

## List of Publications of Parongama Sen

### A. Published book

1. *Sociophysics: An Introduction*, P. Sen and B. K. Chakrabarti (Oxford University Press, Oxford) 2013.
2. *Quantum Ising Phases and Transitions in Transverse Ising models*, Lecture Notes in Physics **M41**, B. K. Chakrabarti, A. Dutta and P. Sen (Springer-Verlag) 1996.

### B. Papers in refereed journals.

1. Critical noise can make the minority candidate win: The U.S. presidential election cases, S. Biswas and P. Sen, Phys. Rev E (in press).
2. Zero temperature coarsening in Ising model with asymmetric second neighbor interaction in two dimensions, P. Mullick and P. Sen, Phys. Rev. E **95**, 052150 (2017).
3. Interplay of interfacial noise and curvature-driven dynamics in two dimensions, P. Roy and P. Sen, Phys Rev E **95**, 020101(R) (2017).
4. An empirical analysis of the Ebola outbreak in West Africa, A. Khaleque and P. Sen, Scientific Reports **7**, Article number: 42594 (2017).
5. Minority spin dynamics in the non-homogeneous Ising model: Diverging timescales and exponents, P. Mullick and P. Sen, Physical Review E, **93** 052113 (2016).
6. Annual Journal citation indices: a comparative study, A. Khaleque, A. Chatterjee and P. Sen, Journal of Scientometric Research **5** 25 (2016).
7. Condensation transition in a conserved generalized interacting zero range process, A. Khaleque and P. Sen, Physical Review E **93** 042102 (2016).
8. Continuous utility factor in segregation models, Parna Roy and P. Sen, Phys. Rev. E **93** 022310 (2016).
9. Frozen states and active-absorbing phase transitions of the Ising model on networks. A. Khaleque and P. Sen, Journal of Complex networks (doi: 10.1093/comnet/cnv024; 2015). first published online October 6, 2015. Journal publication: **4** (3): 330-341 (2016)

10. Maximizing the strength of fiber bundles under uniform loading, Soumyajyoti Biswas and P. Sen, *Phys. Rev. Lett.* **115**, 155501 (2015).
11.  $A + A \rightarrow \emptyset$  model with a bias towards nearest neighbor P Sen and P Ray, *Physical Review E* **92**, 012109 (2015).
12. Exit probability in generalised kinetic Ising model, P. Roy and P. Sen, *J. Stat. Phys.* **159**, 893 (2015).
13. Effect of randomness in logistic maps, A. Khaleque and P. Sen, *Int. J. Mod. Phys. C* **26**, 1550086 (2015).
14. Universal features of exit probability in opinion dynamics models with domain size dependent dynamics, P. Roy, S. Biswas and P. Sen, *J. Phys. A* **47** 495001 (2014).
15. Agent based models for wealth distribution with preference in interaction, S. Goswami and P. Sen, *Physica A* **415**, 514 (DOI: 10.1016/j.physa.2014.08.018) (2014).
16. Damage spreading transition in an opinion dynamics model, A. Khaleque and P. Sen, *Physica* **413**, 599, (DOI: 10.1016/j.physa.2014.07.021) (2014).
17. Exit probability in inflow dynamics: Nonuniversality induced by range, asymmetry, and fluctuation. P. Roy, S. Biswas and P. Sen. *Phys. Rev. E* **89**, R030103 (2014).
18. Opinion dynamics model with weighted influence: Exit probability and dynamics, S. Biswas, S. Sinha and P. Sen, *Phys. Rev. E* **88**, 022152 (2013).
19. Susceptible-Infected-Recovered model on Euclidean network, A Khaleque and P. Sen, *Journal of Physics A* **46**, 095007 (2013).
20. Quantum random walk: Effect of quenching, S. Goswami and P. Sen, *Phys. Rev. A* **86**, 022314 (2012).
21. Nonconservative kinetic exchange model of opinion dynamics with randomness and bounded confidence, P. Sen, *Phys. Rev. E* **86**, 016115 (2012).
22. Disorder induced phase transition in kinetic models of opinion dynamics, S. Biswas, A. Chatterjee, P. Sen, *Physica A* **391**, P 3257-3265 (2012).
23. Effect of the nature of randomness on quenching dynamics of the Ising model on complex networks, S. Biswas and P. Sen, *Phys. Rev E* **84**, 066107 (2011).
24. Antipersistent dynamics in kinetic models of wealth exchange, S. Goswami, A. Chatterjee and P. Sen, *Phys. Rev. E* **84**, 051118 (2011).
25. Novel ballistic to diffusive crossover in the dynamics of a one dimensional Ising model with variable range of interaction, S. Biswas and P. Sen, *J. Phys. A* **44**, 145003 (2011).

26. Complex Networks: effect of subtle changes in nature of randomness, S. Goswami, S. Biswas and P. Sen, *Physica A* **390**, 972 (2011).
27. Phase transitions in a two parameter model of opinion dynamics with random kinetic exchanges, P. Sen, *Phys. Rev. E* **83**, 16108 (2011).
28. Agent dynamics in kinetic models of wealth exchange, A. Chatterjee and P. Sen, *Phys. Rev. E* **82**, 056117 (2010).
29. Noise driven dynamic phase transition in a one-dimensional Ising-like model, P. Sen, *Phys. Rev E* **81**, 032103 (2010)
30. Quantum Persistence: A Random Walk Scenario , S. Goswami, P. Sen and A. Das, *Phys. Rev. E* **81**, 021121 (2010).
31. Model of binary opinion dynamics: coarsening and effect of disorder, Soham Biswas and P. Sen, *Phys. Rev. E* **80**, 027101 (2009) (also selected for the September 1, 2009 issue of *Virtual Journal of Biological Physics Research*).
32. Zero-temperature dynamics in the two-dimensional axial next-nearest-neighbor Ising model, Soham Biswas, Anjan Kumar Chandra, and Parongama Sen, *Phys. Rev. E* **78**, 041119 (2008).
33. Effect of a static phase transition on searching dynamics, K. Basu Hajra and P. Sen, *J. Stat. Mech.* P06015 (2007).
34. A novel approach to study realistic navigations on networks, P. Sen, *J. Stat. Mech.* P04007 (2007).
35. Dynamics of unvisited sites in presence of mutually repulsive random walkers, P. K. Das, S. Dasgupta and P. Sen, *J. Phys. A: Math. Theor.* **40** (2007), 6013-6022.
36. Modelling temporal and spatial features of collaboration network, Anjan Kumar Chandra, Kamalika Basu Hajra, Pratap Kumar Das, Parongama Sen, *Int. J. Mod. Phys. C* **18**, 1157 (2007).
37. Phase transitions in an Ising model on a Euclidean network, A. Chatterjee and P. Sen, *Phys. Rev E* **74**, 036109 (2006).
38. Modelling Aging Characteristics in Citation Networks, K. Basu Hajra and P. Sen, *Physica A*, **368**, 575 (2006).
39. Zero temperature dynamics of Ising model on a densely connected small world network P. K. Das and P. Sen, *Eur. Phys. J. B*, **47** 306 (2005).
40. Aging in citation networks, K. Basu Hajra and P. Sen, *Physica A* **346**, (2005) 44.
41. Persistence and dynamics in ANNNI chain, P.Sen and S.Dasgupta, *J. Phys. A* **37**, 11949-11956 (2004).

42. Phase transitions in an aging network, K. Basu Hajra and P. Sen, Phys. Rev. E **70** 056103 (2004).
43. Probability distribution of persistent spins in a Ising chain, P. K. Das and P. Sen, J. Phys A **37** 7179 (2004).
44. Accelerated growth in outgoing links in evolving networks: deterministic vs. stochastic picture, P. Sen, Physical Rev. E **69** 046107 (2004).
45. Scale-free network on a vertical plane, S. S. Manna, G. Mukherjee and P. Sen, Physical Review E **69** 017102 (2004).
46. Clustering properties of a generalised critical Euclidean network, P. Sen and S. S. Manna, Phys. Rev. E **68** 026104 (2003).
47. Small-world properties of the Indian railway network, P. Sen S. Dasgupta, A. Chatterjee, P. A. Sreeram, G. Mukherjee, S. S. Manna Phys. Rev. E **67** 036106 (2003).
48. Persistence in an antiferromagnetic Ising system with conserved magnetisation, Moumita Saharay and P. Sen, Physica A **318** 243 (2003).
49. Modulated Scale-free Network in the Euclidean Space, S. S. Manna and P. Sen, Phys. Rev. E **66** 066114 (2002).
50. Phase transitions in a network with range dependent connection probability, P. Sen, K. Banerjee and T. Biswas, Phys. Rev. E **66** 037102 (2002).
51. Is there a true model-D critical dynamics? P. Sen and S. M. Bhattacharjee J. Phys. A **35**, L141 (2002).
52. Short-time scaling in the critical dynamics of an antiferromagnetic Ising system with conserved magnetization, P. Sen and S. Dasgupta, J. Phys. A **35** , 2755 (2002).
53. Nature of largest size distribution at the percolation threshold, P. Sen J. Phys. A **34** 8487 (2001).
54. Small-world phenomena and the statistics of linear polymers, P. Sen and B. K. Chakrabarti, J. Phys. A **34** 7749 (2001).
55. Quantum fluctuation induced spatial stochastic resonance at zero temperature, P. Sen, Phys. Rev. E **63** R040101 (2001).
56. Quantum Phase Transitions in the Ising model in a spatially modulated field, P. Sen, Phys. Rev. E **63** 016112 (2001).
57. On the universality of distribution of ranked cluster masses at critical percolation, P. Sen, J. Phys. A **32** 7673 (1999).
58. Comparative distribution of spanning cluster masses in different dimensions, P. Sen, Int. J. Mod. Phys. C **10** 747 (1999).

59. Non-local conservation in the coupling field: effect on critical dynamics, P. Sen, J. Phys. A **32** 1623 (1999).
60. Dynamics of Antiferromagnetic Ising Model with fixed Magnetisation, P. Sen, S. Dasgupta and D. Stauffer, Eur. Phys. J. B **1** 107 (1998).
61. Universal mass ratios in non-unique spanning clusters in percolation, P. Sen and A. Aharony, Int J. Mod. Phys. C **8** 1169 (1997).
62. Metastability in Monte Carlo Simulation of 2D Ising films and Fe Monolayer strips, P. Sen, D. Stauffer and U. Gradmann, Physica A **245** 361 (1997).
63. Cluster-cluster correlations in random percolation, P. Sen, Physica A **242** 8 (1997).
64. Application of the interface approach in quantum Ising models, P. Sen, Phy. Rev. B **55** (1997) 11367.
65. Probability distribution and sizes of spanning clusters, P. Sen, Int. J. Mod. Phys. C, **8** (1997) 229.
66. Statistics of red sites on elastic and full backbone, P. Sen, Physica **A238** 39 (1997).
67. Non-uniqueness of spanning clusters in two to five dimensions, P. Sen, Int. J. Mod. Phys. C, **7** (1996) 603.
68. Hysteresis in a quantum spin model, V. Banerjee, S. Dattagupta and P. Sen, Phys. Rev. E, **52** (1995) 1436.
69. Order disorder transitions in Ising systems in transverse field with second neighbour interaction, P. Sen, Z. Phys. B **98** (1995) 251.
70. Ground state properties of a one-dimensional frustrated XY model, P. Sen, Physica **A186** (1992) 306.
71. Frustrated transverse Ising models : a class of frustrated quantum systems, P. Sen and B. K. Chakrabarti, Int. J. Mod. Phys. B **6** (1992) 2439.
72. Numerical estimate of the phase diagram of finite ANNNI chains in transverse fields P. Sen, S. Chakrabarti, S. Dasgupta and B. K. Chakrabarti), Z. Phys. B **88** (1992) 33.
73. Extended memory loading capacity in a neural network model with delayed time interaction, P. Sen and B. K. Chakrabarti, Phys. Lett. A **162** (1992) 327.
74. Growth of correlation in the Hopfield model, P. Sen, J. Stat. Phys. **67** (1992) 413.
75. Critical properties of a one-dimensional frustrated quantum magnetic model, P. Sen and B. K. Chakrabarti, Phys. Rev. B **43** (1991) 13559.

76. Longest path in percolation on hierarchical lattice, P. Sen and P. Ray, J. Stat. Phys. **59** (1990) 1573.
77. Available phase space and robustness of a layered feed forward neural network, P. Sen and B. K. Chakrabarti, Phys. Rev. A **40** (1989) 4700.
78. Ising models with competing axial interactions in transverse fields, P. Sen and B. K. Chakrabarti, Phys. Rev. B **40** (1989) 760.
79. Travelling salesman problem on dilute lattices : visit to a fraction of cities, P. Sen and B. K. Chakrabarti, J. Phys. Paris **50** (1989) 255.

### C. Papers in conference proceedings.

1. Spanning clusters in percolation, Proceedings of the Solid State P. Sen, Physics Symposium **41** 22 (1998).
2. Phase Transitions in Euclidean networks, P. Sen, Physica Scripta **T106** 55 (2003).
3. Directed Accelerated Growth: Application in Citation Network, P. Sen, Physica A **346** (2005) 139.
4. Euclidean networks and Dimensionality, P. Sen in Recent developments in Theoretical Physics, eds. S. Ghosh and G. Kar (Platinum Jubilee series of ISI, India) World Scientific (2010) p 375.
5. Realistic searches on stretched exponential networks, Pramana **71** 313 (2008).
6. Funnelling effect in networks, Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering **5** p. 1719 (Proceedings of Complex 2009, published by Springer, 2010)
7. Opinion dynamics model with domain size dependent dynamics: novel features and new universality class, Soham Biswas, Parongama Sen, Purusattam Ray, Journal of Physics : Conference Series, **297** 012003 (2011)

### D. Articles/Chapters in Books.

1. P. Sen and P. K. Das, Dynamical frustration in ANNNI model and annealing, in *Quantum Annealing and Related Optimisation Methods* ed. A. Das and B. K. Chakrabarti, Springer Verlag 2005.
2. Complexities of social networks: a physicist's perspective, in *Econophysics and Sociophysics: Trends and perspectives* ed. B. K. Chakrabarti, A. Chakrabarti and A. Chatterjee, Wiley-VCH 2006

## **E. Edited Journal volumes**

1. Physica A: Statistical Mechanics and its Applications, Volume 346, Issues 1-2, February 2005, Eds. Subhrangshu Sekhar Manna, Parongama Sen
2. Physica A: Statistical Mechanics and its Applications, Volume 384, Issue 1, October 2007, Eds. Parongama Sen, Pradeep Kumar Mohanty
3. Journal of Physics Conference Series. Vol 297, May 2011; coedited with J. K. Bhattacharjee, Bikas K. Chakrabarti and J. Inoue