

Mustansir Barma

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Personal Born in Mumbai, December 27, 1950

Educational Qualifications

1970 B.Sc. (Physics and Mathematics)
 St. Xavier's College, University of Bombay

1974 Ph.D. (Physics)
 State University of New York at Stony Brook

Academic Positions

Current Distinguished Professor

Earlier

1974 – 1976 Research Associate at Michigan State University
1976 – 1977 Visiting Fellow at TIFR
1977 – present On Academic Staff at TIFR; presently Distinguished Professor
2004 – 2007 Chair, Department of Theoretical Physics, TIFR
2007 – 2014 Director, TIFR

Extended Visits

1982 – 1984 Cornell University, U.S.A.
1991 – 1992 Oxford University, U.K.

Areas of Specialization

Statistical Physics

Dynamics of Nonequilibrium Systems, Phase Transitions, Disordered Systems

Academic Honours, Awards, Affiliations

Young Scientist Award of the Indian National Science Academy (1980).
Associate of the Indian Academy of Sciences (1983 – 1986).
Shanti Swarup Bhatnagar Prize for the Physical Sciences of the Council of Scientific and Industrial Research (1995).
S.N. Bose Birth Centenary Award of the Indian Science Congress (2007).
J.C. Bose Fellowship of the Department of Science and Technology (2007 – present).
R.S. Goyal Prize for Physics (2006), awarded in 2010.
Padma Shri award of the Government of India (2013).

Special Lectures

DAE Raja Ramanna Prize Lecture in Physics (2004).
Seventh Abdus Salam Memorial Lecture, Jamia Millia Islamia, New Delhi (2009).
Jawaharlal Nehru Lectureship of the Indian National Science Academy (2014).

Fellowship of Academic Bodies

Fellow of the Indian Academy of Sciences, Bangalore.
Fellow of the Indian National Science Academy, New Delhi.
Fellow of the National Academy of Sciences, Allahabad.
Fellow of the Academy of Sciences for the Developing World (TWAS), Trieste, Italy.

Membership of Commissions and Juries

Member, International Jury for the L'Oreal-UNESCO Award for Women in Science (2002 – 2003).
Member, IUPAP C3 Commission on Statistical Physics (1999 – 2002).
Chairman, IUPAP C3 Commission on Statistical Physics (2002 – 2005).
Vice-President at large, IUPAP (2009 – 2014).

Membership of Professional Societies and Editorial Boards

On Editorial Board of Pramana – Journal of Physics (1989 – 1995).
On Editorial Working Committee of Physics News (1993 – 1999).
On Editorial Board of the Journal of Statistical Physics (1997 – 1999; 2003 – 2009).
Member of the Indian Physics Association.
Member of the Indian Complex Systems Society.
Member of the Indian Science Congress.

Academic Affiliations and Membership of Boards

Honorary faculty member, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore (1998 – 2001).
Member, Board and Executive Council of the Institute of Mathematical Sciences, Chennai (2001 – present).
Member, Board of Governors, IISER, Bhopal (2008 – 2010).
Member, Governing Council of UM-DAE Centre for Excellence in Basic Sciences (2007 – present).
Member, Council of the S.N. Bose Centre for Basic Sciences, Kolkata (2008 – present).
Member, Council of the Saha Institute of Nuclear Physics, Kolkata (2008 – present).
Chair, INSA National Committee of the IUPAP (2008-2011).
Member, Scientific Advisory Committee to the Cabinet (2008-2012).
Member, Scientific Advisory Council to the Prime Minister (2010 – 2014).
Member, Board of Governors, NISER, Bhubaneswar (2010 – 2014).
Member, Board of Management, Institute of Chemical Technology, Mumbai (2011 – present).

Academic Affiliations and Membership of Boards (contd.)

Member, Board of Research in Nuclear Sciences (2011 – present).
Member, Governing Body of National Council of Science Museums (2011 – present).
Member, Academic Board of St. Xavier's College Autonomous, Mumbai (2011 – 2013).
Member, Board of Governors, Academy of Scientific & Innovative Research (AcSIR) (2012–2014).
Member, Board of Management of Department of Physics, University of Mumbai (2014 – present).

Organization of Conferences, Workshops and Schools

Workshop on Dynamics of Nonequilibrium Systems, ICTP, Trieste, August 1996
(with A. Maritan and R.B. Stinchcombe).
Workshop on Dynamics of Nonequilibrium Systems, ICTP, Trieste, August 1999
(with A. Maritan and R.B. Stinchcombe).
SERC School on Statistical Physics, TIFR, Mumbai, February 2004
(with D. Dhar).
22nd IUPAP International Conference on Statistical Physics (STATPHYS 22) Bangalore, July 2004
(Chair, Steering Committee).

Ph.D. Students Guided

V. Subrahmanyam (1991) Faculty at I.I.T. Kanpur.
Supriya Krishnamurthy (1998) Faculty at Royal Institute of Technology, Stockholm.
Goutam Tripathy (1999) Faculty at Institute of Physics, Bhubaneswar.
Dibyendu Das (2001) Faculty at I.I.T. Mumbai.
Kavita Jain (2004) Faculty at Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.
Apoorva Nagar (2006) Faculty at Indian Institute of Space Science and Technology, Thiruvananthapuram.
Sakuntala Chatterjee (2007) Faculty at S.N. Bose Centre for Basic Sciences, Kolkata.
Shamik Gupta (2008) Post-doctoral Fellow at Universite Paris-Sud and CNRS, France.
Himani Sachdeva (2014) Submitted Ph.D.

Invited Talks in Conferences (2007 onwards)

1. 'Clustering of Sliding Passive Scalars Driven by Fluctuating Surfaces'
23rd IUPAP International Conference on Statistical Physics – Statphys 23 (Genova, Italy, July 2007).
2. 'Driven Dimers'
Fluctuation and Dissipation Phenomena in Driven Systems Far from Equilibrium (Dresden, July 2007).
3. 'Coupled Nonequilibrium Systems'
The 10th Asia Pacific Physics Conference (APPC10), (Pohang, Korea, August 2007).
4. 'Periodic Forcing of a Brownian Particle in Classical and Quantum Mechanics' Nonequilibrium Phenomena in Condensed Matter (New Delhi, February 2008).
5. 'Coupled Nonequilibrium Systems'
Current Trends in Physics (IIT Madras, Chennai, February 2008).
6. 'Diffusing Reconstituting k-mers'
TIFR-Weizmann Institute Interaction Meeting (Rehovot, Israel, June 2008).
7. 'Particles in Fluctuating Potentials'
Nonlinear Dynamics and Turbulence (IISc, Bangalore, July 2008).
8. 'Simple Models of Complex Behaviour'
Indian Academy of Sciences (IIT Delhi, New Delhi, October 2008).
9. 'Statistical Physics and Everyday Life'
Andhra Akademi of Sciences (Osmania University, November 2008).

Invited Talks in Conferences (contd.)

10. 'Statistical Physics: Historical Developments and Current Trends'
52nd DAE Solid State Physics Symposium (Mumbai, December 2008).
11. 'Driven Dimers'
Disorder, Complexity and Biology II (Banaras Hindu University, January, 2009).
12. 'Interacting Random Walkers with Fluctuating Bias'
Non-Hermitian Hamiltonians in Quantum Physics (BARC-TIFR, Mumbai, January 2009).
13. 'Drift and Diffusion in Random Media'
Indo-French Discussion Meeting on Diffusion in Nanoporous and Dense Media (Bangalore, April 2009).
14. 'Fluctuation-driven phase ordering'
Frontiers in Physics (Indian Institute of Science, Bangalore, May 2009).
15. 'Entropy-induced ordering'
ICTS Workshop on Non-equilibrium Statistical Physics, Meghnad Saha Lecture, (IIT Kanpur, February 2010).
16. 'Transport in a Multispecies Model with Interconversion'
105th Statistical Mechanics Meeting, (Rutgers University, New Brunswick, May 2011).
17. 'Entropy and Order'
Mid-year meeting of the Indian Academy of Sciences (Bangalore, July 2011).
18. 'Phase Transition in a Multispecies Model'
5th Indo-Israeli Meeting on Condensed Matter Physics (Kochi, October 2011).
19. 'Phase Transition on an Open Aggregation-Fragmentation System'
International Workshop on Statistical Mechanics and Dynamical Systems (ITAP, Turunc, Turkey, September 2012).
20. 'Phase Transitions and Intermittency in Open Aggregation-Fragmentation systems' Complex Systems: From Physics to Biology (JNU, New Delhi, October 2013).
21. 'Aggregation-Fragmentation Dynamics'
Nonequilibrium Statistical Physics and Nonlinear Dynamics (IACS, Kolkata, January 2014).
22. 'Condensation and Intermittency in an Aggregation-Fragmentation Model'
Advances in Nonequilibrium Statistical Mechanics (Galileo Galilei Institute, Florence, July 2014).