CURRICULUM VITAE

Personal Data

Name : **Chandan Dasgupta**

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Date of Birth : December 17, 1951

Nationality : Indian

Education

- Bachelor of Science with Honours in Physics from University of Calcutta (1970).
- Master of Science in Physics from Delhi University (1973).
- Ph.D. in Physics from University of Pennsylvania (1978); Thesis supervisor: Professor A. Brooks Harris.

Present Employment

Professor in the Department of Physics, Indian Institute of Science, Bangalore, India (1995 - present).

Previous Employment

- Postgraduate Research Physicist, University of California, San Diego (1978-80).
- Postdoctoral Fellow, Harvard University (1980-81).
- Assistant Professor, University of Minnesota (1981-83, 1984-86).
- Visiting Assistant Professor, Indian Institute of Science (1983-84).
- INSA Research Fellow, Indian Institute of Science (1986-87).
- Assistant Professor, Indian Institute of Science (1987-89).
- Associate Professor, Indian Institute of Science (1989-95).
- Visiting Professor, University of Minnesota (1994-1995).
- Visiting Professor, University of Maryland (2002-2003).
- Dean, Undergraduate Programme, Indian Institute of Science (2010-14).

Honours and Awards

- Jagadis Bose National Science Talent Search Scholarship (1967-73).
- Warner Teutsch Memorial Prize, University of Pennsylvania (1974).
- University Fellowship, University of Pennsylvania (1974-77).
- Dissertation Year Fellowship, University of Pennsylvania (1977-78).
- Research Fellowship from the Alfred P. Sloan Foundation (1984-87).
- Research Fellowship from the Indian National Science Academy (1986-89).
- Honorary Senior Fellow of the Jawaharlal Nehru Centre for Advanced Scientific Research (1990 - 1998).
- Elected Fellow of the Indian Academy of Sciences in 1992.
- Honorary Faculty Member of the S. N. Bose National Centre for Basic Sciences, Calcutta (1994 - 1998).
- Honorary Professor of the Jawaharlal Nehru Centre for Advanced Scientific Research (1998 - present).
- DAE - Raja Ramanna Prize, 1999.
- Elected Fellow of Indian National Science Academy in 1999.
- Elected Fellow of National Academy of Sciences, India in 2000.
- Senior Associate of the S. N. Bose National Centre for Basic Sciences, Calcutta (2000 - 2005).
- Prof. Rustum Choksi Award of Indian Institute of Science for Excellence in Research in Science, 2004.
- J. C. Bose National Fellowship of the Department of Science and Technology (2006 - 2016).
- Selected as "Outstanding Referee" for Physical Review journals by the American Physical Society in 2008.
- Elected Fellow of the World Academy of Sciences (TWAS) in 2007.
- UGC National Hari Om Ashram Trust Award, entitled Sir C.V. Raman Award for Research in Physical Sciences (award presented in 2010).
- Adjunct Faculty of International Centre for Theoretical Sciences, Tata Institute of Fundamental Research (2009 - 2012).
- Selected as "Distinguished Referee" of the European Physical Journal in 2016.

Editorial Work:

Member of the Editorial Boards of *Scientific Reports*, Nature Publications (2015 - present), *EPJ-B: Condensed Matter and Complex Systems*, Springer (2012 - 2014), *Phase Transitions*, Taylor & Francis (2010 - present).

Recent Scientific Collaborations:

Oriol T. Valls (University of Minnesota, USA)
Patcha Chatraphorn (Chulalongkorn University, Thailand)
Sanjay Puri (Jawaharlal Nehru University, New Delhi).
Srikanth Sastry (Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India).
Smarajit Karmakar (TIFR Centre for Interdisciplinary Sciences, Hyderabad, India).
Surajit Sengupta (TIFR Centre for Interdisciplinary Sciences, Hyderabad, India).
Madan Rao (National Centre for Biological Sciences, Bangalore, India).

Guidance of Ph.D. and Integrated Ph.D. Students:

Ph.D. degree:
Degree awarded (at IISc.): 12; In progress: 3

M.S. degree (Integrated Ph.D. students):
Degree awarded: 6

Recent Ph.D. Advisees:

B. Chakrabarti (Faculty Member at Durham University, UK).
T. Joseph (Faculty Member at Birla Institute of Technology and Science, Goa, India).
S. Karmakar (Faculty Member at TIFR Centre for Interdisciplinary Studies, Hyderabad, India).
B. Mukherjee (Research Scientist at S.N. Bose National Centre for Basic Sciences, Kolkata).
P. Chaudhuri (Faculty Member at Institute for Mathematical Sciences, Chennai, India).
S. Banerjee (Postdoctoral Fellow at Weizmann Institute, Israel).
D. Chakraborty (Staff Member at Raman Research Institute, Bangalore, India).
H. Kumar (Postdoctoral Fellow at University of Pennsylvania, Philadelphia, USA).
T. Mandal (Postdoctoral Fellow at University of Michigan, Ann Arbor, USA).

Recent Postdoctoral Fellows Supervised:

S.M. Kamil, Faculty Member at Shiv Nader University, Noida, Uttar Pradesh, India.
Awaneesh Singh, Postdoctoral Fellow at University of Pittsburgh, USA.
S. Saw, Postdoctoral Fellow at University of Sydney, Australia.
S. Chakrabarti, Postdoctoral Fellow at International Centre for Theoretical Sciences, Bangalore, India.

Recent Research Grants:

- Indo-US Collaboration (DST) Project (with O.T. Valls, University of Minnesota, Minneapolis, USA), entitled Density Functional Theory of the Mixed State of Layered Superconductors in the Presence of Pinning, 2004 – 2007, Amount Sanctioned: Rs. 428,925.

- Co-investigator in Indo-EU Collaboration (DST) Project entitled Modeling of Nano-

scaled Advanced Materials Intelligently (MONAMI), 2009 – 2012, Amount sanctioned: Rs. 7,076,534.

- Indo-US Collaboration Project (Indo-US Science and Technology Forum) entitled Dynamics of Dislocations in Solid ^{4}He and its Role in Supersolid Behavior (with O.T. Valls, J. Toner and S. Sengupta), 2011-2013. Amount sanctioned: Rs. 917,700.

- Co-investigator in Thematic Unit of Excellence in Computational Materials Science (DST Nano Mission), 2012-17. Amount sanctioned: Rs.1,300 Lakhs.

Synergistic activities:

Convener, Centre for Condensed Matter Theory, Department of Physics, Indian Institute of Science (1998 - 2003).
Convener of Sectional Committee for Physics, Indian Academy of Sciences (2007-09).
Convener of Sectional Committee for Physics, Indian National Science Academy (2010-11).
Member of the Council of Management of Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore (2014 - present).
Member of Project Advisory Committee of the International Cooperation Programmes of Department of Science and Technology, Government of India (2016 - present).

Publications:

A: During the last 5 years (October 2011 to present):

Number of publications in refereed journals: 30

B: Prior to October 2011:

Available on request.

C: Citation information from Google Scholar

Number of citations: 4629, Number of citations per paper: 28, H-index: 36

Publications (October 2011 to present):

1. S. Banerjee, T.V. Ramakrishnan and C. Dasgupta (2011), **Pairing fluctuations determine low-energy electronic spectra in cuprate superconductors**, Phys. Rev. B **84**, 144525 (Impact Factor: 3.718).

2. S. Banerjee and C. Dasgupta (2012), **Characterization of the dynamics of glass-forming liquids from the properties of the potential energy landscape**, Phys. Rev. E **85**, 021501 (Impact Factor: 2.288).

3. T. Mandal, P.K. Maiti and C. Dasgupta (2012), **Mechanical properties of ZnS nanowires and thin films: Microscopic origin of the dependence on size and growth direction**, Phys. Rev. B **86**, 024101 (Impact Factor: 3.718).

4. A. Singh, S. Puri and C. Dasgupta (2012), **Growth kinetics of ZnO nanoclusters in solution**, J. Phys. Chem B **116** 4519 (Impact Factor: 3.187).

5. S. Sengupta, S. Karmakar, C. Dasgupta and S. Sastry (2012), **Adam-Gibbs relation for glass-forming liquids in two, three, and four dimensions**, Phys. Rev. Lett. **109**, 095705 (Impact Factor: 7.645).

6. S. Sengupta, S. Karmakar, C. Dasgupta and S. Sastry (2013), **Breakdown of the Stokes-Einstein relation in two, three and four dimensions**, J. Chem. Phys.**138**, 12A548 (Impact Factor: 2.894).

7. D. Sinha, S. Sengupta, C. Dasgupta and O.T. Valls (2013), **Out-of-equilibrium plasticity dynamics and the annealing of super-solidity in solid ^{4}He**, J. Phys. Condens. Mat. **25**, 295601 (Impact Factor: 2.209).

8. T. Mandal, C. Dasgupta and P.K. Maiti (2013), **Engineering gold nanoparticle interaction by PAMAM dendrimer**, J. Phys. Chem. C **117**, 1362713636 (Impact Factor: 4.509).

9. R. Chanphana, P. Chatraphorn and C. Dasgupta (2013), **Effects of initial height on the steady-state persistence probability of linear growth models**, Phys. Rev. E **88**, 062402 (Impact Factor: 2.288).

10. S. Karmakar, C. Dasgupta and S. Sastry (2014), **Growing length scales and their relation to time scales in glass-forming liquids**, Annu. Rev. Condens. Matter Phys. **5**, 255 (Impact Factor: 16.379).

11. A.N. Malmi-Kakkada, O.T. Valls and C. Dasgupta (2014), **Hydrodynamics of compressible superfluids in confined geometries**, J. Phys. B: At. Mol. Opt. Phys. **47**, 055301 (Impact Factor: 1.833).

12. R. Chanphana, P. Chatraphorn and C. Dasgupta (2014), **Healing time for the growth of thin films on patterned substrates**, Physica A **407**, 160 (Impact Factor: 1.785).

13. A. Singh, S. Puri and C. Dasgupta (2014), **Kinetics of phase separation in polymer mixtures: A molecular dynamics study**, J. Chem. Phys. **140**, 244906 (Impact Factor: 2.894).

14. A.N. Malmi-Kakkada, O.T. Valls and C. Dasgupta (2014), **Ising model on a random network with annealed or quenched disorder**, Phys. Rev. B **90**, 024202 (Impact Factor: 3.718).

15. T. Mandal, C. Dasgupta and P.K. Maiti (2014), **Nature of the effective interaction between dendrimers**, J. Chem. Phys. **141**, 144901 (Impact Factor: 2.894).

16. H. Kumar, C. Dasgupta and P.K. Maiti (2015), **Structure, dynamics and thermodynamics of single-file water under confinement: Effects of polarizability of water molecules**, RSC Advances **5**, 1893 (Impact Factor: 3.289).

17. H. Kumar, C. Dasgupta and P.K. Maiti (2015), **Driving force of water entry in hydrophobic channels of carbon nanotubes: Entropy or energy?**, Molecular Simulation **41**, 504; DOI: 10.1080/08927022.2014.998211 (Impact Factor: 1.687).

18. T. Mandal, C. Dasgupta and P.K. Maiti (2015), **Tunable mechanical and thermal properties of ZnS/CdS core/shell nanowires**, Phys. Rev. B **91**, 104107 (Impact Factor: 3.718).

19. S. Chakrabarty, S. Karmakar and C. Dasgupta (2015), **Dynamics of glass-forming liquids with randomly pinned particles**, Scientific Reports **5** 12577 (Impact Factor: 5.228).

20. S. Chakrabarty, S. Karmakar and C. Dasgupta (2015), **Vanishing of configurational entropy may not imply an ideal glass transition in randomly pinned liquids**, Proc. Natl. Acad. Sci. (USA) **112**, E4819; DOI: 10.1073/pnas.1512745112 (Impact Factor: 9.423).

21. S. Chandran, S. Saw, A.K. Kandar, C. Dasgupta, M. Sprung and J.K. Basu (2015) **Suspensions of polymer-grafted nanoparticles with added polymers - Structure and effective pair-interactions**, J. Chem. Phys. **143**, 084902 (Impact Factor: 2.894).

22. S. Saw, S.M. Kamil and C. Dasgupta (2015), **Spatial modulation of the composition of a binary liquid near a repulsive wall**, Phys. Rev. E **91**, 052406 (Impact Factor: 2.288).

23. S. Bhattacharyya, M. Banerjee, H. Nhalil, S. Islam, C. Dasgupta, S. Elizabeth, and A. Ghosh (2015),**Bulk-induced** $1/f$ **noise at the surface of three-dimensional topological insulators**, ACS Nano **9**, 12529 (Impact Factor: 13.334).

24. S. Karmakar, C. Dasgupta and S. Sastry (2016), **Short-time** β**-relaxation in glass-forming liquids is cooperative in nature**, Phys. Rev. Lett. **116**, 085701 (Impact Factor: 7.645).

25. S. Karmakar, C. Dasgupta and S. Sastry (2016), **Length scales in glass-forming liquids and related systems: a review**, Rep. Prog. Phys.**79**, 016601 (Impact Factor: 12.933).

26. R. Mandal, P.J. Bhuyan, M. Rao and C. Dasgupta (2016), **Active fluidization in dense glassy systems**, Soft Matter **12**, 6268 (Impact Factor: 3.798).

27. S. Chakrabarty, R. Das, S. Karmakar and C. Dasgupta (2016), **Understanding the dynamics of glass-forming liquids with random pinning within the random first order transition theory**, J. Chem. Phys. **145**, 034507 (Impact Factor: 2.894).

28. S. Saw and C. Dasgupta (2016), **Role of density modulation in the spatially resolved dynamics of strongly confined liquids**, J. Chem. Phys.**145**, 054707 (Impact Factor: 2.894).

29. A.N. Malmi-Kakkada, O.T. Valls and C. Dasgupta (2016), **Dislocation mobility and anomalous shear modulus effect in** ^{4}**He crystals**, J. Low Temp. Phys, DOI 10.1007/s10909-016-1689-3.

30. H. Kakoty, R. Banerjee, C. Dasgupta and A. Ghosh (2016), **Role of entropy in the expulsion of dopants from optically trapped colloidal assemblies**, to be published in Phys. Rev. Lett.

Manuscripts submitted for publication

1. R. Mandal, B. Chakrabarti, D. Chakraborti and C. Dasgupta (2016), **Complex rheology of nematogenic fluids: Connection to elastic turbulence**, submitted to Phys. Rev. Lett.