LIST OF PUBLICATIONS (Deepak Dhar)

A. Self- Organized Criticality

1. An exactly solved model of self-organized critical phenomena, (+ R. Ramaswamy), Phys. Rev. Lett. **63** (1989) 1659.

2. Self-organized critical state of sandpile automaton models, Phys. Rev. Lett. **64** (1990) 1613.

3. Abelian sandpile model on the Bethe lattice, (+ S. N. Majumdar), J. Phys. **A23** (1990) 4333.

4. A simple soluble model of self-organized criticality in *Current Trends in Condensed Matter, Particle Physics and Cosmology*, Eds. J. Pati, Q. Shafi, S. Wadia and Yu Lu, (World Scientific, Singapore, 1990) p117.

5. Height correlations in the abelian sandpile model,(S. N. Majumdar +), J. Phys. **A24** (1991) L357.

6. The abelian sandpile model of self -organized criticality, in *Computer -aided studies of statistical physics*, AIP conference proceedings **248**, (Taipei, 1991), Ed. C. K. Hu (AIP, New York, 1992).

7. Equivalence of the abelian sandpile model and the $q \to 0$ limit of the Potts model, (S. N. Majumdar +) Physica **A185** (1992) 129.

8. Sandpiles and self-organized criticality, Physica **A186** (1992) 82.

9. Spanning trees in two dimensions, (S. S. Manna, D.D. and S. N. Majumdar), Phys. Rev. **A46** (1992) R4471.

10. Inverse avalanches in the abelian sandpile model, (+ S. S. Manna) Phys. Rev. **E49** (1994) 2684.

11. Breakdown of simple scaling in Abelian sandpile models in one dimension , (A. A. Ali +), Phys. Rev. **E51** (1995) R2705. [cond-mat 9412085]

12. Algebraic aspects of Abelian sandpile models, (+ P. Ruelle, S. Sen, D. N. Verma) J. Phys. **A28** (1995) 805. [cond-mat 9408022]

13. Structure of avalanches and breakdown of simple scaling in Abelian sandpile model in one dimension, (A. A. Ali +), Phys. Rev. **E52** (1995) 4804.

14. Extended operator algebra for abelian sandpile models, Physica **A 224** (1996) 162.

15. Eulerian walkers as a model of self-organized criticality, (V. B. Priezzhev, A. Dhar, S. Krishnamurthy +), Phys. Rev. Lett., **77** (1996) 5079. [cond-mat 9611019]

16. Distribution of sizes of erased loops for loop-erased random walks, (+ A. Dhar), Phys. Rev. **E55** (1997) R2093. [cond-mat 9704026]

17. Emergent spatial structures in critical sandpiles, (B. Tadic +), Phys. Rev. Lett. **79** (1997) 1519. [cond-mat 9707151].

18. The abelian sandpile and related models, Physica **A 263** (1999) 4. [cond-mat 9808047]

19. Some results and a conjecture for Manna's stochastic sandpile model, Physica **A 270** (1999) 69. [cond-mat 9902137]

20. Studying Self-Organized Criticality with Exactly Solved Models. [cond-mat 9909009]

21. An Introduction to Self-organized Criticality, in *Condensed Matter-Physics*, Eds. B. K. Agrawal and H. Prakash, Proceedings of the K. S. Krishnan Symposium, Univ. of Allahabad, Dec. 1998, (Narosa, New Delhi, 1999).

22. Continuously varying critical exponents in a sandpile model with dissipation near surface, (S. Lubeck +), J. Stat. Phys., **102** (2001) 1. [cond-mat 0006490]

23. Distribution of sizes of erased loops of loop-erased random walks in two and three dimensions (H. Agrawal +), Phys. Rev. **E 63** (2001) 056115. [cond-mat 0012102]

24. Probability distribution of sizes of largest erased loops in loop-erased random walks (H. Agrawal +), Phys. Rev. **E 65**(2002) 031108. [cond-mat 0107246]

25. Sandpile models with directed percolation exponents, (P. K. Mohanty +), Phys. Rev. Lett., **89** (2002) 104303. [cond-mat 0202345]

B. Relaxation and hysteresis in magnets

1. Long-time relaxation in disordered Ising chains, (+ M. Barma), J. Appl. Phys. **50** (1979) 7407.

2. Effect of disorder on relaxation in the one-dimensional Glauber model, (+ M. Barma), J. Stat. Phys. **22** (1980) 259.

3. Central peak in the density of states of a disordered linear chain, Physica **102A** (1980) 370.

4. Stochastic evolution in Ising models, in *Stochastic Processes: Formalism and Applications*, Eds. G. S. Agarwal and S. Dattagupta, Lecture Notes in Physics **184** (Springer, Berlin, 1983), p.300.

5. 'Non-Debye relaxation in disordered systems', in *Non-Debye Relaxation in Condensed Matter*, Eds. T. V. Ramakrishnan and M. Rajlakshmi, (World Scientific, Singapore, 1987) p.381.

6. Dynamic Griffiths singularities in disordered Ising models (+ M. Randeria and J. P. Sethna), Europhys. Lett. **5** (1988) 485.

7. Hysteresis and self-organized criticality in the O(N) model in the limit $N \to \infty$, (+ P. B. Thomas), J. Phys. **A25** (1992) 4967.

8. Self-organized criticality with continuously varying critical exponents, (+ P. B. Thomas), Europhys. Lett. **29** (1993) 965.

9. Hysteresis in isotropic spin systems, (P. B. Thomas +), J. Phys **A26** (1993) 3973.

10. The relaxation to equilibrium in one-dimensional Potts models, J. Indian Inst. Science, **75** (1995) 297.

11. Zero-temperature hysteresis in random-field Ising model on a Bethe lattice, (+ P. Shukla and J. P. Sethna), J. Phys. **A30** (1997) 5259 [cond-mat 9611028].

12. Distribution of avalanche sizes in the hysteretic response of random-field Ising model on Bethe lattice (S. Sabhapandit, P. Shukla +), J. Stat. Phys. **98** (2000) 103. [cond-mat 9905236]

13. Hysteresis in the random-field Ising model and bootstrap percolation, (S. Sabhapandit, D.D. and P. Shukla), Phys. Rev. Lett., **88** (2002) 197202. [cond-mat 0204618]

C. Relaxation in systems with strongly broken ergodicity

1. Conservation laws for stochastic deposition-evaporation models in one dimension, (+ M. Barma), Pramana, **41** (1993) L193.

2. Slow relaxation in a model of deposition and evaporation in one dimension,(M. Barma + D.D.) (long abstract), Proc. Solid State Physics Symposium, (Bhabha Atomic Research Centre, Bombay, Dec. 27-31,1993) **36-C**,489.

3. Slow relaxation in a model with many conservation laws: deposition and evaporation of trimers on a line, (M. Barma +), Phys. Rev. Lett. **73** (1994) 2135. [cond-mat 9408031]

4. Numerical diagonalization study of the trimer evaporation - deposition model in one dimension, (P. B. Thomas, M. K. Hari Menon +), J. Phys. **A27** (1994) L831. [cond-mat 9404028]

5. The irreducible string and an infinity of additional constants of motion in a deposition evaporation model on a line, (M. K. Hari Menon +), J. Phys. **A28** (1995) 6517. [cond-mat 9505036]

6. Stochastic dynamics in a deposition - evaporation model on a line, (M. Barma+), Proceedings of the International Colloquium on Modern Quantum Field Theory II, (Bomabay,5-11 Jan.1994), Eds. S. Das, G. Mandal, S. Mukhi, S. R. Wadia (World Scientific, Singapore,1995) p123.

7. Deposition and evaporation of k-mers: dynamics in a many sector decomposable system (M. Barma +), Proc. of Statphys 19 (Xiamen,1995), Ed. B.-L. Hao, (World Scientific, Singapore,1996), p72.

8. Diffusing reconstituting dimers: a simple model of broken ergodicity and ageing, Proc. of 'Dynamics of Fluctuating Interfaces and Related Phenomena' held at Seoul (1997), Eds. D. Kim, H. Park, and B. Kahng, (World Scientific, Singapore, 1997) p293. [cond-mat 9702192]

9. Conservation laws and integrability of a one-dimensional model of diffusing dimers,(G.I. Menon, M. Barma +), J. Stat. Phys. **86** (1997) 1237. [cond-mat 9703059]

10. A model of subdiffusive interface dynamics with a local conservation of minimum height, (H. M. Koduvely +), J. Stat. Phys. **90** (1998) 57. [cond-mat 9704139]

11. Pico-canonical ensembles: a theoretical description of metastable states, to appear in Physica A. [cond-mat 0205011]

D. Percolation and Animal Problems

1. Monte-Carlo simulation of directed percolation on a square lattice,(+ M. Barma) J. Phys. **C14** (1981) L1.

2. Duality transformation for two dimensional directed percolation and resistance problems, (+ M. Barma and M.K. Phani) Phys. Rev. Lett. **47** (1981) 1238.

3. Real - space renormalization group : Application to directed percolation (M.K. Phani +), J. Phys. **C15** (1982) 1391.

4. Diode resistor percolation in two and three dimensions I: Upper bounds on critical probability, J. Phys. **A15** (1982) 1849.

5. Directed percolation in two and three dimension II: Direction dependence of the wetting velocity, J. Phys. **A15** (1982) 1859.

6. Enumeration of directed site animals on two dimensional lattices (+ M. K. Phani and M. Barma), J. Phys. **A15** (1982) L279.

7. Equivalence of the two dimensional directed site animals problem to Baxter's hard square lattice gas model, Phys. Rev. Lett. **49** (1982) 959.

8. Exact solution of a directed site animals enumeration problem in 3 dimensions, Phys. Rev. Lett. **57** (1983) 853.

9. Conductivity of a two dimensional random diode-insulator network (B. M. Arora, M. Barma and M. K. Phani +), J. Phys. **C16** (1983) 2913.

10. Directed percolation and animal problems, in *Science Academy Medals for Young Scientists-Lectures* (Indian National Science Academy, New Delhi, 1983).

11. Directed diffusion in a percolation network,(M. Barma +) J. Phys. **C16** (1983) 1451.

12. Continuum percolation of discs with a distribution of radii, (M. K. Phani +), J. Phys. **A17** (1984) L645.

13. Diffusion and drift in percolation networks in an external field, J. Phys. **A17** (1984) L257.

14. The directed animals and related problems, in *Field Theory, Quantum Gravity and Strings*, Eds. H. J. deVega and N. Sanchez, Lecture Notes in Physics Vol. 246 (Springer, Berlin, 1986).

15. Some exact results for polymer models, Physica **140A** (1986) 210.

16. The collapse of directed animals, J. Phys. **A20** (1987) L847.

17. Rooted spiral trees in dimensions 2, 3 and 4, (I. Bose, P. Ray +), J. Phys. **A21** (1988) L219.

18. Longitudinal size exponent for two dimensional directed animals, J. Phys. **A21** (1988) L893.

19. Melts of semiflexible polymers: the statistical mechanics of lattice models, (G. I. Menon, R. Pandit, M. Barma +), Proc. Solid State Physics Symposium 1990, **33C**, (BARC, Bombay,1991)

20. Enumeration of directed site animals on decorated square lattices, (A. A. Ali +), Turkish J. Phys., **18** (1994) 389.

21. Directed percolation and directed animals, in *Percolation Theory and particle Systems*, p 122, (Univ. Press, Hyderabad, 2000).

22. On the critical density for continuum percolation of spheres of variable radii, Physica **A 242** (1997) 341.

23. An exactly soluble anisotropic directed percolation model in three dimensions, (R. Rajesh +), Phys. Rev. Lett. **81** (1998) 1646. [cond-mat 9808023].

24. Drift and trapping in biased diffusion on disordered lattices,(+ D. Stauffer), Int. J. Modern Phys. **C9** (1998) 349. [cond-mat 9802218].

25. Percolation systems away from the critical point, Pramana, **58** (2002) 419. [cond-mat 0108280].

26. The adsorption and collapse transitions in a linear polymer chain near an attractive wall (R. Rajesh, D.D., Debaprasad Giri, Sanjay Kumar, and Y. Singh), Phys. Rev E. **65** (2002) 056124. [cond-mat 0107510].

E. Real Space Renormalization Group studies on fractals

1. Lattices of effective nonintegral dimensionality, J. Math. Phys. **18** (1977) 577.

2. Self-avoiding random walks: some exactly soluble cases, J. Math. Phys. **19** (1978) 5.

3. On the connectivity index for lattices of nonintegral dimensionality, Pramana **15** (1980) 545.

4. Z_2 gauge models on fractal lattices, J. Phys. **A14** (1981) L185.

5. Fractals, Bull. Material Science, **6** (1984) 817.

6. The collapse of linear polymers, (+ J. Vannimenus), J. Phys. **A20** (1987) 199.

7. Critical exponents of self avoiding walks on fractals with dimensions 2-ϵ, J. Physique (Paris) **49** (1988) 397.

8. Spectral dimensions of Sierpinski gasket type fractals, J. Phys. **A21** (1988) 2261.

9. Polymers on fractal lattices, in *Polymer physics: 25 years of the Edwards' model*, Ed. S. M. Bhattacharjee (World Scientific, Singapore, 1992).

10. Surface adsorption of a self-avoiding polymer chain on a family of finitely ramified fractals, (S. Kumar, Y. Singh +), J. Phys. **A26** (1993) 4893.

F. Eden model, Surface growth and related models

1. Comment on 'Eden model in many dimensions', Phys. Rev. Lett. **54** (1985) 2058.

2. Classical diffusion on Eden trees, (+ R. Ramaswamy), Phys. Rev. Lett. **54** (1985) 1346.

3. The vibrational spectrum of Eden clusters in infinite dimensions, J. Phys. **A18** (1985) L713.

4. The anisotropic shape of Eden clusters, in *On Growth and Form*, Eds. H.E. Stanley and N. Ostrowsky, (Martinus Nijhoff, Boston, 1986).

5. An exactly soluble model of interfacial growth, Phase Transitions **9** (1987) 51.

6. First passage percolation in many dimensions, Phys. Lett. **A130** (1988) 308.

7. Driven depinning in anisotropic media, (L.H. Tang, M. Kardar +) Phys. Rev. Lett., **74** (1995) 920. [cond-mat 9409002]

8. Fractal dimension of backbone of Eden trees, (S. S. Manna +), Phys. Rev. **E 54** (1996) R3063. [cond-mat 9607108]

G. Other papers

1. Line-stretching in turbulence, Phys. Fluids **19** (1976) 1059.

2. Entropy and phase transitions in partially ordered sets, J. Math. Phys. **19** (1978) 1711.

3. Asymptotic enumeration of partially ordered sets, Pacific J. Math. **90** (1980) 299.

4. On the topological characterization of two-dimensional phase transitions, Phys. Lett. **81A** (1981) 19.

5. Phase transition and dimensionality, in *Current Trends in Magnetism*, Eds. N. S. Satyamurthy and L. Madhav Rao (Indian Physics Association, Bombay, 1981).

6. The roughening and related models, in *Physics of Disordered Media*, Ed. P. Shukla (Mittal, Delhi, 1982).

7. Susceptibility of the checkerboard Ising model, (+ J. M. Maillard) J. Phys. **A18** (1985) L383.

8. A Monte-Carlo method for series expansion (+ P. M. Lam), J. Phys. **A19** (1986) L1057.

9. Travelling salesman problem on a randomly diluted lattice (+ M. Barma, B. K. Chakrabarti and A. Taraphder), J. Phys. **A20** (1987) 5289.

10. The Hausdorf dimension of Appolonian packing of circles, (P. B. Thomas +), J. Phys. **A27** (1994) 2257.

11. Absence of local thermal equilibrium in two simple models of heat conduction, (A. Dhar +), Phys. Rev. Lett., **82** (1999) 480. [cond-mat 9811081]

12. Persistence in a stationary time-series (S. N. Majumdar +), Phys. Rev. E. **64** (2001) 046123. [cond-mat 0106365]

H. Books Edited

1. Dynamics of Complex Systems, Proceeedings of a conference held at the S. N. Bose Centre for Basic Sciences, Calcutta (August 6-11,1996). Eds: S. Dattagupta, D. Dhar and S. Puri, Physica **A224** Nos.1-2, [North- Holland, Amsterdam, 1996].

I. Popular Articles, General Interest, Book Reviews, etc.

1. If Planck's constant had a different value (+ R. M. Godbole), Science Today, May 1980, p.47.

2. A closed set of equations for Ising model correlation functions, Physics News, **12** (1981) 51.

3. The 1982 Nobel prize in physics, Physics News **13** (1982) 127.

4. Research in statistical mechanics, Newsletter of American Chapter of Indian Physics Association, **6** (1992), September issue.

5. Round table discussion, in Summer School on Recent Advances in Statistical Physics,(Istanbul, July 1993), Turkish J. of Physics, **18**, (1994) pp I-XI.

6. Book review of 'Non linear Phenomena at phase transitions and instabilities', Editor T. Riste, in Phys. News, March (1983) p18.

7. Book review of 'The action principle in Physics', by R. V. Kamat, in Current Science, **69** (1995) no.4, p369.

8. Book review of 'The self-avoiding walk' by N. Madras and G. Slade, and 'Intersections of random walks' by G. F. Lawler in Current Science, **73** (1997) 474.