laboratory Course (M.Sc.-I Year)	2005-2007
Under-Graduate (B. Sc.)	Honours	Particle Physics	2014-Continuing
		Mathematical Methods In Physics	2005-2007
		Laboratory Course (B.Sc.-III Year)	2007-2010
	Subsidiary/ Allied	Physical Optics	2005-2007
		Laboratory Course (B.Sc.-II Year)	2005-2007

Research Experience:

No.	Time		Position Held	University/Institute
	From	To		
1	2011	-	Professor	Visva-Bharati University, Santiniketan
2	2008	2011	Associate Professor	Visva-Bharati University, Santiniketan
3	2005	2008	Reader	Visva-Bharati University, Santiniketan
4	2002	2005	Visiting Scientist**	Saha Institute of Nuclear Physics, Kolkata
5	1999	2001	JSPS Post-Doctoral Fellow	Ochanomizu University, Tokyo, Japan
6	1997	1999	Visiting Fellow	Institute of Mathematical Sciences, Chennai
7	1995	1997	Visiting Fellow	Harish-Chandra Research Institute, Allahabad
8	1991	1995	Research Fellow***	Institute of Physics, Bhubaneswar, India

** Under Fast-Track Scheme for Young Scientists, SERC, DST, Govt. of India and host Institute's own Academic Programme

*** Period Spent for Ph.D. Thesis

Awards & Honours:

1. Awarded a Fellowship for visiting Czech Republic during the period April - May, 2013, under the scientific bi-lateral exchange Programme of Indian National Science Academy, New Delhi.

2. Awarded an Invitation Fellowship for research in Japan, May-July 2008 by Japan Society for the Promotion of Science

3. Awarded a fellowship for three years under the FAST TRACK SCHEME for YOUNG SCIENTISTS : 2001 - 2002, by the Science & Engineering Research Council, Government of India.

4. Awarded a Post-doctoral Fellowship by the Japan Society for the Promotion of Science, December, 1999 - December, 2001.

Completed & Ongoing Research-Projects:

Period	Title & Co-Investigator	Sponsoring Organization	Amount
2013-	Physics & Mathematics of *PT*-symmetric systems	SERC, DST, Govt. of India.	Rs. 13, 44, 000
2002-2005	Aspects of non-commutative Field Theory	SERC, DST, Govt. of India.	Rs. 9, 12, 000
1999-2001	Calogero-Sutherland model and its connection to supersymmetric quantum field theories (**Co-Investigator**: Tetsuo Deguchi)	Japan Society for the Promotion of Science	2 million Yen

Seminar Presentation at Scientific Meetings (2008-2013):

1. International conference on Quantum Integrable System, December 02-06, 2013, S. N. Bose National Centre for Basic Sciences, Kolkata, India.

2. Jubilee meeting of the international conference series Pseudo-hermitian Hamiltonian and Quantum Physics(PHHQP X) entitled ``Quantum Physics with non-hermitian operators", June 16-25, 2011, Max Planck Institute for Physics of Complex Systems, Dresden, Germany.

3. Regional Science Congress of Jawhar Navodaya Vidyalaya Samiti(Patna Region) under the auspices of MHRD, Govt. of India, November 17, 2010, Jawhar Navoday Vidyalaya at Durgapur, West Bengal, India.

4. International Workshop on Supersymmetric Quantum Mechanics & Spectral Design, July 18 - July 30, 2010, Centro De Ciencias Pedro Pasucal, Benasque, Spain.

5. National Level Applied Mathematics Symposium on Trends & Challenges in Quantum Theory, February 27-28, 2008, Department of Applied Mathematics, University of Calcutta, Kolkata, India.

Research Publications:

(a) Review Article(Commissioned):

1. Pijush K. Ghosh, Supersymmetric many-particle quantum systems with inverse-square interactions, J. Phys. A: Math. Theor. **45** (2012) 183001 (arXiv:1111.6255)

(b) Research-papers (2008-2013):

1. Pijush K. Ghosh, A note on topological insulator phase in non-hermitian quantum system, J. Phys.: Condens. Matter **24** (2012) 145302 (arXiv:1109.1697).

2. Pijush K. Ghosh, Deconstructing non-dissipative non-Dirac-hermitian relativistic quantum systems, Phys. Lett. **A375** (2011) 3250 (arXiv:1105.2495).

3. Pijush K. Ghosh, Deconstructing non-Dirac-hermitian supersymmetric quantum systems, J. Phys. A:Math. Theor. **44** (2011) 215307(arXiv:1101.2120).

4. Pijush K. Ghosh, Constructing Exactly Solvable Pseudo-hermitian Many-particle Quantum Systems by Isospectral Deformation, Int. J. Theo. Phys. **50** (2011) 1143 [arXiv:1012.0907]
.
5. Pijush K. Ghosh, On the construction of pseudo-hermitian quantum system with a pre-determined metric in the Hilbert space, J. Phys. A:Math. Theor. **43** (2010) 125203 (arXiv:0908.1321).

6. T. Deguchi and **Pijush K. Ghosh**, Exactly Solvable Quasi-hermitian Transverse Ising Model, J. Phys. A: Math. Theor. **42** (2009) 475208(arXiv:0904.2852).

7. Tetsuo Deguchi, Pijush K. Ghosh and Kazue Kudo, Level statistics of a pseudo-Hermitian Dicke model, Phys. Rev. **E80** (2009) 026213 (arXiv:0903.4568).

8. T. Deguchi and **Pijush K. Ghosh**, Quantum Phase Transition in a Pseudo-hermitian Dicke model, Phys. Rev. **E80** (2009) 021107(arXiv:0901.1730).

(c) Representative Publications (1995-2008):

1. Pijush K. Ghosh, Supersymmetric quantum mechanics on noncommutative space, European Physical Journal **C42** (2005) 355(hep-th/0403083).

2. Pijush K. Ghosh, Super-Calogero model with Osp(2|2) supersymmetry : is the construction unique?, Nuclear Physics **B681** (2004) 359-373(hep-th/0309183).

3. B. Basu-Mallick, Pijush K. Ghosh and Kumar S. Gupta, Novel quantum states

of the rational Calogero Models without the confining interaction, Nucl. Phys. **B659** (2003) 437-457 (hep-th/0207040).

4. Pijush K. Ghosh, Conformal symmetry and the nonlinear Schroedinger equation, Physical Review **A65** (2002) 012103 (cond-mat/0102488).

5. Pijush K. Ghosh, Super-Calogero-Moser-Sutherland systems and free super-oscillators : a mapping, Nuclear Physics **B595** (2001) 519-535 (hep-th/0007208).

6. G. Date, Pijush K. Ghosh and M. V. N. Murthy, Novel classical ground state of a many-body system in arbitrary dimensions, Physical Review Letters **81** (1998) 3051-3054 (cond-mat/9802302).

7. Pijush K. Ghosh, Avinash Khare and M. Sivakumar, Supersymmetry, shape invariance, and solvability of A_{N-1} and BC_N Calogero-Sutherland model, Physical Review **A 58** (1998) 821-825 (cond-mat/9710206).

8. Pijush K. Ghos**h**, Self-dual gauged CP^N models, Physics Letters **B 384** (1996) 185-189 (hep-th/9603122).

9. Pijush K. Ghosh and Sanjay K. Ghosh, Topological and nontopological solitons in a gauged O(3) sigma model with a Chern-Simons term, Physics Letters **B 366** (1996) 199-204 (hep-th/9507015).

10. Pijush K. Ghosh, Avinash Khare and Prasanta K. Panigrahi, The B ^ F Term by spontaneous symmetry breaking in a generalized abelian Higgs Model, Journal of Physics G: Nuclear and Particle Physics **21** (1995) 1303-1305 (hep-th/9407150).

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