

### List of publications:

37. Conformational properties of polymers  
A. K. Singh, D. Giri and **Sanjay Kumar**  
Pramana (in press, 2008)
36. Force induced transitions: Effects of Temperature  
**Sanjay Kumar** and Garima Mishra  
Phys. Rev. Lett. ( submitted)
35. Modeling force-induced bio-polymer unfolding  
A. J. Guttmann, J. L. Jacobsen, I. Jensen, **Sanjay Kumar**  
J. Math. Chem. (in press 2008)
34. A unified description of poly- and oligonucleotide DNA melting:  
Nearest neighbour, Poland Scheraga and lattice models  
Ralf Everarers , **Sanjay Kumar** and C. Simm  
Phys. Rev. E . **75** 41918 (2007)
33. Role of conformational entropy in force-induced bio-polymer unfolding  
**Sanjay Kumar**, I. Jensen, J. L. Jacobsen and A. J. Guttmann  
Phys. Rev. Lett. **98**, 128101 (2007)
32. Does changing the pulling direction give better insight of biomolecules  
**Sanjay Kumar** and D. Giri  
Phys. Rev. Lett **98**, 048101 (2007)
31. Collapse transition of two-dimensional flexible and semi-flexible polymers  
H. Zhou, J. Zhou, Z.O Yang and **Sanjay Kumar**  
Phys. Rev. Lett. **96** 158302 (2006)
30. Stretching of a self interacting semi-flexible polymers  
A. Rosa, D. Marenduzzo and **Sanjay Kumar**  
Europhys. Lett. Vol. 75, 818 (2006)
29. Probability distribution analysis of force induced unzipping of DNA  
**Sanjay Kumar** and D. Giri  
J. Chem. Phys. Vol. 124, 44905, (2006)
28. Effects of the eye-phase in DNA unzipping  
D. Giri and **Sanjay Kumar**  
Phys. Rev. E Vol. 73, 50903 (R), (2006)
27. Force induced conformational transition in a system of interacting stiff polymers:  
Application to unfolding  
**Sanjay Kumar** and D. Giri,

- Phys. Rev. E Vol. 72, 52901, 2005
26. Statistical Mechanics of coil-hairpin transition in a single stranded DNA oligomer  
**Sanjay Kumar**, D. Giri and Y. Singh  
Europhys. Lett., Vol. 70, 15-21 (2005)
  25. Force induced triple point for interacting polymers  
**Sanjay Kumar**, D. Giri and S.M. Bhattacharjee  
Phys. Rev. E, Vol. 71, 51804 (2005)
  24. Force induced desorption of a linear polymer chain adsorbed on a surface  
P. K. Mishra, **Sanjay Kumar** and Y. Singh  
Europhys. Lett, Vol. 69, 102 (2005)
  23. Effect of confinement on coil-globule transition  
P.K. Mishra and **Sanjay Kumar**  
J. Chem. Phys. Vol. 121, 8642 (2004)
  22. Critical behaviors of stiff polymer near the surface  
D. Giri, P.K. Mishra and **Sanjay Kumar**  
I. J. Phys. A , Vol. 77A, 561, (2003)
  21. Simple and exactly solvable model for a semi-flexible polymer chain interacting with surface  
P.K. Mishra, **Sanjay Kumar** and Y. Singh  
Physica A, Vol. 323, 453 (2003)
  20. Does Surface Attached Globule phase exist?  
P.K. Mishra, D. Giri, **Sanjay Kumar** and Y. Singh  
Physica A, Vol. 318, 171 (2003)
  19. The adsorption and collapse transition in a linear polymer chain near an attractive surface  
R. Rajesh, D. Dhar, D. Giri, **Sanjay Kumar**, and Y. Singh  
Phys. Rev. E Vol. 65, 056124 (2002)
  18. Crossover of a polymer chain from bulk to surface states  
Y. Singh, D. Giri and **Sanjay Kumar**  
J. Phys. A: Math. Gen. Vol. 34, L67 (2001)
  17. Collective dynamics of one- dimensional charge density waves  
A. Glatz, **Sanjay Kumar**, and M. S. Li  
Phys. Rev. B Vol. 64, 184301 (2001)

16. Interpenetration of Polymer Chain different in Sizes: Some Exact Results  
**Sanjay Kumar**  
Physica A, Vol. 292, 422, (2001)
15. Surface adsorption and collapse transition of a linear polymer chain interacting with a surface adsorbed polymer chain  
**Sanjay Kumar** and Yashwant Singh  
Physica A, Vol. 293, 345 (2001)
14. Multi fractal behavior of n-simplex lattice  
**Sanjay Kumar**, D. Giri and Sujata Krishna  
Pramana, Vol. 54, 863 (2000)
13. Surface adsorption and collapse transition of a linear polymer chain in three dimensions  
Y. Singh, **Sanjay Kumar** and D. Giri  
J. PhysA: Math Gen. Vol. 32 L407 (1999)
12. Surface adsorption and collapse transition of a linear polymer chain  
Y. Singh, **Sanjay Kumar** and D. Giri  
Pramana, Vol. 53, 37 (1999)
11. Critical behavior of Copolymer: Some exact results on fractal lattice  
**Sanjay Kumar**  
I. J. Phys. Vol. 71 A, 363 (1997)
10. Critical behavior of two interacting polymer chains in a good solvent  
**Sanjay Kumar** and Yashwant Singh  
J. Stat. Phys. Vol. 89, 981 (1997)
09. Theory for critical behavior of a polymer chain interacting with surface  
**Sanjay Kumar**  
I. J. Phys Vol. 70A, 771 (1996)
08. On the critical behavior of a surface interacting linear polymer chain  
**Sanjay Kumar** and Yashwant Singh  
Physica A, Vol. 229, 61, (1996)
07. Interpenetration and segregation of interacting polymer chains in a solution  
**Sanjay Kumar** and Yashwant Singh  
Phys. Rev. E, Vol. 51, 759 (1995)
06. Surface adsorption of a self-avoiding polymer chain on a family of finitely ramified fractals

- Sanjay Kumar**, Y. Singh and D. Dhar  
J. Phys. A: Math Gen. Vol. 23, 4835 (1993)
05. Surface adsorption and collapse transition of a linear polymer chain: Some exact results on fractal lattice  
**Sanjay Kumar** and Yashwant Singh  
Phys. Rev. E, Vol. 48, 734, (1993)
04. Critical behavior of two interacting polymer chains: Exact results for a state of interpenetration of chains on a fractal lattice  
**Sanjay Kumar** and Yashwant Singh  
J. Phys. A: Math Gen. Vol. 26, L987 (1993)
03. Critical exponents of self-avoiding walk on a family of truncated n-simplex lattice  
**Sanjay Kumar**, Y. Singh (Addendum)  
J. Phys. A: Math Gen. Vol. 23, 5115 (1990)
02. The collapse transition of linear polymers on a family truncated n-simplex lattices  
**Sanjay Kumar** and Yashwant Singh  
Phys. Rev. A Vol. 42, 7151, (1990)
01. Critical exponents of a self-avoiding walk on a family of truncated n-simplex lattice  
**Sanjay Kumar** and Yashwant Singh and Y. P. Joshi  
J. Phys. A: Math Gen, Vol. 23, 298, (1990)

### List of publications:

1. Role of conformational entropy in force-induced bio-polymer unfolding  
**Sanjay Kumar**, I. Jensen, J. L. Jacobsen and A. J. Guttmann  
Phys. Rev. Lett. (Submitted)
2. Does changing the pulling direction give better insight of biomolecules  
**Sanjay Kumar** and D. Giri  
Phys. Rev. Lett
3. Collapse transition of two-dimensional flexible and semi-flexible polymers  
H. Zhou, J. Zhou, Z.O Yang and **Sanjay Kumar**  
Phys. Rev. Lett. (2006)
4. Stretching of a self interacting semi-flexible polymers  
A. Rosa, D. Marenduzzo and **Sanjay Kumar**  
Europhys. Lett. Vol. 75, 818 (2006)
5. Probability distribution analysis of force induced unzipping of DNA  
**Sanjay Kumar** and D. Giri  
J. Chem. Phys. Vol. 124, 44905, (2006)
6. Effects of the eye-phase in DNA unzipping  
D. Giri and **Sanjay Kumar**  
Phys. Rev. E Vol. 73, 50903 (R), (2006)
7. Force induced conformational transition in a system of interacting stiff polymers:  
Application to unfolding  
**Sanjay Kumar** and D. Giri,  
Phys. Rev. E Vol. 72, 52901, 2005
8. Statistical Mechanics of coil-hairpin transition in a single stranded DNA oligomer  
**Sanjay Kumar**, D. Giri and Y. Singh  
Europhys. Lett., Vol. 70, 15-21 (2005)
9. Force induced triple point for interacting polymers  
**Sanjay Kumar**, D. Giri and S.M. Bhattacharjee  
Phys. Rev. E, Vol. 71, 51804 (2005)
10. Force induced desorption of a linear polymer chain adsorbed on a surface  
P. K. Mishra, **Sanjay Kumar** and Y. Singh  
Europhys. Lett, Vol. 69, 102 (2005)
11. Effect of confinement on coil-globule transition  
P.K. Mishra and **Sanjay Kumar**

- J. Chem. Phys. Vol. 121, 8642 (2004)
12. Critical behaviors of stiff polymer near the surface  
D. Giri, P.K. Mishra and **Sanjay Kumar**  
I. J. Phys. A , Vol. 77A, 561, (2003)
  13. Simple and exactly solvable model for a semi-flexible polymer chain interacting with surface  
P.K. Mishra, **Sanjay Kumar** and Y. Singh  
Physica A, Vol. 323, 453 (2003)
  14. Does Surface Attached Globule phase exist?  
P.K. Mishra, D. Giri, **Sanjay Kumar** and Y. Singh  
Physica A, Vol. 318, 171 (2003)
  15. The adsorption and collapse transition in a linear polymer chain near an attractive surface  
R. Rajesh, D. Dhar, D. Giri, **Sanjay Kumar**, and Y. Singh  
Phys. Rev. E Vol. 65, 056124 (2002)