



Curriculum Vitae of Subinay Dasgupta

1. **Name and present address** : Subinay Dasgupta, Department of Physics, University of Calcutta, 92 APC Road, Kolkata 700 009
2. **Email** : subinay dot dasgupta at gmail at com
3. **Year of Birth** : 1957
4. **Category** : General
5. **Academic Qualification** :

	Degree	Year	Subject	University/Institution	% of marks
1.	Higher Secondary	1974		Hindu School	Ranked 7th
2.	B. Sc (Hons.)	1977	Physics (Hons), Mathematics, Chemistry	University of Calcutta	63.3
3.	M. Sc.	1979	Physics	University of Calcutta	71.2 (ranked fist)
4.	Ph. D	1986		Jadavpur University	

6. **Work experience** :

S. No.	Positions held	Name of the Institute	From	To
1	Lecturer	Anandamohan College	01.04.1986	06.02.1989
2	Lecturer	University of Calcutta	07.02.1989	31.03.91
3	Sr Lecturer	University of Calcutta	01.04.1991	25.06.96
4	Reader	University of Calcutta	26.06.1996	25.06.2004
5	Professor	University of Calcutta	26.06.2004	now

7. **Research Area** : Statistical Physics (Classical and Quantum Ising Systems, Networks) and Quantum Mechanics (Measurement Problem)

8. Details of Talks Delivered during the last 5 years

- (i) Delivered an Invited Talk at the International Conference entitled “Driven Quantum Systems” held at Indian Association for the Cultivation of Science, Kolkata (India) during February 19 - 21 (2018). The title of my talk was “Magnetisation Dynamics in Transverse Ising Chain” and was delivered on 20th February, 2018.
- (ii) Delivered a Talk at the 5th Indian Statistical Physics Community Meeting 2018 held at ICTS-TIFR, Bangalore (India) during February 16 - 18 (2018). The title of my talk was “Distribution of waiting time in traffic congestion” and was delivered on 16th February, 2018.
- (iii) Delivered an Invited Talk at the International Conference entitled “Search and Problem Solving by Random Walks : Drunkards vs Quantum Computers” held at Physikzentrum, Bad Honnef (Germany) during May 28 - June 1 (2018). The conference was supported and financed by the Wilhelm and Else Heraeus Foundation. The title of my talk was “Some Aspects of the First Passage Problem in Quantum Systems” and was delivered on 31 May, 2018.
- (iv) Delivered a seminar at University of Duisburg-Essen (Fakultat für Physik, Physik von Transport und Verkehr), Germany entitled “Urban Traffic Congestion and Aggressiveness of Drivers” on 7 June, 2018.
- (v) Delivered a seminar at University of Saarland (Department of Theoretical Physics), Germany entitled “Magnetisation Dynamics in Transverse Ising Chain” on 20 June, 2018.
- (vi) Delivered a Colloquium at Harish Chandra Research Institute (Allahabad) on 26th October, 2016 entitled “Dynamics of a Quantum Spin Model out of Equilibrium”.
- (vii) Delivered a seminar at Institute of Mathematical Sciences (Chennai) on 11th March 2016 entitled “First Occurrence Problem in Quantum Mechanics”.
- (viii) Delivered a seminar at a Conference jointly organised by Academia Sinica and Calcutta University on 7th October, 2015 at Kolkata entitled “Quantum First Passage Problem”.
- (ix) Delivered a seminar at a Conference CMDays organised by University of Calcutta at Kolkata on 27th August 2014 entitled “Dynamics of Some Quantum Spin Models”.

9. Research Supervision

- (a) Anjan Kumar Chandra, UGC research fellow, Ph.D. degree obtained in 2008. Associate Supervisor : None, Joint Supervisor : None
- (b) Shrabanti Dhar, CSIR research fellow, Ph.D. degree obtained in 2017. Associate Supervisor : None, Joint Supervisor : None
- (c) Sirshendu Bhattacharyya, part-time research scholar, full-time faculty at R.R.R. Mahavidyalaya, Radhanagar, Hooghly (UGC Recognised UG College). Ph.D. degree obtained in 2018. Associate Supervisor : None, Joint Supervisor : None

10. Projects Undertaken :

- (a) Title : *De-congesting India's transportation networks using mobile devices*
Sanctioned by Informtaion Technology Research Academy (Ministry of Communications and Information Technology, Govt. of India)
Tenure : 2015 - 2018
Other Institutions participating in this project (with separate budgets) are IIT (Madras), IIMSc (Chennai), IIM (Bangalore), NIT (Trichy).

- (b) UGC-UPE scheme, Rs. 50 lakhs was sanctioned for five projects from five Departments. Myself was the Principal Investigator of one of these projects, which also involved Drs. P. Sen, A. Bhattacharyya, and J. Saha from this department. Tenure 2007 - 2012
- (c) Title : *Some studies on static and dynamic properties of classical and quantum Ising model*
Sanctioned by : CSIR, Tenure : 2008 - 2011, Amount : Rs. 6,83,833/-
- (d) Title : *Computer Simulation of Biological Ageing*
Sanctioned by AICTE, Tenure : 1997 - 2000, Amount : Rs. 5 Lakhs

11. Present Research Collaborators :

- (a) Prof. Abhishek Dhar, (ICTS-TIFR, Bangalore)
- (b) Prof. Sitabhra Sinha (Institute of Mathematical Sciences, Chennai)

12. Personal Note : Spent five decades in north Kolkata. Presently live in Ballygunge with wife and son. Prefer to be contacted by e-mail. Not in Facebook.

Complete List of Publications

1. S. Bhattacharyya and S. Dasgupta, Dynamics in quantum Ising chain driven by inhomogeneous transverse magnetization, *Eur. Phys. J. B* **90** 140 (1-7) (2017).
2. S. Dhar and S. Dasgupta, Measurement-Induced Phase Transition in a Quantum Spin System, *Phys. Rev. A (Rapid Communication)* **93**, 050103 (1-5) (R) (2016).
3. S. Bhattacharyya, S. Dasgupta and A. Das, Signature of a continuous quantum phase transition in nonequilibrium energy absorption: Footprints of criticality on higher excited states, *Scientific Reports*, **5**, 16490 (1-9) (2015).
4. S. Dhar, S. Dasgupta, A. Dhar and D. Sen, Detection of a quantum particle on a lattice under repeated projective measurements, *Phys. Rev. A* **91**, 062115 (1-10) (2015).
5. S. Dhar, S. Dasgupta and A. Dhar, Quantum time of arrival distribution in a simple lattice model, *J. Phys. A* **48**, 115304 (1-9) (2015).
6. R. Singh, S. Dasgupta and S. Sinha, Extreme variability in convergence to structural balance in frustrated dynamical systems, *EPL* **105**, 10003 (p1 - p6) (2014).
7. S. Bhattacharyya, A. Das, S. Dasgupta, Transverse Ising Chain under Periodic Instantaneous Quenches: Dynamical Many-Body Freezing and Emergence of Slow Solitary Oscillations, *Phys. Rev. B* **86**, 054410 (1-7) (2012).
8. R. Singh, S. Dasgupta and S. Sinha, Chimera order in spin systems, *EPL* **95**, 10004 (p1-p5) (2011).
9. N. Pradhan, S. Dasgupta and S. Sinha, Modular organization enhances the robustness of attractor network dynamics, *EPL* **94**, 38004 p1-p6 (2011).
10. A. Ganguli and S. Dasgupta, Phase transition in a Quantum Ising Model with Long Range Interaction, A. Ganguli and S. Dasgupta, published in *Proceedings of International Workshop on Quantum Phase Transition and Dynamics : Quenching, Annealing and Quantum Computation*, Lecture Notes in Physics, Vol. 802, Chapter 12, p. 251 - 266 (Springer-Verlag, 2010).
11. A. Ganguli and S. Dasgupta, Phase Transition in a Long Range Antiferromagnetic Model, *Phys. Rev. E* **80**, 031115 (1-3) (2009).

12. S. Dasgupta, R. K. Pan, and S. Sinha, Phase of Ising spins on modular networks analogous to social polarization, *Phys. Rev. E* **80**, 025101(R) (2009).
13. A. K. Chandra and S. Dasgupta, Multidimensional persistence behaviour in an Ising system, *Phys. Rev. E* **77**, 031111 (1-5) (2008).
14. A. K. Chandra and S. Dasgupta, Floating Phase in 2D ANNNI Model, *J. Phys. A* **40**, 6251-6265 (2007).
15. A. K. Chandra and S. Dasgupta, Spin-spin correlation in some excited states of the transverse Ising model, *J. Phys. A* **40**, 5231-5239 (2007).
16. P. K. Das, S. Dasgupta and P. Sen, Dynamics of unvisited sites in presence of mutually repulsive random walkers, *J. Phys. A* **40**, 6013-6022 (2007).
17. A. K. Chandra and S. Dasgupta, Floating phase in the one-dimensional transverse axial next-nearest- neighbour Ising model, *Phys. Rev. E* **75**, 021105 (2007).
18. A. K. Chandra and S. Dasgupta, A Small World Network of Prime Numbers, *Physica A* **357**, 436-446 (2005).
19. P. Sen and S. Dasgupta, Persistence and dynamics in ANNNI chain, *J. Phys. A* **37**, 11949-11956 (2004).
20. P. Sen, S. Dasgupta, A. Chatterjee, P. A. Sreeram, G. Mukherjee and S. S. Manna, Small-world properties of the Indian Railway Network, *Phys. Rev. E* **67**, 036106 (2003).
21. S. Dasgupta, Computer Simulation of Biological Ageing - A Bird's-Eye View, *Physica Scripta* **T106**, 19-20 (2003).
22. P. Sen and S. Dasgupta, Short-time scaling in the critical dynamics of an antiferromagnetic Ising system with conserved magnetisation, *J. Phys. A*, **35**, 2755-60 (2002).
23. C. Mischler, J. Baschnagel, S. Dasgupta and K. Binder, Structure and dynamics of thin polymer films : A case study with the bond-fluctuation model, *Polymer* **43**, 467-476 (2002).
24. S. Dasgupta, Analysis of predominance of sexual reproduction and quadruplicity of bases by computer simulation, *Int. J. Mod. Phys. C* **12**, 1055-65 (2001).
25. S. Dasgupta, Why sexual reproduction ? Why four bases ? *Physica A* **298**, 465-470 (2001).
26. S. Dasgupta, Fluctuation of population in Penna model, *Theory in Biosciences* **120**, 29-32 (2001).
27. S. Dasgupta, A model of aggregation and dissociation, *J. Phys. A : Math. Gen.* **33**, L339 - L344 (2000).
28. S. Dasgupta, Quantum hopping models for kinetic processes, *Phys. Rev. E*, **62**, 2945-2948 (2000).
29. P. Sen, S. Dasgupta and D. Stauffer, Dynamics of antiferromagnetic Ising model with fixed magnetisation, *Eur. Phys. J. B* **1**, 107-110 (1998).
30. S. Dasgupta, Genetic crossing vs cloning by computer simulation, *Int. J. Mod. Phys. C* **8**, 605-608 (1997).
31. S. Dasgupta, Ising metamagnet under staggered field, *J. Stat. Phys.* **81**, 837-842 (1995).
32. W. Selke and S. Dasgupta, Magnetization anomaly in Ising metamagnets, *J. Magn. Magn. Mater.* **147**, L245-L249 (1995).

33. S. Dasgupta, D. Stauffer and V. Dohm, Boundary effects in the three dimensional Ising model, *Physica A* **213**, 368-375 (1995).
34. S. Dasgupta, A Computer Simulation for Biological Ageing, *J. de Physique I (France)* **4**, 1563-1570 (1994).
35. S. Vollmar and S. Dasgupta, A model for ageing with hereditary mutations, *J. de Physique I (France)* **4**, 817-822 (1994).
36. S. Dasgupta, Monte Carlo simulation of the shape space model of immunology, *Physica A* **189**, 403-410 (1992).
37. P. Sen, S. Chakrabarty, S. Dasgupta and B.K. Chakrabarti, Numerical estimate of the phase diagram of finite ANNNI chains in transverse field, *Z. Phys. B*, **88**, 333-338 (1992).
38. N. Bhattacharyya and S. Dasgupta, Statistical mechanics of the 1D ferromagnetic ANNNI chain under an external field : revisited, *J. Phys. A* **24**, 3927-34 (1991).
39. S. Dasgupta, On the BNNNI model in free fermion approximation, *J. Phys. A* **24**, 1017-21 (1991).
40. S. Dasgupta, On the 2D ANNNI model in free fermion approximation, *Phys. Lett. A* **146**, 181-4 (1990).
41. S. Dasgupta, P. Mitra and S. Sengupta, More on inverse sprinklers, *European J. Phys.* **11**, 311 (1990).
42. B. Pal and S. Dasgupta, Monte-Carlo phase diagram of an Ising system with isotropic competing interaction, *Z. Phys. B* **78**, 489-92 (1990).
43. S. Dasgupta, Specific heat anomaly of superionic fluorites - A dynamical approach, *Phys. Lett. A* **133**, 501-5 (1988).
44. S. Dasgupta, Elastic anomalies of superionic fluorites - A dynamical approach, *J. Phys. C* **21**, L1011-4 (1988).
45. S. Dasgupta and S. Sengupta, Correct formulation of lattice dynamics of molecular crystals, *J. Phys. C* **20**, 1611-7 (1987).
46. S. Dasgupta and S. Sengupta, Antipiezoelectricity in fluorite structure : Macroscopic quadrupole moment distribution, *Solid State Commun.* **62**, 789-90 (1987).
47. S. Ghosh and S. Dasgupta, Theoretical study of superionic SrCl₂ below critical temperature by a simple model, *Phys. Rev. B* **35**, 4416-9 (1987).
48. S. Dasgupta, D. Sen and S. Sengupta, A simple approach to evaluation of lattice sums, *Pramana* **25**, 597-601 (1985).
49. S. Dasgupta and S. Sengupta, Homogeneous deformation theory for piezoelectric crystals using Ewald transformation and relationships among electrostatic contributions to second- and third-order elastic constants, *Phys. Rev. B* **31**, 8275-9 (1985).
50. S. Dasgupta and S. Sengupta, Homogeneous deformation theory for noncentrosymmetric ionic crystals in quadratic response regime : Antipiezoelectricity, *Phys. Lett. A* **107**, 266-8 (1985).
51. S. Dasgupta and S. Sengupta, Homogeneous deformation theory for piezoelectric crystals, *J. Phys. C* **18**, 2209-15 (1985).
52. S. Dasgupta and S. Sengupta, Evaluation of a new lattice sum, *J. Phys. C* **18**, L47-50 (1985).

53. S. Dasgupta, A. N. Basu and A. Basu, Three body interaction and fluorite structure : Elastic properties of CaF₂, SrF₂, and BaF₂, Phys. Rev. B **30**, 7255-60 (1984).
54. S. Dasgupta, Homogeneous deformation theory with three body interaction : Second- and third-order elastic constants of noncentrosymmetric crystals, Phys. Rev. B **30**, 7250-4 (1984).